CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA,

Commercial, Industrial and Scientific:

PRODUCTS OF THE

MINERAL, VEGETABLE AND ANIMAL KINGDOMS,
USEFUL ARTS AND MANUFACTURES;

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S, the 19th letter of the English language, is a sibilant consonant, and has a hissing sound. It has two uses, one generally at the beginning or end of words, to pronounce a mere hissing as in sabbath, sack, sin, &c.—the other a vocal hissing, precisely like that of *z*, as in muse, music, wise, but its sound in the middle and end of words can only be learned by practice. In a few words it is silent as in isle, viscount. The simple sibilant of Europe occurs in Arabic, Sanscrit and in all Indian alphabets. The palatal S of the Nagari alphabet, in use in words of Sanscrit origin, is commonly pronounced as *sh* somewhat softened. The Arabic alphabet has two letters to which in India is given the sound of *s*. One of these called in India sad or swad, has, amongst the Arabs, the sound of dad or dhad, the other Arabic letter is called in Arabia, say or thay, but in India it has only the sibilant sound of *s*. The Persian letter sin, has the simple sound of the English letter *s*. The Nagari letter *sh*, has the sound of *sh* of the English alphabet. On the Western districts of British India, and along the line of the Indus river the letters *h* and *s* are interchangeable, so that Sind becomes Hind, and sing'h a lion, is changed into hing, garlic.

SA, Thibetan, Salt.

SAAD KOFI, Hind. Cyperus longus, C. rotundus, &c.

SAADI, a poet of the Persians. He lived above an hundred years, and died in A. D. 1292. Hafiz, another Persian poet, died in 791, of the Hijerah, or A. D. 1388, not 1340, as, through some mistake, Kæmpfer and others have calculated.—*Amæn.*, *Exot.*, *p.* 370; *Ouseley's Travels*, *Vol.* ii, *p.* 3.

SAAR, Lepchi. Himalayan larch.

SAB, Arab. Cyperus hexastachyus, *Rottl.*

SABA, an ancient town in the district of Balad-ul-Jahaf, in Yemen, and the capital of the ancient Sabeans, and to this day the district is termed Urd-es-Shaba—or, "land of Sheba." It is doubtless identical with the realm whence the Queen of the East came, who undertook a pilgrimage to Jerusalem to visit Solomon. Mareb, the present capital of the district, is built on the site of the ancient Saba. It contains about three hundred small houses and several ruins, which are attributed to Queen Balkees. A dyke or dam of masonry Sail-el-Arim or Sedd Mareb, famous in Arab history, was drawn across the valley, between two hills called Balak, six hundred paces asunder. The Haram Balkees, the palace of the Queen of Sheba, is west of the town of Mareb. About one-fourth of the wall is still standing and covered with Himyaritic inscriptions. The ancient residence of the Queen of Sheba, which formed the city, is about a mile and a half in diameter. At the time of the Periplus of the Erythrean Sea, the Sabeans monopolized the commerce of India, and acted as intermediate agents between the merchants of India and Egypt. In the reign of Ptolemy Phileter (A. D. 177) the Greek sovereigns in Egypt had not traded directly to India, but imported their Indian commodities through Saba, the capital of Arabia Felix. The port of Berenice was not used for that commerce, but Myos Hormos or Arsenoe was still the emporium, and the only trade down the coast of Africa, was for elephant's teeth. The trade to the East had been monopolized by the merchants of Sabæa, from the patriarchal days of Job. The period at which the kingdom of Saba or Hamyar flourished, was the golden age of Arabic poetry. The religion of the Hamyarites, in their devotion, was directed to a multitude of deities of which the principal were represented by the sun, moon and planets. Saba, surnamed Heber, was the father of Kahtan (Joqtan), father of Yoorab, father of Yahsab, father of Abd-us-Shams. Abul Feda ascribes the construction of the Mareb-dam to Abd-us-Shams, but other historians ascribe it to Loqman, king of that remnant of the Adites who renounced idolatry on the preaching of the prophet Hud, and who are usually styled the second Adites. Saba, was also a name applied to Abid-us-Shams, founder of Mariaba. Amongst his sons were Hamyar, Amru, Kablan and Ashaar.—*Playfair's Aden*; *Early Christianity*. See Abid-us-Shams, Mareb.

SABA, said to signify a host, particularly the host of heaven, or the celestial bodies, in the adoration of which the Sabæan ritual is believed to have consisted; the celestial bodies, the planets and constellations were personified in the Genii of Good and Evil.

Sabæism, was formally re-introduced in Kuseem, by Darim, about the year 1200, and prevailed till the Wahabi revival. In the Vedic Sabæanism only the elemental powers are invoked. Sabean worship, once extensively previled in South America. There is a curious passage in Tavernier concerning the aversion of the Sabæans to blue ; and there exists a similar antipathy among the Kurdish sect of the Yezidi (who appear to have been once christians) for that colour, grounded on a different, although not less absurd reason. Tavernier makes mention of another peculiarity of the Sabæans and calls it the ceremony of the fowl, which their priests alone have the right to kill ; but he does not explain in what this ceremony consists, so that we cannot now judge whether it has any connexion with a custom prevalent among the Gurani tribe of the Zagros chain, between Kermanshah and Zohab. The Gurani, are all of the Ali-Ilahi sect, or believers in the divinity of Ali (the cousin and son-in-law of Muhammed), and they have a yearly festival, which they call the feast of the fowl. In every village, each head of a family brings a fowl to their sheikh or priest. When the contribution is collected, and the fowls killed and cleaned, they are thrown into a large kettle and boiled. So soon as they are ready, the people assemble ; a cloth is thrown over the kettle, which is placed before the priest, who dips his hand into it, and, taking it out piecemeal, presents a morsel to each person present in rotation. The individual to whose share falls the head of the fowl, is supposed to be more favoured than the rest by Ali, during the course of the year. It is supposed that the Ali-Ilahi are of Jewish extraction, and this ceremony of the fowl may proceed from the Rabbinical custom of sacrificing a cock once a year on the eve of the day of atonement, although nowhere countenanced by the law of Moses. On the eve of the day of atonement, in order to make atonement, a cock is taken for a man, and a hen for a woman ; and for a pregnant woman, a hen and also a cock, on account of the child. The father of the family makes the atonement for himself; for the high priest first atoned for himself, then for his family, and afterwards for all Israel. He takes the cock in his hand, and says these verses : 'The children of men that sit in darkness and the shadow of death, being bound in affliction and iron, he brought them out of darkness and the shadow of death, and broke their bonds in sunder. Fools, because of their transgression and because of their iniquities, are afflicted. Their soul abhorreth all manner of meat ; and they draw near unto the gates of death. Then they cry unto the Lord in their trouble, and he saveth them out of their distresses. He sendeth his word, and healeth them, and delivereth them from their destruction. Oh, that men would praise the Lord for his goodness, and for his wonderful works to the children of men.' (Psalm, cvii.) 'If there be for him an angel, an intercessor, one among a thousand, to show unto man his uprightness ; then he is gracious unto him, and saith, Deliver him from going down to the pit ; I have found a ransom.' (Job. xxxii, 23.) Whilst moving the atonement round his head, he says: 'This is my substitute, this is my commutation, this is my atonement. This cock goeth to death ; but may I be gathered and enter into a long and happy life, and into peace.' He then begins again at the words, 'The children of men,' and so he does three times. Then follow the various alterations that are to be made when the atonement is for a woman, or another person, &c. Then is added : 'As soon as one has performed the order of the atonement he should lay his hands on it, as the hands used to be laid on the sacrifices, and immediately after give it to be slaughtered'. This similarity of custom between the Jews and the Ali-Ilahi explains why the latter offer the figure of a cock on the shrine of their holy men. Baron de Bode found several of these cocks, some carved in wood, others made of porcelain, placed on the top of the tombs of their several Pir in the mountainous districts of Holivan and Zohab, among the Gurani tribes.—*Palgrave* ; *Baron C. A. De Bode's Travels in Luristan and Arabistan, Vol.* ii, *pp.* 177—184 ; *Taylor* ; *Chatfield, Hindoostan, p.* 145 ; *Sale's Prelim. Disc. Koran, Vol.* i, *p.* xx ; *Hyde's Rel. Vet. Persar, Chaps.* iii *and* v. See Chaldea, Karund, Kibla.

SABAB, a mountain of Siam, near which and on the frontiers of the Xong tribes, precious stones consisting of rock crystal, cat's-eyes, topazes, garnets, sapphires and rubies are found, which are sold at from 16 to 60 francs the pound.

SABADILLA, fruit of Veratrum sabadilla, of Asagræa officinalis, and several other Melanthaceæ, *Ben. Phar.*

SABAGRÆ, according to Orosius, a people who made their submission to Alexander the Great, during his halt at the confluence of the Panjab rivers. According to Curtius they were called Sambracæ or Sabracæ ; and according to Diodorus, who placed them to the east of the river, Sambastæ. They were a powerful nation, second to none in India for courage and numbers. Their forces consisted of 60,000 foot, 6,000 horse, and 500 chariots. The military reputation of

the clan suggests to General Cunningham the probability that the Greek name may be descriptive of their warlike character, just as Yaudheya means "warrior or soldier." He thinks therefore that the true Greek name may have been Sambagræ, for the Sanskrit Samvagri, that is, the "united warriors," or Συμμαχοι, which, as they were formed of three allied tribes, would have been an appropriate appellation. In support of this surmise, he mentions that the country of which Bikaner is now the capital was originally called Bagar-des, or the land of the Bagri or "warriors," whose leader was Bagri Rao. The word Bhati also means "warrior or soldier," and thus at the present day, the tribes calling themselves "warriors," form a large proportion of the population in the countries to the east of the Sutlej; namely, the Johiya or Yaudheya along the river, the Bagri in Bikaner, and the Bhati in Jesalmer. All three are of acknowledged Lunar descent. He thinks it possible that the name Sambagri might have been applied to these three clans, and not to the three tribes of the Yaudheya, but he thinks, that the Yaudheya have a superior claim, both on account of their undoubted antiquity. To them he attributes the foundation of the town of Ajudhan, or Ayodhanam, the "battle-field" which is evidently connected with their own name of Yaudheya, or Ajudheya, the "warriors," and he thinks the latter form of the name is most probably preserved in the Oxadii of Arrian, a free people who tendered their allegiance to Alexander at the confluence of the Panjab rivers.—*Cunningham's Ancient Geog. of India, p.* 246.

SABAKTAGIN, father of Mahmud, the Ghaznavi, died in 997. His name is also written Sabaqtagin. He ruled from A. D. 976 till A. D. 997. He was a Turk, purchased by Alaptagin, whom he succeeded in Affghanistan, Ghazni and Candahar. He twice defeated Jaipal, whom he drove to the banks of the Indus. He was succeeded by his son Ismael, but Ismael after a few months was put aside by Mahmud. Sabaqtagin, established an independent dominion over all the southern parts of Affghanistan, making Ghazni his capital. His son Mahmud, who died A. D. 1028, enriched Affghanistan with the spoils of India. In the reign of the cruel Bahram, one of the Tartar's descendants, the Sabaktagin dynasty were deprived of all but the Panjab, and this too, in A. D. 1160, they lost. See Affghanistan, Gour, Ismael Samani, Mahmud.

SA-BA-LEN, BURM. Andropogon citratum, also Andropogon schænanthus, *Linn.*

SABALIA in Guzerat, a low caste, employed in tending cattle.

SABAO, PORT. Soap.

SABARÆ. The Sabaræ of Ptolemy, are the Suari of Pliny, and both may be identified with the aboriginal Savara or Suari, now a wild race of wood-cutters who live in the mountainous parts of the north-eastern districts of Peninsular India. The Savari or Saharia of the Gwalior territory occupy the jungle on the Kota frontier to the westward of Marwar and Guna.—*Cunningham's Ancient Geog. of India, p.* 509. See Suar, Chensuar.

SABARMATI, a river of Cambay.

SABATHU, in lat. 30° 51′, long. 76° 58′, a military station, a few miles N. E. of Simla. The cantonment is 4,205 ft., and the fort is 4,283 ft. above the sea, *Ger.*

SABBA JAYA, HIND. Canna indica, *Linn.*

SAB-CHEER, BENG. Spilornis cheela, *Daud.*

SABEE, a river near Fattehbad in Ajmir, and runs near Janth in Palondie.

SABERMATY, see Kalmuck, Sabarmati.

SUBERNARIKA, a river that separates Bengal from Orissa, and opens into the Bay of Bengal.

SABHA, SANS. A committee, an assembly.

SABHA-MANDAP, HIND. A portico, or an erection in front of a hindoo temple where people assemble: the open space of a temple in front of the apartment of the idol: an audience hall, an assembly room.

SABI, the christians of St. John, the Mendai Yahia, called Sabi, by the Persians. It is not known whether these be the Sabeans alluded to in Scripture, (Joel iii, 8), who, in the times of Abraham, worshipped the host of heaven. They believe in the divinity of our Saviour and the Holy Trinity. They recognize John the Baptist as their Great Prophet, and call him Paighambar Yahanna, hence their name, Christians of St. John. They dwell principally at Shuster and Dizful. —*Chesney*. See Saba, Sibi.

SABLE.

Zibelline,	FR., IT.	Sobol,	RUS.
Zobel,	GER.		

One of the weasels, Mustela zibellina, a native of Northern Europe and Siberia, with a fine fur, the hairs of which turn with equal ease in every direction. Its colour is generallly of a deep glossy brown or black, and sometimes, though very rarely, yellow and white. —*Faulkner*; *Bingley*; *McCulloch.*

SABLE FISH.

Willum mutchie,	DUK.	Willum meen,	TAM.

A species of Clupea.

SABO FRANGI, MALAY. Cucumis melo.

SABOON, ARAB, GUZ., HIND., MALAY., also Sujah, MALAY. Soap.

SABQTA-SINDHU, see Hindoo.

SABR or Sibr, AR. Aloe litoralis, *Kœnig*. Aloes.

SABRE-PODDED CANAVALIA, ENG. Canavalia gladiata.—*D. Cand.*; *Roxb.*; *W. & A.*

SUBTANG. The Bashee islands consist of a chain, in the Eastern Archipelago mostly high, lying north of the Babuyan islands, from lat. 19° 58′ N. to long. 21° 13′ N. Their names are

Balintang or Richmond ....L.	19° 58′,	L. 122° 14′
Batan or Dampier's Grafton...	20 17¼,	121 57
Sabtang or Sabtan, Monmouth Island of Dampier.		
Bashee Island, Bayat, or Orange Island.		

The north Bashee islands consist of one large and two small islands in lat. 21° 3½′ N.—*Horsburgh, Directory*.

SABU-DANA, HIND. Sago, qu. Sagudana.

SABUN, HIND. Soap.

SABUNI, HIND. A kind of emerald.

SABUNI, BENG., HIND. Trianthema obcordata, also Asparagus racemosus.

SABURKAN or Shaburkan, a city of Guzjan, west of Balkh, the Shibbergan and Shubergan of the maps of Europe.

SABU-THA-BEY, BURM., is one of the largest trees of Burmah. Fruit, size of a small peach, red, very many seeds, hanging in clusters from the trunk.—*Malcom*, i, 179.

SABUVI, BENG. Trianthema obcordata, *Roxb.*, properly Sabuni.

SABZ or Sabz rang, HIND., PERS. Green.

SABZA, HIND. Emerald.

SABZAK, HIND. The green fly-catcher.

SABZI, HIND. A variety of rice, also Cannabis sativa.

SABZ-MITTI, HIND. An earth used to wash the hair.

SACÆ. The Saka of the hindoos cannot be other than the Sacæ or Sakai of classical geography. They are perpetually named in various works, and seem to have been known on the borders of India or in its western districts in the first century preceding christianity. Vikramaditya, king of Ougein, known as Sakari, or enemy of the Sacæ, his era dates B. C. 56, and it should appear that about this date, some northern tribes had settled themselves along the Indus, constituting the Indo-Scythi of Arrian. Their attempt to penetrate further to the east, by way of Kandesh and Malwa, was not improbably arrested by Vikramaditya, whence the epithet Sakari. The Sacæ are supposed by Professor Lassen to be the Szu Tartar who were expelled about 150 B. C. from the Ili valley by the Yuet-chi or White Huns, whom he supposes to be the Tochari. After occupying Tahia or Soghdiana for a time, they are further stated by the Chinese to have been driven thence also by the Yeugar some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Kophen valley in Kabulistan. Other stranger races, however, seem to have come from the N. W. into India. One of these, the Yavana, is, in modern times, applied by hindoos of Northern India to mahomedans of every description, but in works prior to the mahomedan era, some other people must be intended. The interpretation of the word by Sir W. Jones is, Ionian or Asiatic Greek, and there are some considerations in its favour, although the chief argument in its behalf is the difficulty of attaching it to any other people. The mountaineers, or Kirata may have come from any part of India. They are known in classical geography as the Cirrhadæ or the Cirrodes, the latter in Soghdiana, near the Oxus. The Kamboja are the people of the Arachosia, or north-eastern province of Persia. For the sites of the Bahika, we are indebted to the Mahabharat, and the Parasika speak for themselves. A branch of the Sacæ, on one occasion invaded the inhabitants on the borders of the Pontic sea: whilst engaged in dividing the booty, the Persian generals surprised them at night, and exterminated them. To eternize the remembrance of this event, the Persians heaped up the earth round a rock in the plain where the battle was fought, on which they erected two temples, one to the goddess Anaitis, the other to the divinities, Omanus and Anandate, and then founded the annual festival called Sacæa, still celebrated by the possessors of Zela. Such is the account by some authors of the origin of Sacæa. According to others it dates from the reign of Cyrus only. This prince, they say, having carried the war into the country of the Sacæ (Massagetæ of Herodotus) lost a battle. Compelled to fall back on his magazines, abundantly stored with provisions, but especially wine, and having halted some time to refresh his army, he departed before the enemy, feigning a flight, and leaving his camp standing full of provisions. The Sacæ, who pursued, reaching the abandoned camp stored with provisions, gave themselves up to debauch. Cyrus returned and surprised the inebriated and senseless barbarians. Some, buried in profound sleep, were easily massacred; others occupied in drinking and dancing, without defence, fell into the hands of armed foes; so that all perished. The conqueror, attributing his success to divine protection, consecrated this day to the goddess honoured in his country, and decreed it should be called the day of the Sacæa. This

is the battle related by Herodotus, to which Strabo alludes, between the Persian monarch and Tomyris queen of the Getæ. Amongst the Rajput Sachæ, all grand battles attended with fatal results are termed Saca. When besieged, without hope of relief, in the last effort of despair, the women and girls are immolated, and the warriors, decorated in saffron robes, rush on inevitable destruction. This is to perform saca, where every branch (sacha) is cut off. Cheetore has to boast of having thrice (and a half) suffered saca. Cheetore sac'ha ka pap, 'by the sin of the sack of Cheetore,' is the most solemn adjuration of the Gehlote Rajput. If such is the origin of the festival from the slaughter of the Sacæ of Tomyris, it will be allowed to strengthen the analogy between the Sacæ, east and west of the Indus. Sacæ, Gete, Aswa, and Takshac, are names which have crept in amongst the thirty-six royal Rajput races, common with others also to early civilization in Europe, and there is ancient authority on their original abodes. Strabo says: "All the tribes east of the Caspian are called Scythic. The Dahæ next the sea, the Massagetæ (great Gete) and Sacæ more eastward; but every tribe has a particular name. All are nomadic, but of these nomades the best known are the Asi, the Pasiani, Tachari, Saccaranli, who took Bactria from the Greeks. The Sacæ ('races') have made in Asia irruptions similar to those of the Cimmerians; thus they have been seen to possess themselves of Bactria, and the best district of Armenia, called after them Sacasenæ." Which of the tribes of Rajasthan are the offspring of the Aswa and Mede, of hindoo race, returned under new appellations, Col. Tod says, we shall not now stop to enquire, limiting our hypothesis to the fact of invasions, and adducing some evidence of such being simultaneous with migrations of the same bands into Europe. Hence the inference of a common origin between the Rajpoot and early races of Europe; to support which, a similar mythology, martial manners and poetry, language, and even music and architectural ornaments, may be adduced. Of the first migrations of the Indu-Scythic Gete, Takshac, and Asi, into India, that of Sehesnag, (Takshac), from Sehesnagdes (Techaristhan?) or Sehesnag, six centuries, by calculation, before Christ, is the first noticed by the Puranas. About this period a grand irruption of the same races conquered Asia Minor, and eventually Scandinavia; and not long after the Asi and Tachari overturned the Greek kingdom of Bactria, the Romans felt the power of the Asi, the Catti, and Cimbri, from the Baltic shore. The Asia and Tachari, are the Aswa and Takshac, or Toorshka races, of the Puranas, of Saca-Dwipa. C'est vraisemblablement d' apres le nom de Tachari, que M. D'Anville aura cru devoir placer les tribus ainsi denommees dans le territoire qui s' appele aujourdhui Tokaris-t'hau, situe, dit ce grand geographe, entre les montagnes et le Gihon ou Amou. Bryant gives the following as a passage from Chærilius in the history of the Sacæan Cuthites, of whose ancestry he speaks with great honor in describing the expedition of Alexander the Great:

> Next march'd the Sacæ, fond of pastoral life
> Sprung from the Cuthite nomades, who liv'd
> Amid the plains of Asia, rich in grain
> They from the shepherd race derived their source
> Those shepherds who in ancient times were deemed
> The justest of mankind.—*Ind. Inf.*, p. 16.

A tribe bearing the name of Sacæ is still found in Jhalawan. It is supposed that they are the descendants of the Sacæ from between the Paropamisan mountains and the Sea of Aral who accompanied Alexander, and returning with Craterus through the Moolla pass, settled in their present position. Tod states that Sacæ in Sanscrit has the aspirate, Sac'hæ: meaning literally, the 'branches' or races. The Saca of Indian history, however, are undoubtedly the Sacæ races of Central Asia. The captive Israelites, the Sacæ, the Getæ or Gothi became blended together in some of their migrations. The Sacæ are placed by Ptolemy beside the Massagetæ, and the Sacæ and Scythians were always confounded together.—*Hind. Theat., Vol.* ii, *p.* 179; *Tod's Rajasthan, Vol.* i, *p.* 70; *quoting Strabo, lib.* xi, *p.* 254; *Indian Infanticide, p.* 16. See Arian, Bactria, Hindoo, Kabul, Kelat, Kurmsaq, Viswamitra. *Note* 3, li, v, xi, p. 254, Strabon.

SACA-DWIPA, Scythia. The Puranas of the hindoos describe Saca-dwipa or Scythia. Diodorus, (lib. ii,) makes the Hemodus the boundary between Saca-Scythia, and India Proper. See Scythes, Scythia.

SACAM, or the white island, mentioned in the Puranas, is England. It is mentioned in the Varaha Purana as in possession of the Sakæ.—*Wilford.*

SACAMBARI, or Sacambhari, a goddess, the tutelary divinity of the Chouhon tribes, whose statue is in the middle of a lake. Colonel Tod derives Sacambhari from sacam, the plural of sachæ, 'branch or race,' and ambhar, 'covering, protecting.' The invocatiom is Om! Sacambari Mata! Om!—*Tod's Rajasthan, Vol.* i, *p.* 95.

SACASENÆ, the ancestors of the Saxon race. They dwelt in Armenia on the confines of Albania. La Sacasene, says a French author "etoit une contree de l' Armenie sur les confins de l' Albanie ou du Shirvan." (*Note*

—4, tome i, p. 191, Strabon.) It might not be unworthy of research to inquire whether the Kimbri, the Jut or Gete, the Sacasenæ, the Catti of the Elbe and Cimbric Chersonese, and the ancient Briton, did not bring their terms with their bards and vates (the Bhat and Bardai) from the highland of Scythia east of the Caspian, which originated the nations common to both, improved beyond the Wolga and the Indus.—*Turner's History of the Anglo-Saxons* ; *Hallam*, *Vol.* i ; *Tod's Rajasthan*, *Vol.* i, *p.* 164.

SACARE, a weight of 20 grains used in Madagascar.—*Simmond's Dict.*

SACATAI, Scythia. See Scythes, Scythia.

SACCALIUS INDICUS, see Canis.

SACCHARUM, a genus of plants of the natural order Panicaceæ and section Sacchareæ. There are many species of the genus, all growing in warm countries. Five species growing in Burmah, viz., the Ka-ing ; Kyan-mai ; La-mau-myeet ; Kyan-men ; Boung kyan ; and Htee-po-ka-hsan-hsa, but have not been specifically determined. Griffith collected nearly one hundred different grasses in the Tenasserim provinces. Species of Saccharum, S. sara and S. spontaneum, are used for thatching, forming chair bottoms, and yield writing pens and arrows. Saccharum officinarum is the sugar-cane, from which is produced a large quantity of the sugar used by man. It is a native of the south and west of Asia, and was introduced by the Saracens into the south of Europe. It has several varieties, of which one is the

S. commune or Native Cane of West Indies.
β purpureum, Kajooli, Beng.
γ giganteum, Kullooa, „
δ tahitense, Otaheite cane.

Two other species yielding sugar are also admitted, viz. :—

S. violcaeum, *Tussac*, said to be identical with the Otaheite cane.
S. sinense, *Roxb.*, cultivated in China.

The known species may be thus enumerated :

S. canaliculatum, *Roxb.*, of Bengal.
S. cylindricum ? Ajmir.
S. fuscum, *Roxb.*, „
S. munja, *Roxb.*, Hindustan, Sind.
S. officinarum, *Linn.*, E. Indies, China, W. Indies, Africa.
S. procerum, *Roxb.*, Bengal.
S. sara, *Roxb.*, Bengal.
S. semidecumbens, *Roxb.*, Bengal.
S. sinense, *Roxb.*, China, India.
S. spontaneum, *Linn.*, S. Asia.
S. violaceum, *Tussac*, Polynesia.

SACCHARUM CYLINDRICUM, *Roxb.*; *Hogg.* ; *Voigt.*

Saguerus cylindrica.

Horse's tail grass.	Oola,	Hind.

Grows on the Ajmere plains and flowers early in the rains.—*Genl. Med. Top*, *p.* 174.

SACCHARUM FUSCUM, *Roxb.*

Khori,	Beng.	Ishwalika,
Pati kori,	„	Kandu rellu gaddi,

Grows in Bengal. Natives make pens of its culms, and also use it for s[e]... and light fences. The best dark-col[oured] reeds with which the natives write, are from this species.—*Voigt.*

SACCHARUM MUNJA, *Roxb*

Sur-pata,	Hind.	Sirki,
Surr,	Sind.	Ponika: Munja gadd[i]

This grass grows throughout India, b[ut in] the Panjab it covers immense tracts o[f in]undated lands, and forms the chief diffi[culty] of the agriculturist, as it rapidly encroa[ches] on the cultivation. The ropes made [of] its from the sheathing petiole, are poss[essed] of great tenacity and used as rigging i[n] the vessels above Sukkur, also as tow-r[opes] for tying up cattle and for tying on buckets of persian wells. The twine m[ade] from it is used for the bottoms of bedste[ads]. The plant grows at Benares and in North[ern] Circars, is common at Ajmir, in the vall[eys] and very abundant, along with the Sacc[ha]rum procerum, near Jeypore. The [b]... moonj rope is made from the floral leaves [of] this plant, and the best sirkee rope from culms. The plant is distinguished from S[ac]charum procerum by its height, which [is] inferior, the fineness of the culm and narro[w]ness of the leaves. The Saccharum mun[ja] ropes are used in Bengal for tying up c[at]tle and drawing water. With the boatm[en] of the Indus below Sukkur, coir rope [is] very generally employed, being better ab[le], it is believed, to stand the action of sa[lt] water. Two-inch ropes, often fifty fathom[s] in length, are made of its fibres, being suf[fi]cient for dragging their largest 1,200-maun boats up the Indus, and consequently again[st] the full force of the stream, even roun[d] projecting points. The rope is light, bea[rs] without injury, alternate exposure to w[et] and to subsequent drying. Plants growin[g] beyond the range of the overflowings of th[e] river, or of the influence of the tides are best. The upper leaves, about a foot or so i[n] length, are preferred and collected. They ar[e] made up into bundles, and are kept for use. When required for twisting into rope, they are first moistened in water, then, tw[o me]n sitting opposite to each other, take one [of] these moist bundles and beat it alternate[ly] with mallets, until the loose cellular, are separated from the fibrous, parts. These are then ready for twisting into the ropes which are so extensively employed on the Indus. A continuation of the same process, or the employment of the dhenkee would afford a very ample supply of half-stuff for paper-

s, and at a cheap-rate. If the rope is ccasionally wetted, and allowed to be- too dry, it easily breaks when used. prepared fibre costs two rupees per . It was latterly being exported from chee and brings £5 to £8 per ton.— ; *Voigt.*; *Irvine, p.* 175; *M. E. J. R.*; ; *Ind. Fibres, p.* 30; *Cal. Cat. Ex.*, ; *Powell, Vol.* i, *p.* 520.

CCHARUM OFFICINARUM, *Linn.*

-us-Sukr,	AR.	Karimba,	MALEAL.
; Jend?	,,	To, Marquesas,	Tahiti.
	BENG.	Kamand,	PANJAB.
	,,	Paunda,	,,
	,,	Nai-shukr,	PERS.
	,,	Ko, Sandwich	Islands.
	,,	Itchutunda,	SANS.
	BURM.	Ikshu,	,,
i,	CHIN.	Pundra,	,,
	DUK.	Rusala,	,,
	EGYPT.	Tubu,	TAG.
cane. Cane,	ENG.	Karimbu,	TAM.
of Flores Island.		Cheruku,	TEL.
	HIND.	Kanupulu cheruku,	,,
	,,	Aru, Lavu,	,,
	,,	Potti, Tella,	,,
Kyan of Borneo.		Aru-Kanupula kranuga,	
Malay, of Java.			

Refuse cane.	Roller mill.
PANJ.	Belna, Kulhari? PANJ.

Pestle mill.

Kolhu, PANJ.

This species of the sugar-cane is supposed be a native of the East Indies and to have read from there to other countries into rica, the south of Europe, the Canaries and e West Indies. A considerable portion of he sugar of commerce is manufactured from his species, but the S. violaceum is now more tensively cultivated and the juices of the lmyra and phœnix palms is also largely verted into sugar.—*Roxb.*, *Voigt. Smith*, *cCulloch.*

SACCHARUM PROCERUM, *Roxb.*

y saccharum,	ENG.	Sarkara,	HIND.
nda,	HIND.	Sirkee,	,,

Grows in Bengal and is very abundant ywhere on the sandy ridges and plains Ajmere where water is not very far from e surface. The lower parts of the culms, lled "sirkunda," are made into outside ks for doorways, &c.; the upper parts of e culms, called "sirkee," are made into cellent neat and cheap mats, much used in ching, &c, the floral leaves are made into moonj," separating the fibres, by beating e leaves; this is very much used to make ring and rope.—*Roxburgh, Flor. Indica*; *Irvine, Gen. Med. Top., p.* 175.

SACCHARUM SARA, *Roxb.*

Shur: Sara,	BENG.	Sara,	HIND.
Pen Reed,	ENG.	Sar-pat,	,,
Shur; Sura,	HIND.	Sarar,	,,
Sar,	,,	Sarkara,	,,
Gundra,	,,	Jhund.	PANJAB.
Gundra,	SANS., TEL.	Sacha,	Sutlej, Panjab.
Sarut,	Sutlej, Ravi.	Darga,	Trans-Indus.
Kanda,	,, Panjab.	Karre,	,,
Kura,	,, ,,		

Common in the plains of India. Its culms are finer and stronger than those of S. procerum, and when obtainable are used to make arrows of, in preference to the other species used also for the common "kulm" or reed pen with which in India, the Arabic and Persian characters are written; it is said to be beaten into a rude fibre and then twisted into a rope; Mr. Henly informed Dr. Royle that the pen reed grass is employed as a tow-line by the boatmen about Allahabad and Mirzapore, and esteemed it for its strength and durability even when exposed to the action of water.—*Irvine, Gen. Med. Top., p.* 175; *Roxb, Voigt., Royle.* See Graminaceæ.

SACCHARUM SEMI-DECUMBENS.

The Plant.

Khori,	BENG.	Neja,	HIND.
Tat,	HIND.		

The Grass.		The Culm.	
Mora,	HIND.	Kelik,	HIND.

The clums are used for screens and pens.

SACCHARUM SINENSE, *Roxb.*

A plant of China cultivated in India.

SACCHARUM SPICATUM.

Mau-ken, CHIN.

SACCHARUM SPONTANEUM, *Linn.*

S. biflorum,	*Forsk.*	Imperata spontanea,	*Trin.*
Kash,	BENG.	Kagara,	HIND.
Kashiya,	,,	Kan, MANIL.,	Panjab.
Thek-kay-gyee,	BURM.	Kasha,	SANS.
Thatch grass,	ENG.	Kahu,	SIND.
Kasa,	HIND.	Rellu-gaddi,	TEL.
Kus,	,,	Kaki veduru,	,,
Kush,	,,		

This grass grows in every part of Hindustan; is common on islands, &c., throughout the Punjab plains; is very abundant in the plains of Ajmere where the blossom in the rains has a beautiful silvery appearance. Brooms are made of the culms, string of its leaves, and the whole is used to thatch with. The Karens in Amherst Province cover their houses with the tall grasses which are so abundant on the coast, and a few Europeans prefer this as thatch to that made from the nipa. Imperata cylindrica, syn. of Saccharum cylindricum and Saccharum spontaneum, are however used for this purpose. It is in much demand for twine; and elephants, horses, and horned cattle do not object to it as fodder. The grass grows from three to fifteen feet high, and it flowers in great profusion after the rains. A familiar couplet, in which the hunger and avarice of brahmins are sportively alluded to, shows the correct pronunciation as well as the season of its flowering:

Aye kunagut phoole Cas
Bamhun buet, he choolhe pas.

"The time (kooar) for performing the ceremony in honour of deceased ancestors has arrived, the cas is in flower and brahmins surround the fire-place."—*Dr. J. Stewart's Punjab Plants, p.* 261 ; *Mason* ; *Genl. Med. Top., p.* 175 ; *Roxb.* ; *Elliot.*

SACCHARUM VIOLACEUM, *Tussac.*

Otaheite cane,	Eng.	Tabu.	Malay, of Java.
Otaheite sugar-cane,	,,	Tubu,	,, Philippines.
Khush-bas,	Hind.	Turo,	Kyan of Borneo.
Ghanna,	,,	Tau,	Flores Islands.
Rickhu,	,,	To,	Marquesas Tahite.
Puna,	,,	Ko,	Sandwich Islands.
Ponda,	,,		

The sugar-cane plant of Polynesia is grown in India, is abundantly cultivated in the Saharunpore district ; it gives a larger percentage of sugar, but it is objected to by the natives as being too strong for the pressure of the native mill : it is therefore principally cultivated for eating. In the Deyrah Dhoon it has with much advantage been extensively cultivated for making sugar, but it is there pressed with European mills.—*Voigt.*

SACCHO-CICHORINE GUM, see Chichorium intybus.

SACCOLABIUM, an Asiatic genus of plants belonging to the natural order Orchiaceæ, of which the following species are known :—

calceolare, *Lindl.*, N. E. India.	papilosum, *Lindl.*, Burmah.
carinatum, *Wall.*, Khassya.	retusum, N. E. India.
guttatum, *W. Ic.*	rheedii, *W. Ic.*
micranthum, *Lindl.*, N. E. India.	rigidulum, *Wall.*, Khassya.
	rubrum, *W. Ic.*
niveum, *W. Ic.*	speciosum, *W. Ic.*
paniculatum, *W. Ic.*	wightianum, *W. Ic.*

These orchids are largely cultivated for their beauty. Their generic name has been applied to them from their lip forming a bag or spur. See Æceoclades.

SACCOLABIUM PAPILOSUM, *Lindl.*

Cymbidium præmorsum, *Swz.*
Epidendrum præmorsum, *Roxb.*
Ærides undulatum, *Sm.*

This orchid grows in the Circars and in Burmah.

SACCOLABIUM RETUSUM.

Epidendrum retusum, *L.*	Ærides retusum, *Swz.*
Limodorum, ,, *Swz.*	,, guttatum, *Roxb.*
Sarcanthus guttatus, *Lindl.*	Mo ma khan, Burm.

This, one of the noblest orchids in the Tenasserim Provinces, is profusely multiplied in the neighbourhood of Maulmain, grows in Java, Peninsula of India, Chittagong, Dacca, Khassya, Nepal, Burmah, Tenasserim. The flowers are numerous, white, spotted with orse-violet, and stand on little pedicels all around the stalk so as to form an elegant plume sometimes a foot long, which gives the trees on which they grow a most princely appearance.—*Mason.*

SACHA, Hind. Saccharum sara.

SAC'HA and C'hasa are inhabitants of the great snowy mountains (koh), whence Khochasa, the montes of Ptolemy, corrupted to Caucasus.

SACHANG, Jav. Sapan wood. Cæsalpinia sappan, *Linn.*, *Roxb.*, *W. & A.*

SACHIANAS, Hind. Argemone mexicana, *Linn.*

SACH-JOTH, a pass in the N. W. Himalaya. The ascent is steady to the top of this pass, which is a mass of bare rock, quite free of snow, and elevated 14,800 feet. The pass is a deep depression in the crest of the range, which rises on both sides to a considerable height. The ridge was a mass of black slate rock, in highly inclined strata, on which no snow lay.—*Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 339.

SACHUQ KAY MUTKIAN, earthen pots painted, in which the Burree apparatus are conveyed in a mahomedan ceremony.

SACK-CLOTH, a coarse cloth from any coarse fibre. 'They would have repented long ago in sack-cloth and ashes,' says Matthew xi, 21. Many hindoo mendicants cover themselves with coarse cloth and ashes, after renouncing a secular life.

SACK TREE, Eng. Antiaris saccidora, see Lepurandra.

SACK TRAGER, Germ. Eumeta cara-merii, *Westw.* Wood moth.

SACONTALA, or the Lost Ring, by Kalidasa, is a Sanscrit poem first translated into English in 1789, and again translated in 1855, into English, by Mr. Monier Williams, from the Sanscrit of Kalidasa.

SACRED.

Maqaddas,	Ar., Hind., Pers.	Heilig,	Ger.
		Sacro, Sacrato,	It.
Sacré,	Fr.	Sagrado,	Sp.

Terms synonimous with this English word are applied in Asia to individuals, animals, places, stones, and plants. Amongst the hindoos, the flowers of many plants are sacred, are offered up to their idols, are used for rosaries, &c., and their gums as incense, such as those of

Ægle marmelos.	Butea frondosa.
Æschynomene sesban.	Calophyllum in ophyllum.
Afzelia bijuga.	Calotropis gigantea.
Antenaria, *species.*	Cedrus deodara.
Aplotaxys gossipina.	Chamerops ritchiana.
Artemisia astriaka.	Chrysanthemum indicum
Aucklandia costus.	Clitorea ternatea.
Barringtonia acutangula.	Cupressus torulosa.
Bauhinia variegata.	Dalbergia sissoo.
Betula bhojputra.	Daphne cannabina.
Borassus flabelliformis.	Datura fastuosa.
Buchanania latifolia.	Delphinum brunonianum

Dolomiaea macr.	Mimusops elengi.
Echites caryophyllata.	Morinda breiflora.
Erythrina fulgens.	Murraya exotica.
Ficus indica.	Nauclea cadamba.
„ glomerata.	Nelumbium speciosum.
„ religiosa.	Nerium odorum.
„ venosa.	Nymphœa esculentum.
Gardenia florida.	Ocimum sanctum.
Gærtnera racemosa.	Origanum marjoranum.
Guettarda speciosa.	Poinciana pulcherrima.
Helianthus annuus.	Polianthus tuberosa.
Hernandia senora.	Populus balsamifera.
Hibiscus phœniceus.	Pterospermum acerifolium.
„ rosa sinenses.	„ suberifolium.
Jasminum, *species*.	Putranjiva roxburghii.
Jonesia asoca.	Rhododendron arboreum.
Justicea adhatoda.	**Rosa, *species*.**
Juniperus communis.	Saussurea obvallata.
„ excelsa.	„ sacra.
Kupatieus, *species*.	„ soro cephala.
Limonia scandens.	**Senecio laciniosus.**
Melia azaderacta.	**Tagetes erecta.**
„ sempervirens.	„ patula.
Menispermum glabrum.	„ populnea.
Mesna ferrea.	Tabernæmontana ceriarea.
Michelia champaca.	

Throughout British India, fire, snakes, stones and a species of ammonite are worshipped. It is the saligramma of the hindoos and is found in the river Gandak. The ban-lang of the hindoos is a stone rounded by attrition found in the rivers of Rajputanah. At Lanuvium, 16 miles from Rome, was a dark grove sacred to Juno, and near it the abode of a great serpent, the oracle of female chastity. Scipio Africanus is said to have believed himself to be the son of a snake. Augustus Cæsar allowed it to be understood that his mother Atia had received him from a serpent. Alexander the Great, before he undertook to prove himself the son of Jupiter Ammon, was supposed (apparently by Philip himself) to be the son of a serpent, who actually appeared to him in a dream in later years to save the life of his general, Ptolemy. The sacred grove of oaks at Dodona, supposed to have been planted by the Pelasgi, existed till the time of Constantine. Their branches were hung with bells, sacred pigeons rustled amidst the leaves. The laurel of Apollo at Delphi, was sacred like the oak at Dodona. Under the laurels shade, the python took refuge. Sacred stones exist in Fiji, to which the natives pay reverence, for instance, near Vuna and Baw, as well as in many other parts of Polynesia. Compared with remnants of priapus worship, as found at Indian temples, the Museo segreto of Naples, and in the obelisks of Egypt, it becomes evident that the object of these monoliths was to represent the generative principle ; and, the shape of the Polynesian stones, the reverence paid to them, their decoration, and the results expected from their worship, are quite in accordance with a widely-spread superstition, which assumed such offensive forms in ancient Rome, and found vent in the noblest monuments of which the land of the Pharaohs can boast. Turner had in his possession several smooth stones from the new Hebrides. He says that some of the Polynesian stone-gods were supposed to cause fecundity in pigs, rain and sunshine. According to the Earl of Roden, a stone at Mayo was carefully wrapped up in flannel, periodically worshipped, and supplicated to send wrecks on the coast. Two large stones, lying at the bottom of a moat, are said to have given birth to Degei, the supreme god of Fiji. In all instances, an addition to objects already existing was expected from the Fiji monoliths. A stone near Baw existed, which, whenever a lady of rank at the Fiji capital was confined, was fabled also to gve birth to a little stone.—*Galton's Vacation Tourists, pp.* 273–275.

SACRED BEAN PLANT, Nelumbium speciosum.

SACRED FIG TREE, Ficus religiosa.

SACRED FIRES are kept up by the Agnihotra brahmins of India and by the Parsee or Zoroastrian religionists. The brahmanie families who keep the sacred fires are supposed to descend from the seven Rishi,

Bhrigu,	Vasishta,	Atri,
Angoras,	Kasyapa,	Agastya.
Visvamitra,		

The real ancestors, however, are eight,

Jamadagni,	Visvamitra,	Atri,
Gautama,	Vasishta,	Agastya.
Bharadvaja,	Kasyapa,	

The eight gotra which descend from these Rishi, are again sub-divided into 49 gotra, and these 49 branch off into a still greater number. The terms Gotra, Vansa, Vaigu, Paksha and Ganu, are all used in the same sense to express the larger as well as the smaller families, descended from the eight ancestral Rishi. On the N. W. of India and at Baku near the Caspian, natural gases escape from the earth, and when set fire to burn with a feeble flame. These are deemed sacred by hindoos, many of whom make long pilgrimages to visit the sacred spots. See Baku, Jwala-mukhi, Sholah-mukhi.

SACRED INDIAN FIR, Eng. Cedrus deodara, *Lambert.*

SACRED SHELL is the Chank shell, some of which fetch great prices, Psalm lxxxi, 3, says, 'Blow up the trumpet in the new moon, in the time appointed, on our solemn feast-day.' The hindoos similarly announce some of their festivals by the sound of this sacred shell. See Molluscs.

SACTA, or Sakta. The hindoo worshippers of the Sakti, the power or energy of the divine nature in action, are exceedingly

numerous amongst all classes of the hindoos of Hindusthan. In the mythology of the hindoos, this active energy is personified, in the forms of the three deities, Lakshmi or Maha Lakshmi ; Parvati, Bhavani or Durga, and of Sarasvati, the consorts respectively of Vishnu, Siva and Brahma. The worship of the female principle, as distinct from the divinity, appears to have originated in the literal interpretation of the metaphorical language of the Vedas, in which the will or purpose to create the universe, is represented as originating from the creator and co-existent with him as his bride and part of himself. Thus, in the Ric Veda, it is said, "that divine spirit breathed without afflation single, with (Swadha) her who is sustained within him, other than him nothing existed. First, desire was formed in his mind, and that became the original productive seed." Also, the Sama Veda, speaking of the divine cause of creation, says, "He felt not delight being alone, he wished another, and instantly became such. He caused his own self to fall in twain, and thus became husband and wife. He approached her, and thus were human beings produced." It is probable that these legends may relate to the primitive tradition as to the origin of mankind, but there is in them, also a figurative representation of the first indication of wish or will in the Supreme Being. Another set of notions of some antiquity, which contributed to form the character of the Sakti, whether general or particular, were derived from the Sankhya philosophy. In this system, nature, Prakriti, or Mula Prakriti, is defined to be of eternal existence and independent origin, distinct from the Supreme Spirit, productive though no production, and the plastic origin of all things, including even the gods. In the Puranas, especially in the Brahma Vaivartta Purana, Prakriti or Maya bears a prominent part, for from the Sankhya philosophy, Prakriti has come to be regarded as the mother of gods and men, whilst as one with Matter, the source of error, it is again identified with Maya or delusion, and as co-existent with the Supreme as his Sakti, his personified energy or his bride. According to the Prakriti Khanda section of the Brahma Vaivartta Purana, Brahma or the Supreme Being, having determined to create the Universe, became two-fold, the right half becoming a male, the left half a female, which was Prakriti. She was of one nature with Brahma. She was illusion, eternal and without end : as is the soul, so its active energy—as the faculty of burning is in fire. It is from the Tantras, that the rites and formulæ of the worship of Prakriti or Sakta is obtained. They are numerous, of great extent, and in the form of a dialogue between Siva and his bride. Many of the Sakta worshippings are nothing more than a convivial party, consisting of the members of a single family, or at which men only are assembled and the company are glad to eat flesh and drink spirits :

> Let him pledge the wine cup again and again,
> Till he measure his length on the ground ;
> Let him rise and once more the goblet drain,
> And with freedom for aye, from a life of pain,
> Shall the glorious feat be crowned.

The earliest record of Sacti is in the Periplus. The Sacti are the consorts or energies of the hindoo gods : thus Parvati is the sacti of Siva ; Lakshmi, that of Vishnu ; and Suraswati, Brahmai or Brahmini, of Brahma. As their energies, they participate in their various avatars or incarnations ; Lakshmi, in those of Vishnu, being Varahi, Narasinhi, Sita, Radha, &c., and in like manner are the other sacti. In the eighth volume of the Asiatic Researches, Mr. Colebrooke calls them also Matri or mothers, and says "they are named Brahmi, &c., because they issued from the bodies of Brahma and the other gods respectively." The sacti are said to have numerous followers in northern India ; in the Peninsula of India, the sacti sect seem to be unknown. But in N. India the sacti sect are said to worship the sacti exclusively. The emblem of worship is the yoni. One branch of the sacti worshippers is so grossly licentious and addicted to debauchery, that they are held in the utmost detestation by the other sects, and even by a large portion of their own. It is related that the energy of each god, exactly like him, with the same form, the same decorations, and the same vehicle, came to fight against the Asura or demons. The sacti of Brahma, girt with a white cord and bearing a hollow gourd, arrived on a car yoked with swans : her title is Brahmani. Maheswari came riding on a bull and bearing a trident with a vast serpent for a ring and a crescent for a gem. Cumara, bearing a lance in her hand, and riding on a peacock, being Ambica in the form of Kartikeya, came to make war on the children of Diti the giants, or Asura. The sacti named Vishnaivi also arrived sitting on an eagle, and bearing a conch, a discus, a club, a bow, and a sword, in her several hands. The energy of Hari, who assumed the unrivalled form of the holy boar, likewise came there, assuming the body of Varahi. Narasinhi, too, arrived there embodied in a form precisely similar to that of Narasinha, with an erect mane reaching to the host of stars. Aindri (Indrani) came bearing the thunderbolt in her hand, and riding on the king of elephants, and in every respect like Indra, with a hundred eyes. Lastly came the dreadful energy named Chandica,

who sprung from the body of Devi, horrible, howling like a hundred jackals. She, surnamed Aparajita, the unconquered goddess, addressed Isana, whose head is encircled by his dusky braided locks." In the foregoing extract, Maheswari and Chandica are forms of Parvati; and Narasinhi, Vishnaivi, and Varahi, those of Lakshmi. Major Moor likewise observes that in the mythology of the hindoos, Brahma, Vishnu, and Siva, have assigned them consorts which are personifications, respectively, of the active energies of their Lords, and are called Sacti. Saraswati is the Sacti of Brahma, Lakshmi of Vishnu, and Parvati of Siva: hence those, of whatever sect, who worship exclusively the female power—Parvati (*i. e.*, Devi), however, more especially, are called Sacta. The inferior deities in their own persons, and the Avatara of the superior, are likewise mated in fable, and have their wills executed by active helpmates; each of whom, except in sex, exactly resembles the deity whose partner she is: from whose bodies indeed, as Eve from Adam's, they are, in some theogonies, supposed to have proceeded, and with whose powers and attributes they are armed. Eight of these Sacti are more particularly recorded, their names are the following:—

Maheswari	sacti of Mahesa, or Siva.
Brahmi, or Brahmani	sacti of Brahma.
Narayani	sacti of Narayana.
Aindri	sacti of Indra.
Kaumari	sacti of Kartikeya.
Varahi	sacti of Vishnu of the Vahar Avatara.
Narasinhi	sacti of Vishnu in the Narasing Avatara.
Aparajita	a form of Bhavani, sacti of Siva.

This list is taken from Mr. Paterson's Essay on the hindoo religion, in the eighth volume of the *As. Res.*, *p.* 68. Mr. Paterson remarks that Aparajita may be the Aphrodite of the Greeks, and Maheswari, or a female Siva, riding on a white bull, may have given rise to the story of Europa's rape; while Brahmi, or the female Brahma, with the swan, may, in like manner, have been the origin of the fable of Jupiter and Leda. These explanations were, perhaps, invented by the Greeks, to account for symbols, of the meaning of which they were ignorant. The eight Sacti, or energies of as many deities, are also called Matri, or mothers. In some places they are thus enumerated, Brahmi, Maheswari, Aindri, Varahi, Vaishnavi, Caumari, Chamunda, and Chartica. Some reduce the number to seven; omitting the two latter, and adding Cauveri. Prayers are addressed to the Matri on various occasions, especially in the Cavacha, or defensive incantations. Each of the Sacti or energy of the deities has the Vahan of their respective lords: Bhavani is, however, oftener seen on a lion or tiger than on Nandi, the vahan bull of her spouse.—*Coleman on the Mythology of the Hindoos*, *p.* 121; *Raya Mucuta on the Amaracosha*; *Moor's Pantheon.* See Agni, Ballaji, Brahma, Chandra, Hiranyagharbha, Kama, Lakshmi, Maha devi, Osiris, Parvati, Saras-vati, Satarupa, Tripati.

SACRIFICE.

Fida,	Ar.	Sagrificio,	It.
Sadqa,	"	Sagrifizio,	"
Tasaduq,	"	Sacrificium,	Lat.
Kurban,	Heb. "	Med'h,	Sans.
Libation,	Eng.	Sacrificio,	It., Port., Sp.
Oblation,	"	Bali,	Tam.
Sacrifice,	Fr.	Gao,	Tel.
Sacrifizio,	It.		

A sacrifice is an offering of any consecrated thing to a deity, whether an animal, anything of the mineral or vegetable world, a manufactured article, or in the form of a libation or an oblation. All nations seem to have had a stage in their history, in which to make offerings in sacrifice formed a part of their mode of worshipping the deity whom they reverenced. The earliest record of sacrifices extant, are those recorded in Genesis iv, 2, 15, 25, in the cases of Cain and Abel, where Cain, an agriculturist or, as he is styled, a tiller of the ground, brought of the fruit of the ground an offering to the Lord, and Abel, who was a nomade, a keeper of sheep, brought of the firstlings of his flock and of the fat thereof, and it is mentioned that the Lord had respect unto Abel and to his offering; but unto Cain and to his offering he had not respect. And thus, even in those early days in the history of the human race, the blood sacrifice, the oblation and immolation of animals, was deemed by the offerer more worthy of the deity's acceptance than the fruits and flowers of the earth. In the exalted ideas of the sacrificing races, the view taken seems to have been that the most precious thing should be offered and with the object of propitiating a wrathful being, and there followed on this the offering up of human beings, of the children of the sacrificer, the children of kings, though criminals, of captives taken in war, slaves, and even women were sacrificed. Chap. xi of Judges, tells us how Jephthah when he invaded the country of the Ammonites, vowed a vow unto the Lord, and said, 'If thou shalt without fail deliver the children of Ammon into mine hands, then it shall be, that whatsoever cometh forth of the doors of my house to meet me, when I return in peace from the children of Ammon, shall surely be the Lord's, and I will offer it up for a burnt-offering. * * * * * And Jephthah came to Mizpeh unto his house, and, behold, his daughter came out to meet him with timbrels

and with dances. * * * And he said, alas my daughter * * I have opened my mouth unto the Lord, and I cannot go back. * * * And it came to pass that at the end of two months, that she returned unto her father, who did with her according to his vow which he had vowed : and she knew no man.' The interpretation which from the concluding passage, has been put on the character of Jephthah's offering, viz., that his daughter remained a virgin for the Lord's sake, but this view is not supported by the preceding words, where Jephthah declares the object of his vow should be a burnt offering. The readiness with which Abraham obeyed the command to offer up his only son Isaac, indicates a knowledge of this rite. Jeremiah xix, 4 and 5, shows, says Dr. Milman, that in later times, human sacrifices were offered to Moloch and to Baal. The immolation of human victims particularly of the most precious, the favourite, the first born child, appears as a common usage, among many nations, more especially the tribes by which Abraham was surrounded, and when suddenly commanded to cut off that life on which all the splendid promises of the Almighty seemed to depend, he obeys and sets forth with his unsuspecting child to offer the fatal sacrifice on Mount Moriah. It was the distinguishing rite among the worshippers of Moloch, at a later period of Jewish history it was practised by a king of Moab, it was undoubtedly derived by the Carthagenians from their Phœnician ancestors on the shores of Syria. It was an ordinary usage in the worship of Moloch. But, besides the common worship of Moloch, the Book of Kings names the Sepharvaites as making these human sacrifices (II Kings xvii, 31) and the king of Moab (II Kings iii, 27.) These filial sacrifices were doubtless of rare and extraordinary occurrence ; they were either to expiate some dreadful guilt, to avert the imminent vengeance of an offended deity, or to extort his blessing on some important enterprise. Dr. Milman, however, considers that the Hebrew religion held human sacrifices in abhorrence, and that the great rite of sacrifice was regulated amongst the Hebrews with the utmost precision, and with three distinct objects. Every morning and every evening, the smoke from the great brazen altar of burnt offerings ascended in the name of the whole people. On the seventh day, two animals instead of one was slain, and the offering of the poorest was acceptable. The sacrifices were partly propitiatory, that is, voluntary acts of reverence in order to secure the favour of God to the devout worshipper : partly eucharistic, or expressive of gratitude for the divine blessings. Of this nature were the first fruits, and whether reaping the harvest or gathering in the vintage, the Israelite made an oblation of thanksgiving to the gracious Being who had bestowed his bounty. Lastly, the Hebrew sacrifices were piacular or expiatory ; every sin either of the nation or the individual had its appointed atonement. The tenth day of the seventh month was set apart for the solemn rite of national expiation. First a bullock was to be slain and the blood sprinkled, not only in the customary places but within the Holy of Holies itself. Then two goats were chosen, and lots cast upon them ; the one assigned to the Lord was sacrificed ; on the other, by the imprecation of the high priest, the sins of the whole people were heaped, and it was then taken beyond the camp and sent into the desert to Azazel, the spirit of evil to whom Hebrew belief assigned the waste and howling wilderness as his earthly dwelling. Sacrifices have, however, been and continue common to all races and religions. They are made in the form of offerings of the raw products of the earth, of raw food, of cooked food, of water, and of living creatures. The earliest historical record is met with in the Old Testament. The contest recorded between Cain and Abel, marks the jealous rivalry and strife between the powerful overbearing dwellers in cities who bear arms and till the ground and the harmless nomade shepherds. The first victim was Abel, but the struggle runs through the whole history of Asia. In the early ages of the world the offerings of living creatures was deemed the more acceptable, and, in the time of Solomon, an instance (II Chron. vii, 5) is recorded of the sacrifice of 22,000 oxen. Isaiah, however, (i, 10–14) openly denounced the sacrifice of animals, as an atonement for sin. 'Hear the word of the Lord, ye rulers of Sodom ; give ear unto the law of our God, ye people of Gomorrah. To what purpose *is* the multitude of your sacrifices unto me ? saith the Lord : I am full of the burnt offerings of rams, and the fat of fed beasts ; and I delight not in the blood of bullocks, or of lambs, or of he goats. When ye come to appear before me, who hath required this at your hand, to tread my courts ? Bring no more vain oblations ; incense is an abomination unto me ; the new moons and sabbaths, the calling of assemblies, I cannot away with ; *it is* iniquity, even the solemn meeting. Your new moons and your appointed feasts my soul hateth : they are a trouble unto me ; I am weary to bear *them*.' But a little after the time of Isaiah, Buddha appeared objecting to the animal sacrifices. From the times of the Vedas until now, the

homa, an offering of ghi to the fire, from the dhenkna or sacrificial ladle ; also the Pasaya, sacred food of rice and milk, cooked in sacrificial kettles, are oblations of hindoos. Mr. Wheeler is of opinion that the homa was introduced by the brahmins to displace animal sacrifices. Amongst other ancient Vedic customs, was that of the self-sacrifice of wives on the funeral piles of their husbands, and it has continued in some part of Asia up to the close of the nineteenth century. It is related in the Mahabarata that after the battle of Kurukshetra, when the widows of the slain were talking over their losses, Vyasa bid them repair to the banks of the Ganges. Vyasa also was present, and called out the names of the slain. All appeared in great glory and splendour and more beautiful than when they were alive, widows went to their husbands, daughters to their fathers, mothers to their sons, sisters to their brothers, and all the fifteen years of sorrow which had passed since the war of the Mahabarata were forgotten in the ecstacy of seeing each other again. The night passed away in the fulness of joy, and when the morning dawned, all the dead mounted their horses and chariots and disappeared. But Vyasa said that the widows who wanted to rejoin their dead husbands might do so, and all the widows went and bathed in the Ganges, and came out of the water again, kissed, one by one, the feet of Dhritarashtra and Gandhari, and then went and drowned themselves in the river : and, through the prayers of Vyasa, they all went to the place they wished and obtained their several desires. In the hindoo sacrifices, the sweet smelling kusa grass, seems to have been employed, from the most ancient dates, and also a spirituous fluid which they called the soma juice, and the Persians called hom. What this fluid was is doubtful, but it had stimulating and intoxicating qualities, for the Rig Veda (ix) says, " the purifying soma, like the sea rolling its waves has poured forth songs and hymns and thoughts." It has been said to be the fermented acid juice of the Sarcostemma acidum, the shom-luta of Bengal, but the fierce exultations which are noticed in the Rig Veda, could only have been produced by a strong alcoholic drink.

The duty of offering to the Lord of the first of every product has doubtless had almost a universal hold on man. Exodus xxii, 29, commands the offer of the first fruits, and the same is enjoined in Deut. xxvi, 2 ; Lev ii, 12, and numerous other places. Gen. iv, 4, tells us that Abel brought the first of his flock, and Exod. xiii, 12, and other places enjoin this, and to the present day, in the villages around Chingleput the first-born daughter in the weaver families are devoted as deva-dasa to the gods of the hindoo temples. The pouring out of water as an oblation is a very ancient rite. David when pressed by the people of Palestine, craved for a drink from the well at the gate of Bethlehem, and afterwards would not drink it when brought by three men, " but poured it out unto the Lord." Ages prior thereto, (Gen. xxxv, 14), Jacob is mentioned as setting up a pillar and he poured a drink offering thereon, and he poured oil thereon, and to the present day, throughout British India, the lingum, the priapus or phallus, is daily worshipped by the saiva hindoos and washed with oil and milk. Wine was occasionally used as in Numbers xxviii, 7, causing the strong wine to be poured unto the Lord for a drink offering. I Samuel vii, 6, Israel gathered together to Mizpeh and drew water and poured it out before the Lord. Although the sacrificial rite of offering human beings, seems to have prevailed amongst many peoples, the ordinary Vedic offerings were of cooked food, delicious food and drink ; the Janemajaya, however, was a sacrifice of snakes, and the Rajasaya was a royal sacrifice to the gods, in acknowledgment of sovereignty and supremacy. Originally it was a great national feast.

Human sacrifices, says Bunsen, were abolished by the Egyptians, in the very earliest times, declaring it to be an abomination to the gods. Whereas in Palestine, in Syria, and in cultivated Phœnicia and Carthage, such sacrifices continued to be offered to Moloch as the very climax of religious worship. Even Rome herself, in the time of her Cæsars, buried her Gallic prisoners alive, in order to appease the wrath of their gods. Many of the kings of Judah and Israel caused their children to pass through the fire. The Greeks and Romans also were not free from these atrocities.

Animal sacrifices seem to have been a usual rite amongst all the Scythian races. Some members of this great stock appear to have wandered so far from their northern seats as the peninsula of India, in the most southern parts of which are found great numbers of cromlechs and cairns. All round Hyderabad in the Dekhan these are to be seen, and, at one place, about 12 miles from that city is a vast site of these ancient dead. In all the cairns that have been opened there, sepulchral urns have been found, and in their neighbourhood, human bones and bones of animals. From one excavated by Captain A. McGoun, there was obtained a perfect human skull. Of the race who adopted that form of burial nothing is now known. Whether they were a nomade people who wandered into India and wandered out again, remains to be guessed at, or whether they have

merged into the mass of the people. But that they were nomades, dwelling in tents, seems proved by what remains in the place alluded to near Hyderabad where is to be seen a great encamping ground, the stone enclosures for each tent being perfect, and that they were tents and not houses is proved by the circumstance that within the enclosures there are no mounds of ruined houses, but in all merely a level space, and it may be a question whether the bones now found in their cairns are those of victims interred with the dead? Amongst the Arian hindoos, the sacrifice of a horse, the aswamed'ha, seems to have been practised. There are two hymns in the Ric Veda, describing the rite, and which leave no doubt, that in the early religious rites of the race, this sacrifice, as a burnt offering to the gods, was made. It was even then, however, falling into disuse, and was existing as a relic of an ante-vedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And in still later times, the aswamed'ha consisted in certain ceremonies ending in the liberation of the horse, just as throughout Southern India and about Benares, is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of the hindoo gods Siva or Vishnu. Professor Max Müller reminds us of what we read in Herodotus (v, 5) that amongst the Thracians it was usual after the death of a man, to find out who had been the most beloved of his wives, and to sacrifice her upon the tomb. Mela (ii, 2) gives the same as the general custom of the Getæ line. Herodotus (iv, 71) asserts a similar fact of the Scythians, and Pausanias (iv, 2) of the Greeks. In Salamis, formerly called Coronea, a man, says William Howit, was annually sacrificed to Argaula, the daughter of Cecrops, and daughter-in-law of Argaulis. This continued to the time of Diphilus, who changed the victim to a bull. Men were sacrificed in Heliopolis, a city of Egypt, till the time of Amosis. Men were also sacrificed to Juno, as many as nine in one day, but Amosis changed the victims to waxen statutes of men. A man was sacrificed to the Omadian Bacchus in Chios and also in Tenedos. The Spartans according to Apollodorus, sacrificed men to Mars. The Phœnicians and Egyptians, Cretans and Persians had similar sacrifices. Philo Biblins tells us that the Phœnicians had a king named Israel, who sacrificed his only son Jeust, which was the origin of their custom. The Curetes sacrificed boys, and Pallas says that the sacrifices of men did not cease everywhere till the days of Hadrian the emperor.

A virgin was sacrificed annually in Laodicea to Minerva, afterwards a hart was substituted. The Carthagenians had similar sacrifices till Iphicrates abolished them. Augustus Cæsar, when he took Perusia, sacrificed 300 men of the equestrian and senatorian orders, to the manes of his uncle Julius. Porphyry says, in his time, a man was sacrificed every year at the shrine of Jupiter Latiaris. Heliogabalus offered human victims to the Syrian deity, which he introduced. With the Gauls and Germans, no business of any importance, was transacted without being prefaced by human blood. According to Lucans Pharsalia (lib. iv, 444) the gods to whom these sacrifices were made, were Thautetes, Hesus, and Taranis, and that in the midst of gloomy woods to increase the horror. Tacitus in his Annals (lib. xiii,) says that the Hermanduri sacrificed all their prisoners to Mars. The Arduenna and Hyrcinian forests were terrible for these immolations at the hands of the Druids. (See Claudian in Laudes Stilichones, lib. i.) The Massagetæ, the Scythian, the Gete, the Sarmatian, the Suevi, and all the Scandinavian races, believed that no blessing, or security could be obtained except by these horrors. Dithmar relates the same sacrifices to the god Swantowiti in Zeeland. The Druids burned men in wicker frames to the gods. Hamilcar, being defeated in Sicily, not only sacrificed a boy to Cronos on the spot, but drowned some of the priests to appease the god. The Persians, says Bunsen, buried people alive. The Cyprians, the Rhodians, the Phocians, the Ionians, the people of Chios, Lesbos and Tenedos, all had human sacrifices. The natives of the Tauric Chersonesus, offered to Diana, every stranger whom chance threw upon their coast. Aristomenes, the Messinian, slew 300 noble Lacedemonians, at once, amongst whom was Theopompus, the king of Sparta, at the altar of Jupiter of Ithome. The Spartans, in return sacrificed their captives to Mars. Phytarchus and Porphyry assert that every Grecian state, before marching against an enemy sacrificed human victims. Livy says that in the consulate of Emisius Paulus and Terentius Varro, two Gauls, a man and woman, and two Grecians, were buried alive at Rome, in the ox-market, in a place walled round and made for such purposes. Plutarch gives another instance of this a few years before, in the consulate of Flaminius and Furius. It is asserted that the principal captives led in triumph by the Romans, were, for a long time, despatched afterwards at the altar of Jupiter Capitolinus. Marius sacrificed his own daughter to the Dii Averrunci, for success against the Cimbri. Clemens, Dorotheus

and Plutarch all affirm it. The Dumatians of Arabia sacrificed annually a boy. The Greeks, says Phillarchus, generally sacrificed men before they went out to battle. The Thracians and Scythians did the same.

Every classical reader will recollect the attempted sacrifice of Iphegenia, by her father, and the perfected one of the daughter of Erectheus and Praxithia by the Athenians. At this time, says Eusebius, a man is sacrificed in Megalopolis, at the feast of Jupiter Latiaris. The same had been the case to Jupiter in Arcadia, to Saturn in Carthage. In Lydia, Diodorus asserted that 200 of the sons of the nobles, and 300 of the people at large had been sacrificed. Dionysius of Halicarnassus says that Apollo and Jupiter had at one time demanded so many human sacrifices of the aborigines in Italy, that they actually decimated themselves: and, to escape from the infliction, emigrated into distant regions. This is said to have happened to the Pelasgi in Italy; that it became the ruin of the country; and, notwithstanding the emigration of the young men, the oracles continued to demand and the magistrates to enforce these sacrifices, till Hercules put a stop to them. Down to comparatively recent historic times, the Phœnicians, Carthagenians, Aramæans, Syrians, Babylonians and even Israelites and their neighbours on both sides of the Jordan, sacrificed their children with the hoped for object of averting any great and serious misfortune. A Phœnician legend is of El, the Strong offering up his son Yedud or Yedid the Beloved, El, being the Kronos.

Malekh Bel, was the same as the Tyrian Hercules, or Moloch or Bal-Moloch, to whom, as also to Hecate and Melekhet Artemis, dogs were sacrificed. In Babylonia; (Is. lxvi, 3, Ex. xiii, 13, xxxiv, 20) their neck or back-bone had to be broken unless redeemed. The principal sacrifices offered to Hercules Usov, as well as to his mythical companion were human beings, which in Laodicea of Phœnicia might be ransomed by a doe. At Carthage, the practice of sacrificing their favourite children, and those of the highest rank in honour of Hercules, continued down to their latest wars. The legend of the Grecian Hercules is that he became insane, burned his own children as well as those of his twin-brother Iphicles, and murdered his guest Iphitus. We have, says Sharpe, the authority of Manetho, the Egyptian priest, for the fact that some criminals were openly burnt alive in the form of a sacrifice, every year at midsummer, in the city of Idithya. Nations less earnest in their religious feelings shuddered at the inhuman cruelty; but it had probably gone out of use long before the Egyptians were reproached by Virgil and Ovid with sacrificing human beings to the Nile to obtain a bounteous overflow. Since that time altars have seldom been lighted for human sacrifices, but by men who, shame to say, have been struggling for theological opinions, in entire forgetfulness of the humility, mildness and brotherly kindness for which such opinions are chiefly valuable. Bunsen mentions that the sacrificial stamp of Egypt, had the figure of a man on his knees, his hands tied behind his back, with the sacrificial knife tied behind his back, indicates a human being as the primary sacrificial object of Egypt.

In the most ancient times, the Aryans offered human sacrifices to Varuna (Ouranos). To Agni, it was the fire-sacrifice with melted butter. To the Tyrian Hercules, dogs were sacrificed, and to Diana, a doe, as a substitute for Iphigenia.

In Palestine, Syria, Phœnicia and Carthage, human sacrifices were offered up as the very climax of religious worship, and even Rome in the time of the Cæsars, burned her Gallic prisoners alive in order to appease the wrath of their gods. In a war between two Arab chiefs, in the time of Belisarius, but which was carried on without the interference of either Persia or Rome, the son of Horeth fell into the power of the Mondar of Hirah, who sacrificed him to Uzza, the deity worshipped by his tribe. Captives taken in war, criminals and even innocent persons were offered by the Druids as sacrifices, slain with arrows, crucified or consumed in a general holocaust of human beings and animals, wild and domestic. Same is mentioned by Cæsar. One of the pillars in the temple of Hercules at Tyre was lighted by day, the other by night; upon an altar of Hercules-Buzygos at Rhodes, one of the two sacrificial oxen was offered up amidst imprecations, probably to Adonis the god of spring as the ass or dog was to Typhon. The Tyrian Hercules was the same as Moloch, the King, Baal-Moloch, Malakh-Bel as he is called in the coins. No statues were erected to him at Cadiz or in Tyre, but in Tyre he was worshipped with eternal fire, which lighted up the temple by night from the reflection on the columns of Smaragdus: dogs were sacrificed to him as well as to Hecate and Melekhet-Artemis. In Babylonia, their neck or back-bone (Isa. lxvi, 3) as well as the first-born of the ass, if they were not redeemed, was, according to the law of Moses (Ex. xiii, 13; also xxxiv, 20), broken in honour of him. The principal sacrifices offered to Hercules-Usov, as well as to his mythical companion Melekhet-Artemis were human beings. In Laodicea,

they might be ransomed by a doe, as Diana accepted that animal instead of Iphigenia. The wild boar was also sacred to the same goddess. And, in like manner, in another myth, another Artemis caused the delicate vernal Adonis to be slain by a boar instead of by Mars as he is usually said to be. At Carthage, the practice of sacrificing their favourite children, and those of the highest rank continued down to their latest wars. Hercules of the Phœnicians was called Melkath. The Grecian Hercules, is described as becoming insane, and burning his own children as well as those of his twin-brother Iphicles, and murdering his guest Iphitus. But, in Asia, the ruthless god sometimes also required this atrocious sacrifice. In Amathus, Malika (Moloch), 'the inhospitable Zeus,' sarcastically called Jupiter Hospes, had his bloody altar before the temple of Adonis (Lord) and Baaltis (Queen.) So had Saturn in Arabia whom Nonnus compares with the Syrian god. These sacrifices were offered on occasions of great misfortune but as a matter of course when there was excessive heat.

Bunsen quoting Megasthenes, (iii, 525 531) mentions the Indians tradition of Hercules, as reigning in India fifteen generations after Dyonysus. He built Palibrotha and other cities, had numerous sons, to each of whom he left an Indian kingdom, and a daughter Pandæa to whom he likewise bequeathed a realm. Bunsen following Lassen says he was chiefly worshipped in the Suras-Sen country and identifies him with Krishna, says he founded Mathura.

The "Saturday Review" of the 31st January 1863, in a review of Lord Stanhope's Miscellanies,—asks, "were human sacrifices in use among the Romans? Lord Mahon had mentioned to Macaulay a note in Griseler's history of the Church stating, on the authority of a passage in Lactantius,that human sacrifices existed in the classic days of Rome. Macaulay denied it, Lord Mahon sent him the passage from Lactantius." Lord Macaulay says, Lactantius' words are these, "Ne Latini quidem hujus immanitatis expertes fuerunt; siquidem Jupiter Latiaris etiam nunc sanguine colitur humano," which sentence Lord Macaulay translated thus: "Nor have even the Latins been free from this enormity, if it be true that even now Jupiter Latiaris is propitiated with human blood." According to Strabo, human victims were offered in sacrifice at the promontory on which stood the temple of Apollo Leucatas. They were offered in honor of the god and to avert evil. Bel, or Baal, the god of the sun, the Apollo of the Greeks and Latins, was worshipped as Bel, or Belenus by the Britons. Human sacrifices were common in the Æloid (Hellic) house of Athamas as well as among the Pelasgi. The Carthagenians after their defeat of Agathocles, burnt some of their captives as a sacrifice; the Assyrians offered human sacrifices to the god Nergal. In Rome a statue of Jupiter was sprinkled every year with human blood, down to the second or third century before Christ, and in Northern Europe human sacrifices continued to a much later period. In Mexico and Peru they seem to have been peculiarly numerous. Müller has suggested that this may have partly arisen from the fact that these races were not softened by the possession of domestic animals. Various estimates have been made of the number of human victims annually sacrificed in the Mexican temples. Müller thinks, 2,500 is a moderate estimate; but in one year it appears to have exceeded 10,000. Among the Jews, the twenty-eighth and twenty-ninth verses of the twenty-seventh chapter of Leviticus appear to indicate that human sacrifices were at one time habitual among the Jews.

During the Ludi Circenses of the Romans, it was not unusual for hundreds of thousands of wild beasts to be massacred in a single day, in the Flavian Amphitheatre or Colloseum. Suetonius tells us that, at its consecration by Titus, 5,000 wild and 4,000 tame animals were immolated, and Trajan, according to Don Cassius, after his victory over the Dacians, slaughtered 11,000 of these animals.

The Greek and Latin writers mention Cronos, or Saturn, as one the principal Phœnician and Carthagenian deities. As father of Jupiter, he had a definite place and history in classical mythology, though there are few traces of his independent worship. But it is by no means certain what specific name of the Phœnician mythology answered to the Cronos of the Greek. According to Sanchoniatho, it was Il; according to Damascius, the Phœnicians and Syrians called Saturn, El, Bel, and Balathen; but Il, or El are the Hebrew El, God; Bal is a general name for the supreme divinity, and Balathen, a combination of Bal with some epithet. We do not obtain, therefore, from this account any specific name. The most characteristic circumstance which we learn concerning him, is that the human sacrifices of the Phœnicians and Carthagenians were specially performed in his honour. "The Phœnician history of Sanchoniatho," says Porphyry, "is full of instances, in which that people, when suffering under great calamity from war, or pestilence, or drought, chose by public vote one of those most dear to them and sacrificed him to Saturn." It is remarkable that in the fragmentary history preserved to us of Phœnicia

proper, we find no mention of such a sacrifice; but in the siege under Alexander it was proposed to revive a custom suspended for many ages, and sacrifice a boy to Saturn. The elder men interposed and prevented it. That such a practice had prevailed in Phœnicia in earlier times is certain. Its existence in Palestine is at once indicated and condemned in the history of Abraham, and we know that it prevailed in the circumjacent tribes. We trace it in the Phœnician colonies, in Cyprus, Rhodes, Crete and Sardinia, where it was derived from the Carthagenians, and above all, in Carthage itself. An unusual number of victims, of the choicest quality, were sacrificed here, on occasion of any extraordinary calamity: after the victory of Agathocles two hundred noble youths are said to have been slaughtered. But it was also a part of the established ritual of the Carthagenians, and every year a youthful victim was chosen by lot.

Infants, says Kenrick, were burnt alive and their sacrifice had a special significance. The most acceptable offering of all was that of an only child. The image of Saturn, as we learn from Diodorus Siculus was of brass; the stretched out hands were hollow, turned upwards so as to receive the body of a child, which thence slid down into fiery receptacle below. Mothers brought their infants in their arms, and as any manifestation of reluctance would have made the sacrifice unacceptable to the god, stilled them by their caresses till the moment when they were thrown into the flames. Human sacrifices were not offered to one god only, nor to one specially answering to the Saturn of the Greeks and Romans; but as he was reputed to have devoured his own children, it was natural that, in witnessing the sacrifice of infants, they should call the god to whom they were offered, Saturn. Chiun, mentioned by Amos (v, 26,) as an object of idolatrous worship to the Israelites, is identical with the planet Saturn, the name being so used in Syriac and Arabic, but it does not appear that he was worshipped with infant sacrifices. There is equally no doubt that Chiun is the Siva of the Hindoos, who pronounce the name of this deity Seo, Seb, Sev, Siv, Sivin, Chivin. Chemosh, the "abomination of the Moabites," has been also identified with Saturn; and on the other hand, Saturn was presumed to be worshipped where human sacrifices were known to have anciently prevailed, as in Italy, in aboriginal times. The scriptures of the Old Testament are full of allusions to these bloody rites, and it may be inferred from them that they belonged not exclusively to the worship of one God. "They have filled this place," says the prophet Jeremiah, (xix, 4, 5), "with the blood of innocents; they have built the high places of Baal, to burn their sons with fire for burnt-offerings unto Baal." The mention of human sacrifices, however, is generally connected in scripture with the name of Moloch or Milcom, the god of the Ammonites. His statue, as described by the Rabbinical writers, closely resembled that of Saturn in Diodorus, but had none of the characteristics of the Greek and Roman Saturn. The head was that of a bull, a form under which, from the story of Europa and the Minetaur, it is probable the chief god of Phœnicia was represented; the body human, and the stretched out hands received the child, which was consumed in the fire kindled below, while the beating of a tabret by the priests drowned its cries. According to the common interpretation of the passage of Amos, the Israelites had worshipped Moloch even in the desert: the Mosaic law denounced the punishment of death against any one who should give his seed to Moloch. We do not read of it, however, among the idolatries of Israel in the interval between occupation of the land of Canaan and the reign of Solomon, who introduced "Moloch, the abomination of the children of Ammon," along with the Sidonian Ashtoreth, and Chemosh, the abomination of Moab, into Jerusalem. The valley of Tophet, or of the son of Hinnom, just beyond the limits of the city near the eastern gate, was the place in which the bloody rites were celebrated from the time of Solomon till that of Josiah, by whom the place was defiled, being appointed as a receptacle for the filth of the city and the carcases of dead animals, to consume which a perpetual fire was kept up. We do not find that these sacrifices to Moloch were reserved for any special occasion of national calamity; they appear to have been, like those of Carthage, of regular occurrence. Young children alone were the victims and were regarded as a propitiatory offering on behalf of their parents. Their sacrifice is generally described in scripture by the phrase "to be passed through the fire to Moloch," and hence it has been supposed that they were not really consumed, but symbolically passed through the flames, that they might undergo the lustration by fire. The same word which is used in the original is also applied in scripture to devotement of the first-born to Jehovah, who, in the case of human beings, were redeemed, but if the lower animals, sacrificed. "To be passed to Moloch through fire," might therefore signify no more than to be devoted to him by this ceremony; which Theodoret mentions as still existing in his time. The comparison of Jeremiah vii, 31, with xxxii,

35, shows, however, that "to pass through the fire" was equivalent to "burn," it is unquestionable that human victims were offered by fire to the gods of Palestine, and the strong abhorrence with which the rites of Moloch are spoken of in scripture is hardly reconcilable with the supposition of a mere harmless ceremony. The truth appears to be, that two motives, an expiatory offering and a religious consecration, were blended in the sacrifice of infants to Moloch, and the readiness, and even joy, with which mothers brought them to his altars seems inexplicable except on the supposition that they believed themselves to be securing their children's eternal happiness, by the sacrifice of natural feeling.

Amongst the Arian races who went to the north-west, there are no grounds for believing that the Saxons continued to offer human sacrifices after their settlement in Great Britain, but, in their own land, the immolation of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor and Frea. Its periodical festivals were accompanied by different degrees of conviviality and license, in which human sacrifices were rarely wanting, varied in their number and value by the supposed exigency. In some cases even royal blood was selected that the imagined anger of the gods might be appeased. In Scandinavia, the authority of the priest was much greater than it would appear to have been among the Anglo-Saxons. It was his word often, which determined where the needed victims should be found. It was his hand that inflicted the wound, and his voice which said, "I send thee to Odin," declaring the object of the sacrifice to be that the gods might be propitiated, that there might be a fruitful season or a successful war. One king slew nine sons in order to prolong his own life, in hopes, doubtless, that what they were abridged of would, in a great measure, be added to himself; such instances however, occur not often; but the common victims were without end. Adam Bremensis, speaking of the awful grove of Upsal, where these horrid rites were celebrated, says, that there was not a single tree but what was reverenced, as if it were gifted with some portion of divinity. And all this because they were stained with gore, and foul with human putrefaction. The same is observed by Scheffer, in his account of this place. The manner in which the victims were slaughtered was divers in different places. Some of the Gaulish nations chined them with the stroke of an axe. The Celts placed the man who was to be offered for a sacrifice upon a block or an altar, with his breast upwards, and with a sword struck him forcibly across the sternum; then tumbling him to the ground, from his agonies and convulsions as well as from the effusion of blood, they formed a judgment of future events. The Cimbri ripped open the bowels, and from them they pretended to divine. In Norway they beat men's brains out with an ox-yoke. The same operation was performed in Iceland, by dashing them against an altar of stone. In many places they transfixed them with arrows. After they were dead they suspended them upon the trees, and left them to putrify. One of the writers above quoted mentions that in his time seventy carcases of this sort were found in a wood of the Suevi. Dithmar, of Mursburgh, an author of nearly the same age, speaks of a place called Sedu, in Zeeland, where there were every year ninety and nine persons sacrificed to the god Swantowite. During these bloody festivals a general joy prevailed, and banquets were most royally served. They fed, they caroused, and gave a loose to indulgence, which at other times was not permitted. They imagined that there was something mysterious in this number nine, for which reason these feasts were in some places celebrated every ninth year, in others every ninth month, and continued for nine days, when all was ended they washed the image of the deity in a pool, on account, it is supposed, of its being stained with blood, and then dismissed the assembly. Their servants were numerous, who attended during the term of their feasting, and partook of the banquet. At the close of all they were smothered in the same pool, or otherwise made away with. On which Tacitus remarks, how great an awe this circumstance must necessarily infuse into those who were not admitted to these mysteries. The accounts are handed down from a variety of authors, in different ages. Many of whom were natives of the countries which they describe, and to which they seem strongly attached. They would not, therefore, have brought so foul an imputation on the part of the world in favour of which they were each writing; nor could there be that concurrence of testimony were not the history in general true. The like custom prevailed to a great degree in Mexico, and even under the mild government of the Peruvians, and in most parts of America. In Africa it is still kept up, where, in the inland parts, they sacrifice some of the captives taken in war to their fetiches, in order to secure their favour. Snelgrave was in the king of Dahomi's camp after his inroad

into the countries of Ardra and Whidraw, and says, that he was a witness to the cruelty of this prince, whom he saw sacrifice multitudes to the deity of his nation. These were prisoners taken in war; but among the nations of Canaan, the victims were peculiarly chosen. Their own children, and whatever was nearest and dearest to them, were deemed the most worthy offering to their god. The Carthagenians, who were a colony from Tyre, carried with them the religion of their mother country, and instituted the same worship in the parts where they settled. It consisted in the adoration of several deities, but particularly of Kronos; to whom they offered human sacrifices, and especially the blood of children. If the parents were not at hand to make an immediate offer, the magistrates did not fail to make choice of what was most fair and promising, that the god might not be defrauded of his dues. Upon a check being received in Sicily, and some other alarming circumstances happening, Hamilcar, without any hesitation, laid hold of a boy and offered him on the spot to Kronos, and at the same time drowned a number of priests to appease the deity of the sea. The Carthagenians, another time, upon a great defeat of their army by Agathocles, imputed the miscarriage to the anger of this god, whose services had been neglected. Touched with this, and seeing the enemy at their gates, they seized at once two hundred children of the prime nobility, and offered them in public for a sacrifice. Three hundred more persons, who were somehow obnoxious, yielded themselves voluntarily and were put to death with the others. The neglect of which they accused themselves, consisted in sacrificing children purchased of parents among the poorer sort, who reared them for that purpose and not selecting the most promising and the most honourable, as had been the custom of old. In short, there had been particular children brought up for the altar, as sheep are fattened for the shambles, and they were brought and butchered in the same manner; but this indiscriminate way of proceeding was thought to have given offence. It is remarkable that the Egyptians looked out for the most specious and handsome person to be sacrificed. The Albanians pitched upon the best man of the community, and made him pay for the wickedness of the rest. The Carthagenians chose what they thought the most excellent, and at the same time most dear to them, which made the lot fall heavy upon their children. This is taken notice of by Silius Italius in his fourth book. Kronus, to whom these sacrifices were exhibited, was an oriental deity, the god of light and fire; and therefore always worshipped with some reference to that element. The Carthagenians first introduced him into Africa: he was the same as the Orus of the Egyptians, and the Alorus of the eastern nations. That the name given him originally by the Greeks was Koranus is manifest from a place in Crete which is sacred to him, and is mentioned by the name Coronis. It is said that both the chief city and the adjacent country were thus denominated, and that the sacrifices were there offered which we know were peculiar to Kronus. If this place, as consecrated to him, (as is apparent by these offerings) was called Koronis, it is plain that his name must have been rendered by the Greek, Koronus, and both are a transposition for "Kon-Orus," or "Chon-Orus," the lord Orus. He was universally adored in Cyprus, but particularly in this part, which Porphyry supposes to have been Salamis. This is evident from Diodorus Siculus, who mentions a city Auranie here. He makes it, indeed, distinct from Salamis, but places it hard by, between that city and Carpassia, where the river Chour (the Aucaur of the Phœnicians, and the Courium of the Greeks,) runs at this day. The Greeks thought Kronus was the same, but it was an oriental name, and the etymology has to be looked for among the people of those parts. The Greeks, we find, called the deity to whom these offerings were made Agraulos, and feigned that she was a woman, and the daughter of Cecrops. But it is not shown how Cecrops came to have any connection with Cyprus. Agraulos is a corruption and transposition of the original name, which has, like many other oriental titles and names, been strangely sophisticated, and is here changed to Araulos. It was in reality the god of light, the Orus and Alorus who was always worshipped with fire. The deity was the Moloch of the Tyrians and Canaanites, and the Moloch of the east, that is, the great and principal god, the god of light, of whom fire was esteemed a symbol; and at whose shrine, instead of viler victims they offered the blood of men. Such was the Kronus of the Greeks, and the Moloch of the Phœnicians, and nothing can appear more shocking than the sacrifices of the Tyrians and Carthagenians which they performed to the idol. In all emergencies of state, and times of general calamity, they devoted that which was most necessary and valuable to them for an offering to the gods, and particularly to Moloch. But besides these undetermined times of bloodshed they had particular and prescribed seasons every year, when children were chosen out of the most noble and reputable families. If a person had an only child, it was the more liable to be put to

death, as being esteemed more acceptable to the deity, and more efficacious of the general good. Those who were sacrificed to Kronus were thrown into the arms of an idol which stood in the midst of a large fire, and was red with heat. The arms of it were stretched out with the hands turned upwards as it were to receive them, yet sloping downwards, so that they dropt from thence into a glowing furnace below. To other gods they were otherwise slaughtered, and as it is implied by the very hands of their parents, the father leading the dearest of all his sons to that infernal shrine, or mother, the most engaging and affectionate of her daughters, just rising to maturity, to be slaughtered at the altar of Ashtaroth, or Baal. Justin describes this unnatural custom very pathetically. Such was their blind zeal that this was continually practised, and so much of natural affection still left unextinguished as to render the scene ten times more shocking from the tenderness which they seemed to express. They embraced their children with great fondness, and encouraged them in the gentlest terms that they might not be appalled at the sight of the hellish process, begging of them to submit with cheerfulness to this fearful operation. If there was any appearance of a tear rising, or a cry unawares escaping, the mother smothered it with her kisses, that there might not be any show of backwardness or constraint, but the whole be the free-will offering. These cruel endearments over, they stabbed them to the heart, or otherwise opened the sluices of life, and with the blood, warm as it ran, besmeared the altar and the grim visage of the idol. These were the customs which the Israelites learned of the people of Canaan, and for which they are upbraided by the Psalmist: "They did not destroy the nations concerning whom the Lord commanded them, but were mingled among the heathen, and learned their works; yea, they sacrificed their sons and their daughters unto devils, and shed innocent blood, even the blood of their sons and of their daughters, whom they sacrificed unto the idols of Canaan, and the land was polluted with blood: thus were they defiled with their own works, and went a whoring with their own inventions."

These cruel rites, writes Colonel Walker, practised in so many nations, made Plutarch debate with himself, "Whether it would not have been better for the Galato, or for the Scythians, to have had no tradition or conception of any superior beings, than to have formed to themselves notions of gods who delighted in the blood of men; of gods who esteemed human victims the most acceptable and perfect sacrifice?" "Would it not," says he, "have been more eligible for the Carthaginians to have had the atheist Critians, or Diagoras, their lawgiver, at the commencement of their polity, and to have been taught that there was neither God nor demon, than to have sacrificed in the manner they were wont to the god which they adored? Wherein they acted not as the person did whom Empedocles describes in some poetry, where he exposes this unnatural custom. The father, with many idle vows, offers up unwillingly his son for a sacrifice, but the youth was so changed in feature and figure that his father did not know him. These people used knowingly and wilfully to go through this bloody work, and slaughter their own offspring. Even they who were childless would not be exempted from this cursed tribute, but purchased children at a price, of the poorer sort, and put them to death with as little remorse as one would kill a lamb or a chicken. The mother who sacrificed her child stood by without any seeming sense of what she was losing, and without uttering a groan. If a sigh did by chance escape, she lost all the honour which she proposed to herself in the offering, and the child was notwithstanding slain. All the time of this celebrity, while the children were murdering, there was a noise of clarions and tambors sounding before the idol, that the cries and shrieks of the victims might not be heard." "Tell me, now," said Plutarch, "if the monsters of old, the Typhons and the giants, were to expel the gods, and to rule the world in their stead, could they require a service more horrid than these infernal rites and sacrifices."

Sale's Koran contains further evidence of the practice of infanticide, assimilating more than in any other case with the custom of the Jahreja race of Kutch and Kattywar. This barbarity seems to have been confined to the female infants, as is the case with the Jahreja, and it is remarkable that the difficulty of providing for them in marriage, or the apprehension of their conduct disgracing their parents, is assigned in both cases as the cause of this inhuman custom. One benefit which has resulted to mankind from the success of Mahomed has been the relinquishment of so inhuman a practice amongst his numerous followers.

Abbe Domenech says that some branches of the Scythic stock undoubtedly crossed to America in the early centuries of our era, and they seem to have carried with them the sacrificial customs which have been a peculiarity of all their offshoots. The Comanche and the Nachez, Indian tribes of North America, formerly buried the wives of a deceased chief,

along with him. The Ottawa still offer a horse in sacrifice on the tomb of the dead. With the Nachez, the victims placed themselves on mats and danced the death-dance with their executioners, who formed a circle around them. The Pawnee tribes, supposed to be descendants from the ancient Mexicans also offered human sacrifices, though the rite is supposed to have lately fallen into abeyance. These sacrifices took place more particularly in the month of April, that is, at sowing time, with a view to obtaining abundant harvests from the Great Spirit. The preparation lasted four days, on the fifth the victim was bound to three stakes, placed above the funeral pile. He was painted red or black, and his breast burned and pierced with arrows, and after his heart was reached it was torn from his breast and devoured all bleeding. This barbarous ceremony was terminated either by setting the pile on fire, or by eating the victim, whose blood served to water the seeds about to be committed to the earth. But many Indian nations of the northern and western parts of North America celebrate annually solemn festivals when the leaves of the willow have attained their full size. These solemnities are in commemoration of a great event: in propitiation of the superior powers; or are offered in expiation. Among the Mandan, these are prolonged four days, and the greatest cruelties are practised on the tortured. Colonel Walker observes that the Romans were accustomed to the like sacrifices. They both devoted themselves to the infernal gods, and constrained others to submit to the same horrid doom. Hence we read in Titus Livius that in the consulate of Omilius Paulus and Terentius Varro, two Gauls, a man and woman, and two in like manner of Greece, were buried alive at Rome, in the ox-market, where was a place under ground walled round to receive them, which had before been made use of for such cruel purposes. He says it was a sacrifice not properly Roman, that is, not originally of Roman institution, yet it was frequently practised there, and that too by public authority. Platurch makes mention of a like instance a few years before in the consulship of Flaminius and Furius. There is reason to think that all the principal captives who graced the triumphs of the Romans were at the close of that cruel pageantry put to death at the altar of Jupiter Capitolinus. Caius Marius offered up his own daughter for a victim to the Dü Aversunce, to procure success in a battle against the Cimbri, as we are informed by Dorotheus, quoted by Clemens; it is likewise attested by Plutarch, who says that her name was Calpurnia. Marius was a man of a sour and bloody disposition, and had probably heard of such sacrifices being offered in the enemy's camp, amongst whom they were very common. Or he might have beheld them exhibited at a distance, and therefore murdered what was nearest, and should have been dearest to him, to counteract their fearful spells, and to outdo them in their wicked machinery. Cicero, making mention of this custom being common in Gaul, adds that it prevailed among that people even at the time when he was speaking; from whence we may be led to infer that it was then discontinued among the Romans; and we are told by Pliny, that it had then and not very long been discouraged. For there was a law enacted, when Lentulus and Crassus were consuls, so late as the six hundred and fifty-seventh year of Rome, that there should be no more human sacrifices, for till that time those horrid rites had been celebrated in open day, without any mask or control, which, had we not the best evidence for the fact, would appear scarcely credible. And, however discontinued they may have been for a time, we find that they were again renewed, though they became not so public, nor so general. For not very long after this it is reported of Augustus Cæsar, when Persia surrendered in the time of the second triumvirate, that besides multitudes executed in a military manner, he offered up upon the Ides of March three hundred chosen persons, both of the equestrian and senatorian order, at an altar dedicated to the manes of his uncle Julius. Even at Rome itself this custom was revived; and Porphyry assures us that in his time a man was every year sacrificed at the shrine of Jupiter Latiaris. Heliogabalus offered the like victims to the Syrian deity, which he introduced among the Romans. The same is said of Aurelian. The Gauls and the Germans were so devoted to this shocking custom that no business of any moment was transacted among them without being prefaced by the blood of men. They were offered up to various gods, but particularly to Hesus, Taranis, and Shautates. These deities are mentioned by Lucan, where he enumerates the various nations who followed the fortunes of Cæsar. The altars of these gods were far removed from the common resort of men, being generally situated in the depth of woods, that the gloom might add to the horror of the operation, and give a reverence to the place and proceeding. The persons devoted were led thither by the Druids, who presided at the solemnity, and performed the cruel offices of the sacrifice. Tacitus takes notice of the cruelty of the Hermunduri in a war with the

Catti, wherein they had greatly the advantage, at the close of which they made one general sacrifice of all that were taken in battle. The poor remains of the Legions under Varrus suffered in some degree the same fate. There were many places allotted for this purpose all over Gaul and Germany, but especially in the mighty woods of Arduenna, and the greater Hercinian forest, a wild that extended above thirty days' journey in length. The places set apart for this solemnity were held in the utmost reverence, and only approached at particular seasons. Lucan mentions a grove of this sort near Masselea, which even the Roman soldiers were afraid to violate, though commanded by Cæsar. It was one of those set apart for the sacrifices of the country. Claudian compliments Stillico, that among other advantages occurring to the Roman armies through his conduct, they could now venture into the awful forest of Hercinia, and follow the chase in those so much dreaded woods, and otherwise make use of them. These practices prevailed among all the people of the north, of whatever denomination. The Massageta, the Scythian, the Gete, the Sarmatian, all the various nations upon the Baltic, particularly the Suevi and Scandinavians, held it as a fixed principle that their happiness and security could not be obtained but at the expense of the lives of others. Their chief gods were Thor and Woden, whom they thought, they could never sufficiently glut with blood. They had many very celebrated places of worship, especially in the island of Rugen, near the mouth of the Oder and in Zeeland. Some too, very famous among the Sumnones and Nahanvalli. But the most reverenced of all, and the most frequented, was at Upsal, where there was every year a grand celebrity, which continued for nine days. During this term they sacrificed animals of all sorts, but the most acceptable victims, and the most numerous were men. Of these sacrifices none were esteemed so auspicious and salutary as a sacrifice of the prince of the country. When the lot fell for the king to die, it was received with universal acclamations and every expression of joy, as it once happened in the time of a famine, when they cast lots, and it fell to the king Domalder to be the people's victim, and he was accordingly put to death. Olaus Triliger, another prince, was burnt alive to Woden. They did not spare their own children. Harold, the son of Gunild, the first of that name, slew two of his children to obtain a storm of wind. "He did not let," says Verstegan, "to sacrifice two of his sons unto these idols, to the end he might obtain of them such a tempest at sea as should break and disperse the shipping of Harold, king of Denmark." Saxo Grammaticus mentions a like fact; he calls the king Haquin, and speaks of the persons put to death as two very hopeful young princes.

Jacob Bryant gives an account of the cruel sacrifices of the Canaanites, Phœnicians and other nations, from observations and inquiries relating to other parts of ancient history. In the Annual Register, Vol. x, for the year 1767, he says one would think it scarcely possible that so unnatural a custom as that of human sacrifices should have existed in the world, but it is very certain that it did not only exist but almost universally prevailed. The Egyptians of old brought 160 victims to their temples. Human victims and the blood of men must at one period most certainly have been offered to their gods. The Cretans had the same custom, and adhered to it a much longer time. The nations of Arabia did the same. The people of Duma in particular sacrificed every year a child, and buried it underneath an altar, which they made use of instead of an idol, for they did not admit of images. The Persians buried people alive. Amestris, the wife of Xerxes, entombed twelve persons quick, underground for the good of her soul. It would be endless to enumerate every city, or every province, where these sad practices obtained. The Cyprians, the Rhodians, the Phœnicians, those of Chois, Lesbos, Tenedos, all had human sacrifices. The natives of the Tauric Chersonesus offered up to Diana every stranger whom chance threw upon their coast. Hence arose that just expostulation in Euripides, upon the inconsistency of the proceeding wherein much good reasoning is implied. Iphigenia wonders, as the goddess delighted in the blood of men, that every villain and murderer should be privileged to escape,—may be, driven from the threshhold of the temple. Whereas, if an honest and virtuous man chanced to stray thither he only was seized upon and put to death. The Pelasgi in a time of scarcity vowed that they would give the tenth of all that should be born to them for a sacrifice, in order to procure plenty. Aristomenes, the Messenian, slew three hundred noble Lacedemonians, among whom was Theopompus, the king of Sparta, at the altar of Jupiter at Ithome: without doubt the Lacedemonians did not fail to make ample returns, for they were a severe and revengeful people, and offered the like victims to Mars. In their festival of the Deamastigosis, the Spartan boys were whipped in the sight of their parents with such severity before the altar of Diana Orthia, that they often expired under the torture. Phylarchus affirms, as he

is quoted by Porphyry, that of old every Grecian state made it a rule, before they marched towards an enemy, to solicit a blessing on their undertakings by the sacrifice of human victims.

Bryant does not appear to have been aware of the existence of human sacrifices among the hindoos ; otherwise he could have added to his list of human infirmity by citing the translation of the Rudheradhyaya from the Calican Puran, by Mr. Blaquiere, as an evidence of this barbarous rite being sanctioned by the hindoo legislature. It was not only enjoined, but in the ancient rites of the hindoos was frequently practised, under the denomination of Mer, Med or Wud, the sacrifice of a man. The legend in the Vedas of the sacrifice of Sunahsepha, seems to have been handed down from Bactria. But sacrifices of animal life still form part of the religious rites of many races in Southern Asia, and even human beings, as in the meriahs of the Kond districts in Ganjam, are still being offered up in sacrifice ; though it is reported that the year 1860 passed by without a single meriah. With the hindoos, however, male buffaloes, sheep, and goats, and fowls are constantly sacrificed, and mahomedans occasionally sacrifice a camel, a sheep, a goat or a cow. There is, at the close of the nineteenth century, a numerous class of brahmins who are accused of the practice. They are called Kurrada, and are inhabitants of the Konkan. They were noticed in 1808, by Colonel Walker, Resident of Baroda, in 1808, and by Sir John Malcolm in his History of India, and the latest reports from that neighbourhood show the belief that the practice of sacrificing human beings still continues amongst this sect. The object of their worship is Maha Lakshmi, to whom human sacrifices are acceptable, and the more so if the victim is a brahmin, learned in the shasters. The public performance of this sacrifice has long since fallen into disuse ; but a sect of the Kurrada brahmins are accused of effecting, by the secret operation of poison, that object which they dare not publicly avow. Colonel Walker knew several Kurrada brahmins in respectable public situations, intelligent, charitable, and humane, who would abhor the commission of this detestable crime, and who, though they admit the former existence, most strongly deny its present practice, but the power of prejudice is sometimes stronger than the completest evidence of moral conduct ; and many people under the influence of this passion would decline to eat of food prepared by a brahmin of this tribe, of which he himself should not at the same time partake. Mr. Wade remarks, that at the Chinese court, in the middle of the 19th century, some Manchu and Mongol in the five banners have the prefix tsai-sang which declares them to be employed in slaying the victims used in sacrifice. The flesh of victims is offered in the Hwan-ning-kung, the portion of the palace appropriated to the empress, every morning at 4 o'clock, and at the same hour in the afternoon ; at the monthly sacrifice performed on the second of the first moon and the first day of all succeeding ; and at the sacrifice of the morrow, performed on the third of the first, and the second of all succeeding moons. The morning daily sacrifice is to Buddha, Kwan-yin, and Kwan-ti (the Mars of China) : the evening, to nine Tartar divinities bearing long unintelligible appellations. The monthly sacrifices appear to be the same with that on 'the morrow,' *i. e.*, of the monthly sacrifice. The flesh of the victim is boiled and placed before the idols above enumerated, on the right and left of the shrine of heaven ; when removed, it is partaken of by the emperor or empress, if officiating in person, or by those to whom his majesty may direct the nobles, his proxies, to distribute it. Medha, Sanscrit, signifies to kill, and the Aswamedha, the sacrifice of the horse, was practised in India, in ancient times, but its occurrence within any recent period is not known. It seems to have been a Scythic rite, where often the horse, after certain ceremonies, was liberated, in fulfilment of a vow, or sacrificed on the deaths of chiefs. Up to the present day, in India, cows and bulls are let loose in fulfilment of vows, but the liberation of a horse is not now known. Colonel Tod surmises that the grand solstitial festival, the Aswamedha, or sacrifice of the horse (the type of the sun), which was practised by the children of Vaivaswata, the 'sun-born,' was most probably simultaneously introduced from Scythia into the plains of India and west, by the sons of Odin, Woden, or Boodha, into Scandinavia, where it became the Hi-el or Hi-ul, the festival of the winter solstice, the grand jubilee of northern nations, and in the first ages of christianity, being so near the epoch of its rise, gladly used by the first fathers of the Church to perpetuate that event. It was practised he adds by the Getes in the time of Cyrus ; deeming it right, says Herodotus, to offer the swiftest of created to the chief of uncreated beings : and this worship and sacrifice of the horse was handed down to the Rajput. The sanguinary part of this ceremony would, according to Mr. Colebroobe, appear like that of the parushamedha or human sacrifice, to be merely nominal, the horse, after certain ceremonies, being let loose. Mr. Ward, however, states that he was liberated only for a

twelvemonth, when he was again taken, and being magnificently caparisoned, was, after various preliminary proceedings, slain by the hota or priest. "He who offers a hundred sacrifices of a horse is entitled to the throne of Indra." And in the Rig Vida, are two hymns, describing the sacrifice of the horse, which leave no doubt that the early ritual of hindooism did authorise this sacrifice as a burnt offering to the gods. As, however, these two, in all the body of hymns in the Rig Veda, alone relate to it, it may be inferred that even then, the rite was falling, or had already fallen, into disuse. As described in the Rig Veda, it appears that the horse was immolated, and afterwards cut up into fragments, part of which were eaten, by the assisting priests, and part offered as burnt-offering to the gods. This sacrifice is described in the Puranas as one of the highest order, insomuch that if it be performed a hundred times it elevates the sacrificer to the throne of Swarga, and thereby effects the deposal of Indra himself. In the Rig Veda, however, the object of this rite seems to be nothing more than the acquiring of wealth and posterity; and even in the Ramayana it is merely performed by king Dasaratha as the means of obtaining a son by a universal monarch, but it was performed by kings in celebration of auspicious events, especially after marriage, in the hope of securing issue, when largesses were distributed to the brahmins and officiating priests. It seems, also, to have been performed by kings, in assumption of supremacy, on which occasion their tributary sovereigns were the officiating priests. On this point Colonel Tod mentions that when Yudishtra was firmly seated on his throne, he resolved to signalise his reign and paramount sovereignty by the solemn rites of Aswamedha and Rajsoo, in which princes alone officiate, every duty, down to that of porter, being performed by royalty. On one occasion the "Steed of Sacrifice" was liberated under Arjuna's care. He wandered whither he listed for twelve months; and none daring to accept this challenge of supremacy, he was reconducted to Indraprestha, where, in the meanwhile, the hall of sacrifice was prepared, and all the princes of the land were summoned to attend. The hearts of the Kuru burned with envy at the assumption of supremacy by the Pandu, for the prince of Hastinapura's office was to serve out the sacred food. The last Aswamed'ha was undertaken by the celebrated Sowaie Jey Sing, of Amber; but the milk-white steed of the sun was not turned out. Animate creatures and inanimate things have been objects of adoration amongst most of the nations of the earth: the sun, the moon, and all the host of heaven; the sword; the serpent and the horse; and the horse seems to have been worshipped as a type of the sun by all the Scythic races.

The meriah sacrifice, the head-hunting of the Dyak, and the cannibalism of the further Archipelago, of the present day, can but be regarded as the continuance of rites which must have had a wider range in times long gone by.

Mr. Ward mentioned it as a general report in his time, the early part of the 19th century, that human sacrifices were actually performed by hindoo races in India. Major Macpherson mentions that human sacrifices were celebrated at the beginning of the 19th century by the hill rajahs of Boad, Gumsur, &c. At Bombay, Kali is worshipped as Sitali, and at other places, as Devi, Mata and Amoor Amma. At Chanda and Lanji, she has temples in which human victim have been offered almost up to the middle of the 19th century. The victim was taken to the temple in the evening and shut up and in the morning he was found dead, the dread goddess having "shown her power by coming in the night and sucking his blood." At Dantewada, in Bustar, about 60 miles S. W. of Jagdalpur, near the junction of the Sankani and Dankani, tributaries of the Indrawati, is a famous shrine of Danteswari, at which, about A. D. 1830, it is said that upwards of 25 full-grown men were immolated on a single occasion by a rajah of Bastar. Since then, adds Mr. Hislop, numerous complaints reached the Nagpore authorities of the continuance of the practice, up to the time of the annexation by the British. Happily, says Captain Postans, writing of Western India, these blood-stained oblations have ceased in Western India; and the last of which he remembered to have heard, was amongst the brahmins of the Deckan, who long preserved the custom of yearly sacrificing an aged woman, on the occasion of the rajah of Sattara's visit to the fort of Purtabghur. Sir John Malcolm states of the sect of Kurradee brahmins that they had a custom at Poonah, of annually sacrificing to the Sacti, a young brahmin; and as, according to the sacred books, if the victim is unwilling, the sacrifice is forbidden, to prevent the possibility of such an occurrence, the unsuspecting, but devoted one, is frequently the stranger, who for months or perhaps years, had shared the hospitality of his murderer. On one such case occurring orders were issued for the apprehension of a Kurradee brahmin and his family, who themselves were put to death, whilst every priest of the sect was expelled from the city of Poonah, and their return forbidden by the heaviest penalties. Captain

Clune, writing in 1828, says that when a rana of Mewar has occasion to pass the Mahi river, an individual from a tribe descended from a Chouhone Rajput and a Bhil mother is sacrificed, his throat being cut and his body being thrown into the river. This sacrifice had been once performed in the lifetime of the rana then reigning. Dr. Mason relates that when, about A. D. 1780, the gates of the new city of Tavoy were erected, a criminal was put into each post hole, and the massive posts thrown in upon him, so that his blood gushed up at the sides. His spirit was supposed to become a Nat, that would hover about the post, inflicting evil on all who came near, thereby contributing to the defence of the town. Human sacrifices and the ornaments of the victim are alluded to in the Toy Cart or Mrich-chi-kati and in Malati and Madhava, two ancient hindoo dramas. Madhava comes on the scene when the Aghoraghanta is preparing to offer Malati, and exclaims,

> What luckless chance is this, that such a maid
> With crimson garb and garland, like a victim
> Adorned for sacrifice, should be the captive
> Of impious wretches :

In like manner, the ordinary victims of the Greeks were adorned with crowns and garlands as were human victims : as thus, in the Clouds, in the scene between Socrates and Strepsiades :—

> "*Socr.* —Now take this chaplet—wear it."
> "*Strep.*— Why this chaplet ?
> Would'st make of me another Athamas,
> And sacrifice me to a cloud ?"

So also in the Heraclidæ ; Macaria, when offering herself as a victim to secure the triumph of the Athenians, exclaims,

> "To the scene of death,
> Conduct, with garlands crown me."

The translator of Euripides also observes, that human sacrifices at their first origin appear to have consisted of virgins or young men in the state of celibacy, and in this respect the selection of Malati offers another analogy. The words translated above impious wretches, Pashanda and Chandala, means heretics and outcastes. These epithets indicate little respect for the worshippers of Durga, and their application so publicly declared, would lead us to infer that the author's sentiments were those of his age. Jagaddahara states that in the rite two legal prohibitions are violated, of which he gives the text ; they are, "Let him not eat from the leaf of the asclepias, nor slay a female nor child," and, "Females of every description of being, it is well known, are not to be slain."

So late as 1859, the July No. of the Calcutta Review (p. 423) remarks that "in Bengal, in the worship of the bloody Kali, all castes mingle together and, after a libation of ardent spirits to the goddess, drink spirits, and eat flesh, as their fathers did in the Vedic times. It is practised also to this day in the foul and secret rites of the Tantra. A festival held in honor of Kali is called also Kali-puja, as the Dasra in honour of the same deity, under the name of Durga, is called also Durga-puja and Durgotsava." Of the many names of this goddess, those of Parvati, Bhavani, Durga, Kali, and Devi or the goddess, are the most common ; they are indeed used almost indiscriminately in the writings and conversations of the hindoos. Although in the present age, human sacrifices are no longer openly made, by the more settled people, there can be no doubt of the existence of the practice formerly, and many of the uncivilized Khonds still follow the rite. To Bhavani, in her character of Kali, it would appear they were chiefly offered ; and no religious rite can be more minutely ordered and detailed than this is in the Kalika Purana, the sanguinary chapter of which has been translated by Mr. Blaquiere and given in the fifth volume of the Asiatic Researches, Art. xxiii, and as well as the ceremonies, the implements, prayers, &c., used on these horrid occasions, are minutely described and recited. In this article, premising that Siva is supposed to address his sons, the Bhairava, initiating them in these terrible mysteries, occurs, "The flesh of the antelope and the rhinoceros give my beloved" (*i. e.*, the goddess Kali,) "delight for 500 years." "By a human sacrifice, attended by the forms laid down, Devi is pleased one thousand years, and by a sacrifice of three men, one hundred thousand years. By human flesh, Camachya, Chandica, and Bhairava who assume my shape, are pleased one thousand years. An oblation of blood which has been rendered pure by holy tests, is equal to ambrosia : the head and flesh also afford much delight to the goddess Chandica." "Blood drawn from the offerer's own body is looked upon as a proper oblation to the goddess Chandica." "Let the sacrificer repeat the word Kali twice, then the words Devi-Bajreswari, then Lawha Dandayai, Namah ! which words may be rendered—Hail, Kali ! Kali ! hail, Devi ! goddess of thunder ! hail, iron-sceptred goddess !" "Let him then take the axe in his hand and again make the same by the Calratriya text." Different mantra are used, in reference to the description of the victim to be immolated : females are not to be immolated, except on very particular occasions : the human female never. Although, as must appear evident, human sacrifices were formerly legal, they nevertheless still most point-

edly prohibited in other very ancient books; such prohibition is, indeed, a further proof of the existence of the practice. In the Brahma-Purana every Neramedha, or man-sacrifice, is expressly forbidden; and in the fifth book of the Bhagavat, Sir William Jones has pointed out the following emphatical words:—"Whatever men in this world sacrifice human victims, and whatever women eat the flesh of male cattle, those men and those women shall the animals here slain torment in the mansions of Yama; and, like slaughtering giants, having cleaved their limbs with axes, shall quaff their blood." See, for comments on this passage by the learned translator, As. Res., vol. iii, p. 260. The most recent missionary accounts show that in many of the Polynesian islands, up to the present date, human beings are sacrificed on commencing to build a war-canoe, a chief's house, or on the death of a chief. In fact, the Purushamed'ha or human sacrifice, is prescribed in the Puranas, but amongst the more civilized races of India, the ceremony had long ceased to be other than emblematical, and, as above remarked, it is only the continuance of the meriah, amongst the Khond, the human sacrifices amongst the tribes on the N. E. of India, the head-hunting of the Dyak, and the cannibalism of the Eastern Archipelago, which show that the horrid practice was once more extensively followed. Human sacrifices of the most extensive character and ancestral worship still prevail in Dahomy, and there is an Amazon class, and in all Africa a serpent-worship prevails. So many as six hundred victims are offered up at Dahomy at one time and are a feature of ancestral worship. According to Dr. W. W. Hunter, the Hadi are a helot race spread over all Bengal, who take their name from the original Santali word for man, 'had,' and who have supplied such terms as 'hadd,' base, low-born; 'hadduk,' a sweeper; 'hunda,' hog, blockhead, imp; hudduka, a drunken sot, &c., also, 'Hadi,' in low Bengali, 'Hadikath,' is the name of a rude fetter or stock, by which the landholder used to confine his serfs until they agreed to his terms. It means literally the helot's log; it was also used for fastening the head of the victim in the bloody oblations which the Aryan religion adopted from the aboriginal races, especially in the human sacrifices to Kali, to which the low castes even now resort in times of special need. In an account of the last human offerings to Kali, during the famine of 1866, it was mentioned that the bleeding head was found fixed on the 'harcat,' *i. e.*, helot's log.

At Queendendes village in S. Africa, Dr. Livingstone found human sacrifices frequent: and when a chief dies, a number of his servants are slaughtered, to form his company in the other world, a custom which the Barotse also follow.

A chapter on human sacrifice in Dr. Norman Chever's book on Medical Jurisprudence contains much curious and important information, and it is worthy of note that the author writes of human sacrifice by decapitation as an existing practice (pp. 408, 410), and says there are "strong reasons for believing that there is scarcely a district in India in which human sacrifice is not still practised occasionally as a religious rite." Doubtless, the old sanguinary expiatory ideas still lurk in the breasts of the masses, and in face of impending famine or pestilence, when men's apprehensions are most deeply stirred, the offering of a human victim to the power which can inflict hunger or disease, instead of the usual goat or buffalo, is not a violent or unnatural step. Ideas of this nature, formulated under the terms sacrifice and atonement, are essential axioms in comparative religion, and their refinement is only to be hoped for as part and parcel of a refinement of national thought and habit. To this end, general education, and more particularly education in the physical sciences, and the fostering of a belief in general laws and a benevolent God, are the great and only means.

Among the Khonds of Central India, when performing the Meriah sacrifice, which was quite common up to the year 1850, a stout stake is driven into the soil, and to it the victim is fastened, seated, and anointed with ghee, oil, and turmeric, decorated with flowers, and worshipped during the day by the assembly. At nightfall the licentious revelry is resumed, and on the third morning the victim gets some milk to drink, when the presiding priest implores the goddess to shower her blessings on the people, that they may increase and multiply, prosperity attend their cattle and poultry, fertility, their fields, and happiness to the people generally. The priest recounts the origin and advantage of the rite, and concludes by stating that the goddess has been obeyed and the people assembled. Other softening expressions are recited to excite the compassion of the multitude. After the mock ceremony, nevertheless, the victim is taken to the grove where the sacrifice is to be carried out; and to prevent resistance, the bones of the arms and legs are broken, or the victim drugged with opium or datura when the Janni wounds his victim with his axe. This act is followed up by the crowd; a number now press forward to obtain a piece of his flesh, and in a moment he is stripped to the

bones. Various nations in India, besides the Khonds who have been already mentioned, used to offer up human sacrifices on extraordinary occasions; and even now in some places, though the actual sacrifice is no longer permitted, they make human figures of flour, paste or clay, and then cut off the heads in honour of their gods. The object of the Kuki inroads on the plains is not plunder, for which they have never been known to show any desire, but they kill and carry away the heads of as many human beings as they can seize, and have been known, in one night, to carry off fifty. These are used in certain ceremonies performed at the funerals of their chiefs, and it is always after the death of one of their rajahs that their incursions occur. The Rev. Mr. Ward, writing on the hindoos in the early part of the nineteenth century, says it is difficult to form an estimate of the number of hindoos who perish annually, the victims of superstition; but conjectures the number of victims annually sacrificed to be 10,500 as under,

Widows burnt alive on the funeral pile, in Hindoostan..	5,000
Pilgrims perishing on the roads and at sacred places...	4,000
Persons drowning themselves in the Ganges or buried or burnt alive...	500
Children immolated, including the daughters of the rajputs...	500
Sick persons whose death is hastened on the banks of the Ganges...	500

In his day persons cast themselves under the wheels of the cars of hindoo idols and were instantly crushed to death. Great numbers of these cars are to be seen in Bengal; and every year, in some place or other, persons thus destroyed themselves. According to former accounts, writes Malcolm, self-destruction among men, by casting themselves during public festivals, from a rock at Onkar Mundattah, and from a precipice near Jawad, was once common. The sacrifices have of late years seldom occurred. The men who sacrifice themselves were generally of low tribes, usually the Bheel, Dher, or Chumar. One of the leading motives by which they were said to be actuated, is a belief that they will be re-born rajas in their next state of transmigration. In the Rig Veda mention is made of the Agnihotra, or offering of clarified butter, and in the Samaveda of the juice of the Soma plant.

In the Achariah Brahmana, translated by Roth it is related that: "Harichandra had been married to a hundred wives and yet there was no man-child born to him. At the suggestion of Narada, a sage, he went to king Varma, and promised that if his prayers were heard and a son granted to him, he would offer him up in sacrifice to the king. Accordingly, in due time, a son was born who was called Rohita. Varma wanted to keep Harichandra to his promise, but the latter put forth various excuses till Rohita grew up. But then, Rohita objected, and fled to the woods, where he wandered for six years, until he fell in with the rishi Agastya. The rishi had three sons, and he promised to Rohita, his second, Sunasepha, on receipt of 100 cows. But another difficulty occurred, for no one would bind the victim until Rohita gave 200 cows more. Sunasepha unwilling to be sacrificed, interceded first with Prajapati and then with Agni and Savitra, who referred him to Varuna by whom again he was referred to Indra. Such is a tale of the rite as practised in ancient times, but in Manipore, Cachar and Assam, according to the Calcutta Review for 1860, the offering of human sacrifices is still continued. By the records of the Sudder Nizamut Adalut of Chittagong for 1852, some men of the Toonia Joom Mahals were tried for murder by sacrificing. This is a forest tract in the hills and inhabited by the Mug, Chukma, Reang, Tipperah and other races, all more or less nomadic. The place of sacrifice was a cleared spot in the jungle and staked round with bamboos about six feet high. The sacrificial pole, the Phula bans, are bamboos, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. These scrifices generally occur once a year. During its celebration at Agartollah a gun is fired every evening at sunset, when every person hurries to his home. The Kuki and all the hill tribes worship local deities, said to be fourteen in number.

There are two hymns in the Rig Veda, describing the rite of the Aswa-med'ha or sacrifice of the horse, and which leave no doubt, that in the early religion of the race, this sacrifice has had recourse to as a burnt-offering to the gods. It was even then, however, falling into disuse, and was existing as a relic of an auto-vedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And in still later times, the Aswamed'ha consisted in certain ceremonies ending in the liberation of the horse, as throughout Southern India is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of the gods Siva or Vishnu. The cow is not now offered in sacrifice by any hindoo sects, but in the marriage ceremony of some parts of the country, where a milk-cow, Surabhi, is released on the intercession of a barber, sufficient remains to show that the rite was formerly practised at marriages, for the sake of hospita-

lity. The male buffalo is, however, frequently sacrificed, sometimes in considerable numbers, and only in 1859, the Government of Madras ordered the Magistrate of the Krishna Division to forbid the cruel rite of Ammavaru, wherein bullocks are impaled alive to appease the angry goddess, Devi, and avert cholera. On that occasion, in a small village, twelve to twenty-four bullocks were sacrificed, as also several hundred sheep, and the heads of the sacrificed buffaloes were carried in procession on the heads of men. As might be supposed from the sacrificial rites amongst the Jews, allusions to such are to be found in the New Testament. This occurs as the word Curban, (Kurban, ARAB., PERS. HIND. Sacrifice) Mark vii, 11. But ye say, if a man shall say unto his father or mother. It is Coorban, that is to say, a gift, by whatsoever thou mightest be profited by me ; he shall be free. This word is equivalent to Sadqa or Tassadooq or Fida, and is often used by men or women addressing a superior, in which case it means merely, I am your Kurban. The word is Arabic, derived from the Hebrew, has allusion to an approaching to God, and means a sacrifice, a victim, an offering, an oblation, for which also, we have the Greek *Καρπομα*. The other words, in the Arabic, Sadqa, Fida and Tasaduq mark the continuance of the sacrificial rite. Sadqa, ARAB., properly Sadaqa, from the Hebrew, means alms, propitiatory offerings and sacrifice. The words are continued into Hindustani, in Sadqe-jana or Sadqe-hona, to become a sacrifice for the welfare of another, and Sadqe-karna, to sacrifice for the welfare of another. Amongst the Bhot, in the Ladak frontiers of the western Himalaya, the people salute by raising the back of both hands to a height even with the forehead and then repeatedly describing a circle in the air with them, by dropping the fingers downwards and turning the palm inwards. This is similar to the mahomedan practice of Billaen-lena, where a woman is supposed to take upon herself all the evils which would befal the person whom she addresses.

The Bali is any offering to an idol, such as that of flowers or other things. Presentation of food to all created beings, by throwing grains up into the air ; goats and other animals offered in sacrifice. The presentation is called bali-dan or bali-danam. The offerings to Vishnu consist of rice, milk, curds, fruits, flowers and inanimate forms : but to the terrific forms of Siva, or his consort Durga, living creatures, sheep, goats, buffaloes and human beings are offered up, in which case, the heads are given to the priests, and the bodies are carried away. The Ostyak, when they kill an animal, rub some of the blood on the mouths of their idols. Even this seems at length to be replaced in some cases, as Mr. Taylor has suggested, by red paint. Thus the sacred stones in India, as Colonel Forbes Leslie has shown, are frequently ornamented with red lead. In many cases, it seems to be a necessary portion of the ceremony that the victim should be eaten by those present. Thus in India, when the sacrifice is over, the priest comes out, and distributes part of the articles which had been offered to the idols. This is received as holy, and is eaten immediately. The Woon district in East Berar, came under the care of the British about the middle of the 19th century, when Berar was assigned by the nizam of Hyderabad. Before the assignment, searchers for treasure used to offer human beings in sacrifice, but the sacrifices of victims there are now confined to buffaloes, sheep, goats and fowls. A buffaloe is sacrificed in every village in the Dusserah festival. The sacrifice is to the goddess of kine, Gao-devi, and the buffalo is led up to the house of the headman of the village, who makes to it oblations of flowers, &c. He then strikes it on the muzzle with a sword and allows the blood to fall on the ground as a libation to the goddess to appease her anger. It is then led to the door of every house in the village ; each householder makes a money present to the leader : in the evening the victim is killed by its throat being cut, and at the south boundary of the village, a drop of its blood is applied to the foreheads of the headman, of the potail, the deshpandi and deshmukhs. Outside of every Woon village is a shrine of the small-pox goddess, called there Sitla-devi. It is merely a few stones coloured with red lead and, after recovery from this ailment, the family in which the disease has been, visit the shrine, offer a goat as a victim, and prepare food for this oblation. Throughout India, generally, at the present day, in almost all the household sacrifices, in which the husband or head of the house is the priest, the oblation is used as food. In North America, the animals sacrificed are killed and eaten, or buried : sometimes, the horse instead of being killed is simply set at liberty, in the presence of the warriors of the tribe. Sonnerat relates that the Syrians, at the feast of the torches or funeral pile, and the Hebrews, at the feast of the Passover, made arbours before the temples, and carried their gods round them in procession, whom they afterwards burned. The people then presented their offerings, which commonly were lambs and sheep ; and after the priest had made the first libation upon them, each person carried his victim home to eat it. Some texts of Menu would seem to

authorize the eating of animal food at all seasons, observing merely the preliminary ceremony of offering a portion of it to the gods or manes, like the heroes of Homer, with whom the sacrifice is only the prelude to a feast.

The institutes of Menu contain the following paragraph :—The sacrifice of a bull, of a man, or of a horse, in the kali age, must be avoided by twice-born men ; so must a second gift of a married young woman, whose husband has died before consummation ; the larger portion of an eldest brother, and procreation on a brother's widow or wife. The Reverend Mr. Ward, writing regarding Bengal, in the early part of the 19th centuary, mentions that at a village called Ksheeru, near the town of Burdwan, human sacrifices were offered to the goddess Yoogadya, a form of Doorga ; at Kireetukona, near Moorshedabad to Kali, and at many other places. The discovery of these murders in the name of religion was made by finding the bodies with the heads cut off near these images ; and though no one acknowledged the act, yet the natives well knew that these people had been offered in sacrifice. He says that at the village of Serampore, near Kutwa, before the temple of the goddess Tara, a human body was found without a head ; and inside the temple different offerings, as ornaments, food, flowers, spirituous liquors, &c. All who saw it knew, that a human victim had been slaughtered in the night ; and search was made after the murderers, but in vain.

At the present day, in most hindoo households, every domestic occurrence forms a subject for sacrifice, generally of the cocoanut or plantain fruit, or a fire libation with the ghee or clarified butter and an oblation by burning camphor. Mr. Forbes, in his Ras Mala of Guzerat mentions that when a young married woman has reached the fourth month of her pregnancy a bracelet is fastened upon her arm, to which is affixed, as an amulet to protect her from the evil eye, a packet of dark coloured cloth, containing scrapings from the image of Hanooman and dust from the cross-roads. A feast is given on her investiture with this bracelet, and she is released, during the time she wears it, from the performance of any part of the household duties, for in India as in England,

"Fairies and nymphs with child must have the things
"They long for."

In the sixth or eighth month of her pregnancy the people of her caste are again assembled to a feast, and the family-priest performs fire-sacrifice before them. The woman is conveyed to the house of some relation, where she performs ablutions and dresses herself in handsome clothes and ornaments. She is then conducted in procession, attended by musicians and singers, to the house of her husband. Her friends precede her as she walks thither, and strew her path with betel-nut and coins. At home she is received by her father, who has come from his village for the purpose, and who presents her with clothes, jewels, money and other offerings not forgetting the symbolical cocoanut, disposed together upon a shield. On the thirteenth day after its birth the child acquires a name. The first letter of it is fixed by the astrologer. Within a year and a quarter of the birth the relations are once more called together to witness the ceremony called "Anaprashana," performed on the child's first tasting farinaceous food. Brahmins once more worship the gotruj, and kindle the sacred sacrificial fire. In order to determine the course of life which the child is to follow, they set before it the insiguia of several professions :—

"That which first the child doth touch,
"Vessel, money, weapon, or book,
"The livelihood of the child,
"By that same will be procured."

A Guzerat proverb celebrates the accomplishments of him who can handle

"The pen, the ladle, or the spear."

If a child die before the "Anaprashana" ceremony has been performed, it is buried in the ground instead of being committed to the funeral pile. A similar custom was, it appears, observed among the Greeks, in regard to infants who died before cutting a tooth. The Romans also had the same custom applied sometimes to children who did not reach their fortieth day, and the observance is particularly mentioned as having obtained in the case of members of the Gens Cornelia. In addition to that of children who have not undergone the "Anaprashana" ceremony, there is also another exception among the hindoos of Goozerat to the otherwise universal rule of cremation—that of the Sunyasee. At this devotee's interment no wailings or expressions of grief are allowed. The corpse, seated in a litter, is borne to the grave preceded by musicians and attended by persons who cast rose-coloured powder into the air, or demonstrate in other modes their joy. It is placed in the earth in a sitting posture, instead of being consumed on the pile. A small platform raised over the spot, and exhibiting the sculptured feet of the deceased, commemorates his sanctity. When age or infirmities warn a man of the near approach of death, he should (so say the Shastras) perform, to the best of his ability, "deh shooddh prayuscheet," or expiatory penances for the purification of his body. When a hindoo appears to be at the

point of death his friends prepare a place on the ground by smearing it with cow-dung; they strew it with sacrificial grass, with sesamum and barley. The dying man is stripped of his ornaments and of his clothes, with the exception of a single garment. The hair of his head and his moustaches are removed, and his body is washed with water. He is then laid upon the place which has been prepared, with his feet pointing northwards towards Meroo and the abodes of the blessed, and his back turned upon the city of Yuma. A small cup, containing a cake with a silver coin laid upon it, is placed in his hand. Some poor brahmin is then called in to receive the cup from the hands of the dying man. Rich persons present a cow, gold, or other valuable presents, and they promise their departing relative that they will carry his bones to Benares and cast them into the Ganges, or that they will make pilgrimage (the merit of which shall be his) to Muthoora, Dwarka, Somnath, or other celebrated holy ground. They take vows, also, on behalf of the dying man, to fast or to spend money in religious offerings, sealing the promise by presentation of a handful of water. Sometimes they offer gifts of iron to propitiate Yama, whose weapons are of that metal. These offerings are meritorious alike to the giver and to him on whose behalf they are presented. "The son," it is said, "who presents gifts by the hands of a dying father, should be honoured as the lamp of his race." At the same time they set near the dying man a lamp supplied with clarified butter, pour Ganges water into his mouth, and place thereon a leaf of the purple basil and a portion of curd. It has been pronounced that if, even when the life has reached the throat, a man declare that he has abandoned the world, he reaches Vykunth after death, and is released from further transmigration. Some persons, therefore, when they believe that their end is approaching, perform the rite of "Athoor Sunyas." When all is over the relations and neighbours assemble at the house of the deceased; and, like an entre-acte to the tragic drama, commences the humming moan of lamentation. The nearer relatives enter the habitation, exclaiming, "O, father!" "O, brother!" The women, standing in a circle near the door, bewail the deceased, and sing a funeral dirge, beating their breasts in sad accompaniment to the measure. Young persons are lamented longer and more poignantly than those whose advanced ages seem to have pointed them out as the natural victims of the angel of death. The dirge, which usually consists of unconnected exclamations of grief, is sung by one or two women, while the remainder join in chorus. That, of which we proceed to give a part, bewails the death of an early victim, one, it will be observed, who, crowned in former days as a bridegroom-king, is now lamented as a chief and a warrior:—

Alas! alas! without the village the wail resounds,
Voi! the valiant, alas! alas!
Alas! alas! this is Râmjee's anger,
Voi! the valiant, alas! alas!
Alas! alas! with blood the clouds have rained,
Voi! the valiant, alas! alas!
Alas! alas! its bounds the sea has abandoned,
Voi! the valiant! alas! alas!
Alas! alas! the home-leaving bride is plundered,
Voi! the valiant, alas! alas!
Alas! alas! Yum Raja's plunderers have come,
Voi! the valiant, alas! alas!
Alas! alas! they have slain the bridegroom-king,
Voi! the valiant, alas! alas!
Alas! alas! his mundup has been cast down,
Voi! the valiant, alas! alas!
Alas! alas! the vessels of his Choree have been broken,
Voi! the valiant, alas! alas!
Alas! alas! his life has been treacherously stolen,
Voi! the valiant, alas! alas!

These utterances of grief are rude, but they are far from unaffecting, even to the stranger, the sea-dwelling Englishman, and, as they alternately rise and fall, their sound, stealing from a distance upon his ear, reminds him of that measured melancholy tone which the breakers of ocean produce on some calm evening, as, by turns, they roll upon and recede from a shingled beach. This "threnos" finished, the female mourners sit down panting and exhausted. A married woman returning home from a visit at her father's house is presented with clothes and anointed with red ointment on the forehead. The corpse prepared, and placed upon the litter, four persons raise it upon their shoulders. They have previously performed ablutions, and dressed themselves in silk garments. The corpse is carried forth feet first; one man precedes it, bearing an earthen vessel which contains fire. The relations and neighbours follow, bare-headed, without shoes, and half-naked, running and calling upon their god, the son of Dusruth; or sometimes one man alone cries to the rest as they run: "Call on Râm!" to which they reply in chorus, "Brother! Râm!" The women follow the funeral procession to the gate of the village, and thence return slowly home. The prophet Jeremiah is supposed to be repeating part of the usual funeral dirge, when he predicts of Jehoiakim, the son of Josiah, king of Judah, that they shall not lament for him, saying, "Ah, my brother! or, Ah, sister! they shall not lament for him, saying, Ah, Lord! or, Ah, his glory!" (See Jeremiah, xxii, 18, and note with references in D'Oyly and Mant, also Amos, v, 16; Ecclesiastes, xii, 5-6.) "The Rajpoot warrior," says Colonel Todd, "is carried to his final abode armed at all points as when

alive, his shield on his back, and brand in his hand; while his steed, though not sacrificed, is often presented to the deity, and becomes a perquisite of the priest." It is written in the Shastras that the corpse should be set down at cross-roads within the village, and that the third lump offering, called "Khechur," should be offered there: this custom has, however, fallen into disuse. The Gurood Pooran prescribes that the inhabitants of a village in which a death has taken place are to abstain from food until the corpse has been carried out; at the present time the occupants of the adjoining houses alone observe this practice. So the Jews in their mourning, "Uncover not your heads, neither rend your clothes."—Leviticus, x, 6. "Forbear to cry, make no mourning for the dead, bind the tire of thine head upon thee, and put on thy shoes upon thy feet."—Ezekiel, xxiv, 17. The son, or nearest of kin to the deceased, lights a bundle of dry grass, and passing three times around the pile, places the fire as near as the wind permits him to the head of the corpse. The party of mourners sit down, and await the issue with lamentation; when the corpse is nearly consumed they pour clarified butter upon the pile to feed the fire. As soon as the cremation is finished, the ashes of the dead are collected from the pile and are cast into the river water, or if no stream be at hand they are deposited in a pit dug for the purpose, and sprinkled with water. These ceremonies complied with, the mourners perform ablution and wash their clothes, and the heir presents an offering of sesamum and water to the deceased "to cool him after the flames." The friends who have attended the corpse to the pile rejoin once more, at the house of the deceased, the women and those who have remained behind, and thence disperse to their own homes.

In India, in Bombay, and in Baroach, are sanctuaries called Pinjrarapol into which beasts are received, there, quietly to live in the certainty of never being eaten. They are called 'freed beasts,' and are the birds, beasts, or fishes which have been purchased and set free, as votive offerings to the god in whose temple grounds they are turned loose. They are tended by the priests belonging to the temple who regard them as sacred.

The *Homa*, a sacrificial rite of the hindoos, is a fire sacrifice. The ancient history of India shows that it has had four great religious eras. The Vedic, in which Agni, Indra and other personifications of spiritual existences were propitiated with feasts and invoked with the hymns of the Rig Veda, and in which maidens selected their husbands in the swayamvara, and monarchs sacrificed the horse in the Aswamedha. In the brahminic period, the Kshatriya feasts were converted into sacrifices for the atonement of sins against brahminical law, and divine worship was reduced to a system of austerities and meditations upon the Supreme Spirit as Brahma. It was in this era that the brahmins assumed the character of a great ecclesiastical hierarchy and established that priestly dominion which still extends over the minds and senses of the hindoos of India. Thirdly, the budd'hist period in which Sakyamuni appeared, and fourthly, the brahminical revival during which brahmins abandoned the worship of their god Brahma, and reverted to the old national gods and heroes of the Vedic Aryans. In this era, Vishnu came to be regarded as the Supreme Being, and Rama and Krishna as his incarnations. In Southern India, at the present day, in the sect of Vaishnava brahmans, the Vudghula Vaishnava offer living creatures in sacrifice, and Tenaghula Vaishnava and Madhawa substitute dough instead of animals. In the sacrifices of Saiva brahmans the victim's head is never cut by the Sudra but is strangled by him, so that the breath is lost without spilling blood. The Saiva brahmans do perform sacrifices of a living creature in Southern India, and never use dough images as a substitute. Amongst the Smartha and also Madhawa, each household keeps a tulasi plant in the middle of the court-yard for worshipping. Each new moon, as also on the occurrence of an eclipse, either of the sun or moon, also, at the summer and winter solstices, their "utrayanam" and "datchanayanam," every caste hindoo, whether brahman, chetria, vaisia or sudra, offers the "Tharpanam" or water-sacrifice, in the names of his deceased father, grand-fathers, great grand-fathers and their wives, seeds of the oriental sesamum being mixed with the water. It is, as a means of continuing this ceremony, that hindoos long to have a son born to them as, in their creed, it is taught that the manes of ancestors are gratified by the "Tharpanam." This is a particular part of the sacrifice called yugnu, but at present it is often performed separately. The things offered are clarified butter, sesamum flowers, boiled rice, rice boiled in milk and sweetened with honey, doorvu-grass, vilva leaves, and the tender branches, half a span long, of the ushwutthu, the doomvuru, the pulashu, the akun-du, the shumee, and the khudiru trees. Clarified butter alone is sufficient, but any or all of these things may be added. The Gond worship Bunga, Bamea, Banca and Deva, to whom they offer fowls, goats, fruit, rice, grain, spirits, and whatever the country affords.

Human sacrifices are noticed in the Vedas.

Harischandra, son of Vedas, of the family of Ikshvaku, was a king without a son. Narada bid him go to Varuna the king and say may a son be born unto me, and I shall sacrifice him to you. Varuna the king assented : a son was born to him, on which Varuna demanded him in sacrifice, but for various excuses this was deferred, until a substitute for the son, was found, in Sunasepha, the son of a rishi who, by invoking the gods Agni, fire, Savitri, the progenitor, Varuna, the king, Visva-Deva, collective gods, Indra the friendly, Asvini, divine physicians, born of the sun and Usha, the dawn, at last, was released : but not before Sunasepha was bound to the sacrificial post, and his father whitling his sword approaching to kill him, on which Sunasepha exclaimed, "They will really kill me, as if I was not a man." In the At'hareya brahmana, (6-8) it is said the gods took man for their victim, but as he was taken, the medha (the sacrifice or the spirit) went out of him. It entered the horse. Therefore the horse became the sacrificial animal. Then the gods took the horse, but as it too was taken, the medha was taken out of him and entered the ox, therefore the ox became the sacrificial animal. The same happened with the ox, afterwards the sheep, then the goat, and at last the earth became the victim. From the earth rice was produced and rice was offered in the form of puralasa, in lieu of the sacrificial animal. The drift of the story is that in former times all these victims had been offered, as we know for certain that horses and oxen were ; though, afterwards, these, also, were discontinued. In the sacrifice of the horse, part of the flesh was eaten by the assistants, and part presented as an offering to the gods. No reasonable doubt can be entertained that the ritual of the early hindoos, did authorize the sacrifice of a horse.

Neither in Southern India, nor perhaps in any part of India, is a vaishnava brahman known to offer living creatures in sacrifice. The saiva brahmans on the contrary, annually, in some towns, Conjeveram for instance, perform the bloody rite to their ancient gods, Indra, Varuna, Yama, and both in 1859 and 1860, the saiva brahmans in Madras so sacrificed. Several brahmans are employed in this rite. One brahman assisted by his wife, the couple being styled the Soma Yaji, and Soma Devi, commences the rite by performing the fire sacrifice, by pouring ghee into a large fire. The pujari, a sudra, then strikes the head from the victim and large portions of its flesh being thrown into the fire, and reduced to ashes, portions are distributed to the assembly. This being a Prasad'ham or food offered to the gods, all castes can partake of it. Many saiva, when aversion to take life prevents them sacrificing an animal, substitute an image made of dough.

In Southern India the lower classes of hindoos also, though rarely, sacrifice pigs to the inferior gods. Living sacrifices of animals are an essential part of the worship of all the tutelary village goddesses in Southern India, as also of the goddesses of cholera, small-pox, &c. Their names are various, amongst the several nations, Tamul, Telugu, Canarese and Mahratta. Ammun, Amoor Amma, Bal-amma, Poch Amma, Yelamma, Marri Ammun, Ai, Satwai Devi, Sitla-devi, and others, amongst whom everywhere, Bal Amma and her worshippers seem dreaded, the pariahs worshipping other of the Ammun goddesses, refusing to intermarry with them. The Yelm worshippers, also are dreaded as sorcerers, and their wives are distinguishable by the mode in which they attire themselves with their sarhi which they bring from behind and from left to right. Satwai, amongst the Mahrattas, is a great goddess, to whom children's hair is devoted, the front part offered to her, the back part being retained till some other goddess possess the body (ang bharave) such as the small-pox goddess or cholera goddess Marri-ai.

In the bloody sacrifices of these non-Aryan races, the goat is more usual. The rite is, ordinarily, performed only once a year, when friends join to offer a goat and make a feast of its flesh afterwards. At all the sacrificial oblations, bread and grains are also offered and used in the after-feasting. Thousands of sheep and fowls are annually sacrificed at Periyapalayam, a village about 30 miles from Madras, and multitudes of people attend from that city and the neighbouring villages, to celebrate the yearly festival, which takes place in the bright half of the month of Adi. Large numbers of buffaloes were until the middle of the nineteenth century, offered at the funeral rites of the Toda of Ootacamund, but the Madras Government put a stop to such wholesale massacre, and restricted the rite to the killing of only two animals at a time,—a measure which the Toda race viewed with unaffected alarm and dislike, as likely to decrease their children and cattle. Human sacrifices are still, in Southern India, deemed to be requisite to mollify goddesses and demons who guard hidden treasure and who are believed to have a partiality for the blood of a pregnant woman, especially of one who is conceived of twins, and to the first-born of the goldsmith caste : indeed, in popular belief, when writing in the year 1860, one of the latter was credited to have been very recently offered. There is a shrine of

Vatrappanachiyar, the tutelary goddess of Tiruvattur, a village to the north of Madras, on the road to Ennore; this is situate in a part of the great and much frequented pagoda of Tiyagaraia Sami, for which the village is celebrated in ancient hindoo books. The sacrifice now offered is that of a male buffalo, but is conducted with so great secrecy, that people are not generally admitted to witness it. Indeed the fear of witnessing the sacrifice and its attendant ceremonies are so great that pregnant women are if possible, kept out of the village for fear of abortion, which is believed to be the certain result, should the shrieks of the men who carry the raktabali fall on their ears. ' This raktabali (rakta, blood; bali, sacrifice) is assumed to be the food for devils and the attendant spirits of the goddess, and consists of rice mixed with the sacrificial blood. It is carried only during the last day of the annual festival of the goddess, after midnight, in an earthen pot of a peculiar shape and design, by men specially allotted to the duty. They run and shriek and howl in the street to scare away the devils and evil spirits, and halt at the corners and windings, and throw balls of this blood-mixed rice to the demons &c. It is considered to be an evil omen for any man to meet them in their rounds, as fever, madness, and disease might befal him. All treasure concealed underground for a length of time is said to become the property of demons, who take charge of and only part with it, to those who satisfy their desire for blood—the greater the demon, the higher is the kind of sacrifice he demands. Simple-minded men, even among those who are considered to belong to the better informed classes of hindoos, believe in the divination of quacks, who pretend to point out the very places in which treasure is to be found, by a collyrium which when applied to the eye is said to give it the power of discovering the treasure. Stories are now and then spread among the people regarding this subject; and this desire for discovering and exhuming hidden treasure, and the love of making gold and silver, prevails to some extent among the educated hindoos. Bloody sacrifices form no part of the worship paid to Rama, Krishna, Hanuman, &c., of the vaishnava sectarians, nor Vigneswara, Subrahmaniya, &c., of the saiva sect, or of their respective goddesses. In addition to the village deities, noticed, the only goddess who requires them is the sakti of Siva, defined by her votaries, to be the visible energy of the divine essence symbolized as a female. She is highly venerated during the nine days of the Dassera or Navaratri (the nine nights) at the close of which a sheep is generally offered in the houses of Rajputs and Mahrattas. The sacrifice of buffaloes on the occasion is very rare, and when it is offered, the ceremony takes place in temples, sacred to this goddess, but sometimes in jungles and unfrequented parts. The goddesses and demons of the sudras, all accept bloody sacrifices, which are generally accompanied with the offering of spirituous liquors. As a general rule, the offering of such sacrifices among the houses of educated hindoos, and in the superior temples is observed with great secrecy. Madan is very little known, but with a class of native magicians, deemed a very great and powerful demon. He is generally courted by the pariah, chuckler, lubbay, and uneducated mahomedans, who offer beef and arrack to obtain his good-will and favour.

It has been noted above that the terms used for the sacrifice are Bali, TAM.; Gavu, TEL.; Yagnya magha, SANSC. When an ox, lamb or fowl is offered up in sacrifice to a Devi or Mari female deity by the sudras, the first two words are used. The words Yagnya Magha are used to indicate a sacrifice celebrated only by the brahmins on occasions in which they offer goats and not any other animals, as the following five things are forbidden in the Kaliyoga or the Iron age, the sacrifice of a horse, of a cow, the abandonment of all worldly affections, serving flesh to brahmins invited to the celebration of the funeral obsequies, or to have issue by a brother-in-law, that is, husband's brother, in case of a woman not having any children by her husband. In the present day, the cow is not offered in sacrifice by any hindoo sect or race, but in the marriage ceremony of some parts of the country, where a milk-cow, surabhi, is released on the intercession of a barber, sufficient remains to show that the rite was formerly practised at marriages, for the sake of hospitality. The male buffalo is, however, frequently sacrificed, sometimes in considerable numbers, and only in 1859, the government of Madras ordered the magistrate of the Krishna division to forbid the cruel rite of Ammavaru, wherein bullocks are impaled alive to appease that angry goddess, and avert cholera. On that occasion, in a small village, bullocks to the extent of twelve or twenty-four were sacrificed, as also several hundred sheep, and the heads of sacrificed buffaloes were carried in procession on the heads of men. As might be supposed from the sacrificial rites amongst the Jews, allusions to such are to be found in the New Testament. One such occurs as the word Corban (Kurban, ARAB., PERS., HIND. Sacrifice) Mark, vii, 11. "But ye say, if a man

shall say unto his father or mother, it is Corban, that is to say, a gift, by whatsoever thou mightest be profited by me; he shall be free." The word Kurban is now almost equivalent to Sadqa or Tassaduq or Fida, and is often used by men or women addressing a superior, in which case it means merely, I am your Kurban. The word is Arabic, derived from the Hebrew, has allusion to an approaching to god, and means a sacrifice, a victim, an offering, an oblation: for which also, we have the Greek Καρπομα. The other Arabic words, Sadqa, Fida and Tassaduq, mark the continuance of the sacrificial rite. Sadqa, ARAB., properly Sadaqa, from the Hebrew, means alms, propitiatory offerings and sacrifice. The words are continued into Hindustani, in Sadqe-jana or Sadqe-hona, to become a sacrifice for the welfare of another, and Sadqe-karna, to sacrifice for the welfare of another. Amongst the Bhot race, in the Ladak frontiers of the Western Himalaya, the people salute by raising the back of both hands to a height even with the forehead and then repeatedly describing a circle in the air with them, ending by drooping the fingers downwards and turning the palm inwards. There is a similar mahomedan practice of Billain-lena, where a woman is supposed to take upon herself all the evils which would befal the person whom she addresses and thus encircles. Though, as has been seen, in Southern Asia, human and other sacrifices still continue to be made, the increasing power of the British in India may soon lead to the discontinuance of such barbarities. Mention has been made above of the Soma sacrificial priests, the Soma Yaji and Soma Devi. The Soma, was an ancient Arian rite, a sacrifice to Indra (Zeus) of an intoxicating potion, consisting of fermented juice of plants mixed with milk. Soma juice and its effects are repeatedly mentioned in the Vedas, (*Vols.* i, *pp.* 21, 139; ii, *pp.* 169, 233, 260; *and* iii, *p.* 470,) but the Soma sacrifice, now-a-days, is not made with any spirituous fluid.

The Irular race of the Neilgherries sacrifice to their deities a he-goat or cock, by cutting the victims throat, and throwing them at the feet of the idol. This is a winnow or fan, which they call Mahri and is evidently the emblem of Ceres; and, at a short distance in front of the rude thatched shed which serves as a temple are two rude stones, one called Moshani, the other Konadi Mahri, but which are subordinate to the fan occupying the interior of the temple.

The Veddah are a semi-savage race in Ceylon, some of whom in the interior dwell in hollow trees or caves. They are dexterous hunters, using bows and arrows and clubs of iron or wood. They are supposed to worship the planets, evil-spirits and the spirits of their deceased ancestors.

The Rhodia, an out-caste race at Suffragam, Dombera, and other parts of the Kandian province of Ceylon, are nominally buddhists, but are also devil-worshippers.

The Khond of Kimedy have long been addicted to sacrifice human beings to the earth-goddess. The victim is always purchased, and is destroyed with much ceremony, in the midst of assembled Khonds, each of whom tears a portion of the body to bury in his field as a propitiation.

With the Kol, one or two of the hindoo gods are reverenced, but, they have many of their own, to which they mostly resort. They sacrifice fowls, and pour libations before eating. Colonel Tod describes a lofty three-peaked mountain in the Vindhya range on which is a temple dedicated to Aya-mata, also called Isani, the tutelary divinity of the Kol, and he mentions that Isani and the effigy of the horse are the only objects worshipped among this aboriginal race. He mentions that Isani means Mother-earth, from Isa, goddess, and Anani, earth. The chief divinity of the Lurka Kol is the sun, suraj; and next to the sun ranks the moon, chandoo; and then the stars, which they believe to be the children of the latter. Besides the sun and moon, there are spirits called bhonga which inhabit the trees and groves in and around the village, and those trees are never denuded of their branches or cut down. When labour-pains come on, the women are shut up in a lonely hut, offerings are hung up near to propitiate the bhonga, and no one ventures to approach till the labour is over.

Amongst the gods, of which the various Vedas and the more recent Puranas make no mention, are the village deities. Every hamlet of the southern parts of the Peninsula has its own object of adoration, always supposed to be a goddess; and the idol, is generally a black stone. Amongst names given to it are:—

Ankal-Amma.	Yellamma.
Poni-Amma or gold mother.	Padavettu Amma.
Kani-Amma.	Tulukan Amma.
Yegata or sole mother.	Muttumari.
Mutialamma or pearl mother.	Poteramma.
Tripura-sundari or the beautiful of three cities:—	Karikatta.
Paleri Amma or great goddess.	Tanthoniamma.
Osuramma.	Dandumari.
Sellamma.	Mallamma.
	Chinnamma.
	Ammanamma.
	Choundeswari.
	Vadivatta.
	Nagattamma.

They are also called Amman, which, with Amma, Amani, Ai, is generally supposed to mean mother. The villagers believe that these goddesses protect them from sickness and losses, and that their worship averts such or mitigates them. A pujali or pujari, a worshipping priest, of the sudra caste, is appointed for her daily worship. He anoints her daily and puts ashes on her head, really on the top of the stone, for it is not an image being entirely without shape. In a small pot, he cooks rice, which he collects from the villagers in turn, presents it to the idol and then takes it to his own home. He breaks a cocoanut in front of the idol, to which he offers it. But the one-half he keeps for himself and gives the other to the families from whom he collected the fruit. The villagers make vows to their goddess to offer up to her fowls and sheep in sacrifice, if she will fulfil their desires. Once a year, the villagers collect money by subscription and celebrate a feast in honour of their goddess during which sheep and fowls are largely sacrificed. Many of the sudra and the entire servile tribes in the south of India, have the fullest faith in their respective village goddesses. When they or their children are overtaken by sickness, they seek the idol, and consult the pujari, who sings songs, affects to hear the Amman's voice, and then announces to the worshipper the offering that must be presented. If cholera break out, it is not unusual for some neighbouring village deity suddenly to rise into great importance and the sacrificial rite is then almost unceasingly performed. The hindoos too have even personified this pestilence into a goddess whom they have named Maha-Kali, the Great-Kali, also, Mari-Ai, the Death Mother, and believe that if they neglect her worship she destroys them by the disease. Indeed gods are still in process of establishment, and small pox and cholera have thus been personified. Maha-Kali of Ujjain being the goddess of cholera and Mari-Amman of the Tamil people, the Sitla-amman of Western India, a small pox deity. When a person is attacked with small pox, they believe that the goddess has taken possession of the sick man. They entertain a great dread of this goddess. While in the house, the sexes remain apart until recovery and until the sick has been purified by ablution. They place the leaves of the margosa tree beside the sick person, because the goddess is supposed to delight in this tree. They give cooling food but employ neither internal nor external remedies, in reverence for the deity. The women of the household, offer rice flour mixed with jagri or coarse sugar and black gram (pairu TAM. pesalu, TEL.) before the patient, in honour of the goddess, and afterwards distribute offerings to sudras and others. On the seventh day, *i. e.*, what medical men call the 15th day, the invalid is bathed in cold water, and the whole body rubbed with a pasty mixture of leaves of the margosa (melia and azadirachta) mixed with turmeric, and on the same day rice mixed with curds are distributed to Sudras. If in the virulence of the disease an eye be lost, it is attributed to something having been done, displeasing to the goddess. The goddess indeed is supposed to appear in three forms as Tattu ammavaru or Chinnamavaru, *i. e.*, little small goddess; Peddamavaru or great goddess, and Pairammavaru or goddess of green gram, the two last of which are most feared.

The Amman worshippers almost all practice and believe in the efficacy of demon, or devil or evil spirit rites, amongst which sacrifices always form a part. The sacrifice of the cock, to the demon, peisachi, in this respect similar to the devil-worshippers in Kurdistan, is practised by all the non-Arian people in the south of India, whether of the brahminical hindoo persuasion, or of the servile non-hindoo people. Demons are recognised in the legendary writings of the brahminical hindoos, invariably as waging war with or attempting to overcome the gods; in the avatars of Vishnu, for instance, given in the histories of several deified heroes, who were engaged in attacking and destroying demons. Even the demons of the Vedic hindoos, the Assur, Rakhus, and others were only hostile Assyrian and Arachosian nations with whom the intruding Arians came in contact in their migration to the south, for it is established that Semiramis attacked them and was obliged to retire with great loss; and the term Raksha or Rakshisa came subsequently to be applied to other opponents, and is now a common term for a demon. The present characters of the brahmanical deities differ widely from those in which the Vedas paint their deified mortals or embodiments of the elements and plants, Indra and Varuna and Soma and Chandra. And the two-fold character in which some of them are now represented, the one of mercy and the other a cruel sanguinary character, with a horrific form is probably acquired from the demonolatrous people with whom they have been dwelling; just as the buddhists of Burmah and Ceylon have superadded the worship of demons, though nothing can be supposed more foreign to the genius of buddhism than such a system. The intruding brahmans, in their progress of conquest and civilization, seem to have absorbed the demon and local gods of most of the races whom they overcame or induced to pay reverence to them, by accepting them as incarnations of their own deities,

or their deities under other names, and while thus smoothing the road to proselytes, necessarily admitted a large amount of the old faith and old worship of their converts. Before the influx of the brahmans from Central Asia, demonolatry was the religion of the early Tamil inhabitants of India, and the brahmans have never been able to extirpate it. In all brahminical books, the unconquered people are described as eaters of flesh and offering bloody sacrifices, and the terms by which the devils are known are not of Sanscrit origin. The words used with reference to devil-worship being exclusively Tamil, indicate its establishment in the arid plain of Tinnevelly and amongst the Travancore jungles and hills at a period long anterior to the influx of the brahmans and their civilization of the primitive Tamil tribes. Every act of worship in the brahminical religion requires a priest and even the worship of the inferior deities, the sanguinary worship of the brahmanical emanations and Ammans (systems of religion opposed to the claim of the brahmins but to a considerable extent influenced by their example), the person who officiates must be exclusively devoted to the duty and a member of a priestly family. But in devil-worship, every individual may be his own priest. The headman not unfrequently acts for the whole village, but any voluntary devotee, male or female may supersede him. In the devil-worship of the Shanar race, goats, sheep, fowls, &c., are offered in sacrifice, for the purpose of appeasing the anger of the demons and inducing them to remove the calamities they have inflicted, or abstain from inflicting the calamities which they are supposed to have threatened. The animal which is to be offered in sacrifice is led to the altar of the devil-temple adorned with red ochre and garlands of flowers. Ordinarily its head is separated from the body by a single stroke of a bill-hook; the sacrifice being considered unacceptable to the demon if more than one blow is required. The decapitated body is then held up so that all the blood it contains may flow out upon the demon's altar. The sacrifice being now completed the animal is cut up on the spot, made into curry, and, with the addition of the boiled rice and fruit offered to the demon on the same occasion, forms a sacred meal of which all who have joined in the sacrifice receive a share. The sole object of the sacrifice is the removal of the devil's anger or of the calamities which his anger brings down. It should be distinctly understood that sacrifices to devils are never offered on account of the sins of the worshippers, and that the devil's anger is not excited by any moral offence. The religion of the Shanars, such as it is, has no connection with morals. The most common motive in sacrificing to the devil is that of obtaining relief in sickness; and in that case at least the rationale of the rite is sufficiently clear. It consists in offering the demon, life for life—blood for blood. The demon thirsts for the life of his votary or for that of his child; and by a little ceremony and show of respect, a little music and a little coaxing, he may be prevailed upon to be content with the life of a goat instead. Dr. Caldwell adds, that there are reasons to believe that the doctrine of substitution was formerly carried to the extent of offering human victims in sacrifice to the Shanar demons, and he points to the practice among the Khond race up to the present time.

In Southern India sometimes as many as twenty goats are sacrificed at one time. The flesh is generally cut up, cooked and eaten on the spot; and round the shrines may often be seen numbers of small earthen ovens. The strongest oath a sudra can take is to swear by the most famous devil of the district; and often before a law suit is carried into Court, the aggrieved party will say to his opponent,—"I will be satisfied, if you will go to such a demon's shrine, and there, on the justice of your cause, blow out the flame of a lamp in the presence of the Kali." A man who would not hesitate a moment to commit perjury in court, would never dare to perform this ceremony knowing his cause to be unjust, for then he firmly believes that he would immediately be stricken down by the demon. So swears Latinus in the Æneid:—

"Tango aras, medios ignes et numina testor"—

Under this ever-present fear of demons, the hindoo often hesitates to go even a hundred yards in the dark; he will not enter a forest alone; he fears to stand on the borders of a lonely lake, for there dwells the spirit which in Scotland is known as the Water-Kelpie, and it is near the water that he has heard may be often seen in the darkness of the night, the "fiery-mouthed devil" (Ignis fatuus.) But most of all, he fears the sandy plain, for it is a notion thoroughly oriental, that the unclean spirit "Walketh through dry places," which are called in Tamil Pay Kadu, "Devil Deserts." Devils are especially said to abound in the sandy wastes between Madura and Tinnevelly, where the mirage (in Tamil, Pay Ter, the Devil's chariot), is frequently seen, and is said to be produced by them. Does a fire take place in a village, it is owing to the wrath of the Village-Devil. His worship has been neglected, or some insult has been offered to him, and he thirsts

for revenge. Near the village of Vediarpuram, in the Tanjore district, for the past four or five years, accidental fires have been of annual occurrence, and it is commonly reported to be owing to the anger of Aiyanar, a demon whose shrine is situated to the west of the village. A banyan tree near the spot dedicated to him, was some years ago, felled without his permission, and since that time, the enraged demon, refusing to be propitiated by the usual sacrifices, yearly burns down a house or two. Many races besides hindoos, have been accustomed to make vows in time of sickness. Formerly we are told, people used to go from all parts of England to Canterbury—

> "The holy blissful martyr for to seek,
> "That them hath holpen when that they were sick."

The hindoo makes a vow to go to a particular shrine, and there pour offerings of oil and spices. If a diseased member have been restored, often-times a golden image of it is made and presented to the shrine. A person suffered from a serious affection of the eyes, made a vow that in case of recovery, two golden eyes should be made and presented to the shrine of Mari Amman. In like manner, the Philistines, we read, when afflicted with emerods, thought after consulting with their soothsayers, that they could best propitiate the God of Israel by making and offering to him, golden images of the emerods. As may be expected the devils are most busy in the

> "last scene of all
> That ends this strange eventful history;"

a young girl fears to cross a dying man lest his latest breath should pass into her in which case she would be possessed beyond recovery. For a similar reason, a hindoo at the point of death is always removed to expire without the house, which would otherwise be haunted. As the corpse is carried away, parched rice is scattered along the route of the funeral procession. It is believed that the devils will stop to pick it up, and it is considered advisable to keep them so engaged till next sun-rise, for should they return to the house before that time they would probably not be satisfied without another victim. A native proverb says :—"A Saturday's corpse goes not alone ;" when, therefore, a death takes place on a Saturday, to prevent evil consequences, a live cock is taken with the corpse to the burning ground, and it is there given away to some person of low caste, or like the scape-goat of old, allowed to escape into the adjacent jungle. Brahmans averse to bloody sacrifices, substitute for a cock, the bolt of the door of the house, which they burn with the corpse. When a dead body is buried instead of being burnt, as in the case of suniyasi (wandering devotees) Roman and Lutheran christians, salt is placed in the grave, and frequently with it the leaves of the margosa tree so famous as a charm against devils. Salt was till recently, also, in England placed on the corpse for the avowed purpose of keeping it secure from the evil one, and the practice is still said to linger in the Highlands of Scotland. The Highlanders indeed in many of their superstitions are remarkably similar to the hindoos. They formerly planted the rowan, or mountain-ash regarding it as a safe-guard against devils, just as the hindoos regard the margosa. Throughout India, the belief is as common as it was formerly in Europe, that a man who dies a sudden or a violent death, becomes a demon. All the women in the district are immediately possessed by him, and innumerable mischiefs result. A brahman accidentally drowned in the river Kaveri about the year 1870, became in consequence a "Brahma Rakshasa," one of the fiercest of demons. Dr. Caldwell mentions the case of an English officer mortally wounded at the taking of the Travancore lines in 1809, who was afterwards worshipped as a demon; cigars and spirituous liquors being added to the usual offerings made in such cases. An English or French officer of artillery, killed at the battle of Assaye and buried there near a large tree, continues (up to 1869) to be worshipped by the Mahrattas. A few years ago, a brahman who was sentenced to be hanged at Madras for the murder of another brahman, going on pilgrimage from Benares to Ramesaram, threatened that though they were about to hang him, he would not die, but would become a Brahman Rakshasa and torment all those who had given evidence against him.

Bells and chains are almost always used in the devil-worship and exorcism of Southern India the notion involved seems less to be that of scaring the devil, than that of charming him, just as a snake-charmer charms a snake by music. Near the fanes of the popular devils, there are massive iron chains hanging from the trees, with bells and knives attached to them. In the well-known Sanskrit work, the Hitopadesa occurs a story relating to a famous devil called Ghantakarna or Bell-ear. This Rakshasa was believed to dwell on the top of a mountain near the town of Brahmaputra. One day, a thief having stolen a bell, (probably one of those near the demon's fane,) was killed by a tiger, as he was carrying off his plunder. The monkeys who dwelt in the adjacent forest, obtained the bell and amused themselves by ringing it. The people of the town, having

found the dead-body of the man and continually hearing the sound of the bell were filled with intense horror fully believing that the demon enraged, had killed the thief, and was now ringing the bell. The town was in consequence nearly deserted, when an old woman guessing the truth, went to the king and said that for a small sum she would undertake to settle the demon. The king, delighted, gave her what she asked, and the old woman after tracing the cabalistic circle,—(the Kolam) and pretending to go through certain incantations, entered the forest. By means of fruits which she strewed on the ground, she was enabled to decoy the monkeys, and having obtained the bell as a trophy of her victory over the demon, she returned in triumph to the town. So little has the belief in devils been shaken, that in the India of the close of the 19th century, it would in a like case, be just as easy to deceive the people and even their rajahs. Annually amongst the Rajputs of the Solar line, the white boar is hunted and slain as a sacrifice to Ceres, known there as Gouri. On one occasion as related by Tod, scarcely was the ceremony over, when the young prince remarked, it was the festival of the Ahairea, nor must ancient customs be forgotten : "therefore to horse, and slay a boar to Gouri and take the omen for the ensuing year." They slew abundance of game, and in the mimic field of war, the nobles who surrounded the gallant Pertab anticipated happier days for Mewar. Proverbs, xvii, 1, speaks of a " house full of sacrifices." A hindoo priest, who officiates at a great festival, sometimes receives so many offerings, that his house may be said to be filled with them : many articles are damaged before they can be used.—*Milman's History of the Jews, 4th Ed., Vol.* i, *pp.* 24, 25, 154, 155 ; *William Howit, The Supernatural, Vol.* i ; *Bunsen, Egypt's Place in Universal History, Vols.* i, *pp.* 17–179 ; ii, 467–72 ; iii, 286, 525, 531, 687 ; iv, 210, 214, 695 ; *Georgic, lib.* iii, *p.* 5 ; *Ars. Amat., Vol.* i, *p.* 647, *quoted in Sharpe's History of Egypt, Vol.* i, *p.* 163 ; *Early Christianity in Arabia* ; *Col. Forbes Leslie* ; *Lubbock, Origin of Civil., pp.* 238, 241-243 ; *Kenrick's Phœnicia, pp.* 315–20; *J. R. Carnac and Col. A. Walker, Resident, Baroda,* 15*th March* 1808, *in Parliamentary Paper,* 17*th June* 1824, *pp.* 52-58; *Abbe-Domenech* ; *Wade's Chinese Army, p.* 22 ; *Tod's Rajasthan, Vol.* i, *pp.* 63, 76, 373 ; *Coleman, on the Mythology of the Hindoos, p.* 374 ; *Williams' Story of Nala, pp.* 119, 209 ; *Postan's Western India, Vol.* ii, *pp.* 173–6 ; *Hindu Theatre, Vols.* i, *p.* 340 ; ii, *pp.* 59–60 ; *Captain John Clune, Appendix to the Itinerary for Western India, p.* 46 ; *Revd. Mr. Mason's Tenasserim* ; *Dr. Mason's Burmah, p.* 106 ; *Dr. W. W. Hunter, p.* 30 ; *Livingstone, Africa* ; *Malcolm's Central India, Vol.* ii, *pp.* 209-10 ; *Cal. Rev*, *No.* cxx, *December* 1860, *also January* 1871 ; *Wilson's Glossary* ; *Sonnerat's Voyage, p.* 116 ; *Ward's View of the Hindoos, Vol.* ii, *pp.* 49-58, 126, 127 ; *Forbes' Ras Mala Hindoo Annals, Vol.* ii, *pp.* 353–55, 360–66 ; *Frere, Antipodes, p.* 234 ; *Bryant's Mythology* ; *Robert's Illustrations of the Scriptures* ; *Major Moor, Oriental Fragments* ; *Burder, Oriental Customs* ; *Harris' Natural History of the Bible*. See Cow, Indra, Kabul, Lakshmi, Polyandry, Saraswati, Yavana.

SACRIFICE ISLAND, is thus mentioned by Dr. Fryer who visited India in 1673. At Mangalore the Dutch have a fort, and six miles to the north the French have a flag flying : within a league off which a grey rock extols its hoary head eight fathoms above water, navigable on all sides, justly called by us Sacrifice Island, in remembrance of a bloody butchery on some English by the pirate Malabars who are the worst Pickeroons on this coast, going in fleets, and are set out by the great men ashore, the chief of whom lives at Durmapatan.—*A New account of East India and Persia, &c., p.* 55, *Lond.*, 1698, *quoted in Ouseley's Travels, Vol.* i, *p.* 68.

SACSANDER or Satasanda, SINGH. Aristolochia indica.

SAD, PERS., a hundred ; hence Saddi, a century. Sau, HIND., a hundred, hence Saikra, per hundred.

SAD also Spanmal, Sw. Corn.

SADA, hindoo unitarians, which their name, Sad'ha, HIND. Pure or Puritan, implies. They originated in A. D. 1658, with a person named Birbhan. They have no temples.

SADA-BASNA, HIND. The white-flowered variety of Coronilla grandiflora.

SADA-BORI, HIND. Asparagus racemosus, *Willde.*

SADACHOO MARAM, TAM. Grewia tiliæfolia, *Vahl.*

SADA-DEBDHAN, BENG. Sorghum saccharatum.

SADA HAJAR MANI, or Sada Hajur Muni, BENG. Phyllanthus niruri, *Linn.*

SADA DHATURA, HIND. Datura fastuosa, also Datura alba, *Rumph.*

SADA-GULAB, HIND. Rosa sinensis.

SADAICHI MARAM, TAM. Grewia tiliæfolia, *Vahl.*

SADA-JAMAI-POOLI, also Sada-jamaishim, BENG., HIND. Lablab cultratus.

SADA JATI, BENG. Barleria dichotoma, *Roxb.*

SADA KUPPE, Tam. Anethum graveolens, *Linn.*

SADA-KASSIS, Hind. White vitriol, sulphate of zinc.

SADAL, Beng. Limnaetus nivæus, *Temm.*

SADANAPA VEDARU, Tel. Bambusa stricta, *Roxb.*

SA-DANG, also Saundang, Burm. A measure of length in Pegu = 0·601 yards.—*Simmond's Dict.*

SADA-NUTI, Beng. White variety of Amarantus oleraceus, *Linn.*

SADAPA, also Arudu, Tel. Ruta angustifolia, *Nees.*

SADAQA, Ar. Sacrifice.

SADAR, chief, supreme, the highest or foremost of anything, as Sadr Adalat, the High Court.

SADAR, Malay. Ammoniæ hydrochloras.

SADASHEGHUR, a sea-port town on the west coast of India in the Konkan.

SADASIVA, see Inscriptions.

SADAT, Arab., plural of Sayid. This word in the northern Hejaz and in British India is applied indifferently to the posterity of Hasan and Hosayn, sons of Ali and grandsons of Muhammad.—*Burton's Pilgrimage to Meccah, Vol.* ii, *p.* 263.

SADA-TAM-PALA, Singh. Amarantus oleraceus, *Linn.*

SADBARG, Hind. Calendula officinalis. Carpesium, *sp.* Tagetes erecta and Senecio vulgaris.

SAD-CUFI, Arab. Cyperus juncifolius.

SADDACUPPAI, Tam. Anethum sowa, *Roxb.* Dill seed.

SADDAPA, Tel. Anethum sowa, *Roxb.* Dill seed.

SADDLE ISLAND, in the Red Sea, has active volcanoes, Saddle island, see Ramree or Yambie.

SADDLE ISLAND, or Semione island, in lat. 4° 31′ N., long. 107° 44′ E., about 6 miles from Pulo Laut, one of the Natunas group in the China Sea.

SADDLE.

Sarj,	Ar.	Kakapa : Palana ; Sela,	Malay.
Selles,	Fr.	Zin,	Pers.
Sattel,	Ger.	Sadla,	Rus.
Zin,	Guz., Hind.	Selles,	Sp.
Koghir,	,,		
Selle,	It.		

The saddles of Europe are made with a wooden framework covered with leather of different kinds, and with intervening padding. Those in use in Asia, are made of cloth or felt (numdah) with or without a wooden framework. At the Exhibition of 1851, the saddle-cloths and match-lock accoutrements from the rajah of Kotah, a pattern was produced with gold-headed nails, fixed into green velvet. The effect of this was so good as to be greatly admired by some of the best judges.—*Royle's Arts, &c. of India, p.* 508.

SADDUCEES, see Polyandry.

SAD'H, a hindoo puritan sect of the hindoos. See Hindoo, Sada.

SADHANAPU VEDURU, Tel. Dendrocalamus strictus, *Schult.* Bambusa stricta, *R.*, ii, 193 ; *Cor.* 80.

SAD'HI RAM DAS, was the first Sik'h guroo of the Sad'hi tribe, and hence was named Ram Das Sad'hi. The Sad'hi were numerous about Muckawal, about the middle of the 19th century.—*M'Gregor's History of the Sikhs, Vol.* i, *p.* 29.

SADHUA PANTHI, a Vaishnava sect of hindoos in the North-Western Provinces of India ; originated by Sadhua, a butcher.

SAD'HYA, Sans., from sad'h, to perfect.

SADI, a Persian Poet, a beautiful writer in his own peculiar way. Though inferior to Hafiz in lyric poetry, his works are much more voluminous and diversified ; embracing all kinds of composition in prose and verse.

SADIA, generally written Suddya, in lat. 27° 49′ N., long. 95° 38′ E., in Assam, on the right side of the Kundil river, an affluent of the Brahamputra ; near this place, the level of the Brahamputra is 210 feet above the sea. —*Schl., A.*

SADI HAZUR MUNI, Hind., Beng. Phyllanthus niruri, *Linn.*

SADI MODI, Beng. Emilia sonchifolia, *DC.*

SADJEN, see Karang bollong.

SADLA, Rus. Saddles.

SADONG LINGAH, see Katiow.

SADONG RIVER, see India, Kyan.

SADOO JAUHARI, Hind. Is a peddling jeweller.

SADOZYE, an Affghan tribe. The people who dwell about Kabul and Kandahar. Shorawak and Pishin, are designated B'r-Pushtun or Upper Affghans ; and those occupying the district of Roh, which is near India, are called L'r-Pukhtun or Lower Affghans. Persian is the official language of Affghanistan, but the Pushto is alike the common tongue of the uneducated people, of the families of the former Sadozye kings, and of the dwellings of the amir. There are, however, two divisions of the Affghans, termed Pushtun and Pukhtun, who speak Pushto and Pukhto respectively. The Pushto being the western dialect with affinity to Persian, and the Pukhto the eastern with many Sanskrit and Hindi words. The Pushto is spoken, with slight variation in orthography and pronunciation, from the valley of Pishin, south of Kandahar, to Kafiristan on the north ; and from the banks of the Helmund on the

west, to the Attock, Sindhu or Indus river, on the east;—throughout the Samah or plain of the Yuzufye, the mountainous districts of Bajawar, Banjhkora, Swatt and Buner to Astor, on the borders of Little Tibet,—a tract of country equal in extent to the entire Spanish peninsula; also, throughout the British districts of the Derajat, Banu Tak, Kohat, Peshawar and the Samah or plain of the Yuzufzye with the exception of Dera Ghazi Khan, nine-tenths of the people speak the Affghan language. Professor Wilson remarks that the inhabitants of the country around Kabul, at the earliest period at which we have authentic accounts of them—that of the Macedonian conquest,—were Indians; and the designation given by the Greeks is confirmed by the language upon the reverse of the coins of the Greek kings of Bactria, which, there is little doubt, is a form of Prakrit. Sadozye, ruled in Kabul from A. D. 1747, till put aside by Dost Mahomed Khan, a Barakzye chief. The advent of the Sadozye and other mahomedan tribes, now styled Affghan, is not known. See Affghan, India, Khyber.

SADQA, ARAB. Sacrifice; Sadqe-hona, or Sadqe-jana, to become a sacrifice for another; Sadqe-karna, to sacrifice for the welfare of another. See Sacrifice.

SAD'R, ARAB. Chief, hence Sadr Adalut, High Court of Justice. The Supreme Courts of Calcutta, Madras and Bombay were amalgamated with the Courts of Sadr Adalut of the three Presidencies, and the united body designated the High Court of Judicature. Sadr is often used in compound words, as Sadr-Amin, Sadr-Adalat, Sadr-Mohtamim, Chief Amin, Chief Court, Chief Superintendent.

SADRAS, a small town on the Coromandel Coast, in lat. 12° 32′ N., long. 80° 13′ E., about 30 miles south of Madras.

SADRUS, HIND. Cinnamomum nitidum, *Nees.*

SADSAH, MALAY. Rue.

SADURA, MAHR. Pentaptera arjuna.

SÆLK, also Sælg, EGYPT. Beta vulgaris, *Linn.*

SAFARJAL, HIND., MALAY. Cydonia vulgaris, PERS. Quince.

SAFARON, MALAY. Saffron.

SAFED, HIND., PERS. White, hence

Safeda, HIND. A quality of fair rice.

Safeda, HIND., of Kanawar, Populus fastigiata; Dalbergia sisso, Populus alba, Salix tetrasperma.

Safeda, HIND. Ceruse.

Safed bach, HIND. Acorus calamus, *Linn.*

Safed bariala, HIND. Sida rhomboidea, *Roxb*

Safed juari, HIND. White variety of Sorghum vulgare.

Safed kadasambal, HIND. Canavalia gladiata, *DC., Roxb., W. & A.*

Safed kapra, HIND. Calico.

Safed kikar, HIND. Acacia leucophlæa, *Willd.*

Safed moth, HIND. Occasionally applied to Cyamopsis psoraloides.

Safed-musli, HIND., or DUK. Asparagus adscendens, *Roxb.*

Safed patthar, a white alabaster of Shahpur.

Safed poin, BENG. Basella alba, *Linn.*

Safed shakr kandalu, HIND. Batatas edulis, *Choisy.*

Safed simal, HIND. Eriodendron anfractuosum, *DC.*; *W. & A.*; *W. Ic.*

Safed sona, HIND. Platinum.

Safed tulsi, HIND. Ocimum album, Basella alba, *Linn.*

SAFED KOH, a peak south of Koh-i-Baba. It is in lat. 33° 58.′ 1″ N.; long. 70° 27′ 9″ E., in the Panjab, 14,393 feet above the level of the sea. It lies at the head of the Mamand Dhara, a valley belonging to the Shenwari celebrated for its vineyards.—*Walker*; *Moorcroft's Travels, Vol.* ii, *p.* 355. See Jellalabad, Kaffir, Khyber, Suliman hills.

SAFFAVI, a dynasty which ruled in Persia. See Khalifs.

SAFFERSTEEN, DUT. Sapphire.

SAFFIAM, GER. Morocco leather.

SAFFIAN, RUS. Morocco leather.

SAFFLOER, DUT. Bastard saffron. Safflower.

SAFFLOR, GER. Safflower.

SAFFLOWER.

Usfar,	AR.	Kussum: Kussumba,	HIND
Kusum kajirah,	BENG.	Zaffrone,	IT.
Cossumba,	CAN.	Kassumba-jawa,	MALAY.
Hung-lan-hwah,	CHIN.	Kussumba,	MALEAL.
Yoh-hung-hwah	,,	Polerroi,	RUS.
Safflor,	DUT.	Prostoi schafran,	,,
Basterd saffraan,	,,	Kussumba; Kusum-lot-tora,	SANS.
Kurtin,	EGYPT.	Azafron bastardo,	SP.
Bastard saffron.	ENG.	Alazor,	,,
Cartame,	FR.	Sendorkum,	TAM.
Saffran batard,	,,	Kussumba chetto,	TEL.
Safflor,	GER.		

Two species yield the safflower of commerce, viz., Carthamus tinctorius, which has small leaves and an orange flower; and C. oxyacantha, with larger leaves and a yellow flower, a native of Caucasus. The former is cultivated in Egypt, the Levant, &c., where it forms a considerable article of commerce. The former is grown in every part of the E. Indies, in China, India, Egypt, America, Spain, some of the warmer parts of Europe, is indigenous to the whole of the Indian Archipelago, and a large quantity is grown in and exported from Bali. At the Madras Exhibition of 1855, specimens were exhibited from Cuddapah, Chittledroog and

Madura, and several packets of the seeds were sent from other districts. It is cultivated extensively throughout the Ceded districts, &c., the seed yielding an oil, and the flower a dye. Of late years the exportation has fallen off, but a great deal is consumed in the country. The flower is gathered and rubbed down into a powder, and sold in this state. When used for dyeing it is put in a cloth and washed in cold water for a long time, to remove a yellow colouring matter; it is then boiled and yields the pink dyeing liquid. The Chinese safflower is worth four times the amount of the Indian article, but the loss from careless drying and preparation in India has too often been set down to the nature of the article. The dried florets yield a very beautiful colouring matter, which attaches itself without a mordant. In Madras it is chiefly used for colouring cotton, and produces various shades of pink, rose, crimson, scarlet, &c. In Bangalore, silk is dyed with it, but the dye is very fugitive, and will not bear washing. An alkaline extract precipitated by an acid (lime juice is commonly used) will give a fine blue colour either to silk or cotton. The colouring matter is not suitable to wool. The petals of the safflower contain a red colouring matter insoluble in water, derived probably from the oxidation of a peculiar principle existing in the petals: it is called carthamine, or carthameine, and by Dumas, carthamous acid. When a weak soda solution of carthamine is left in contact with oxygen, it first becomes yellow and then red, and on saturating this red liquor with citric acid, red carthamine is thrown down. The affinity of carthaméine for cotton and silk is such, that when it is recently precipitated, those substances immediately combine with it, and become at first rose-coloured, and afterwards of a fine red, so that they may be thus dyed without the intervention of a mordant; the stuffs so dyed are rendered yellow by the alkalis, and the colour is to a certain extent restored by the acids. Carthaméine is never used in dyeing wool. When it is precipitated from concentrated solutions, it furnishes a a liquid paint, which, evaporated upon saucers, leaves a residue of somewhat metallic lustre, used as a pink dye-stuff, and which, mixed with finely powdered talc and dried, constitutes common rouge. When the infusion is evaporated it leaves an extract very soluble in water, precipitated by acids and soluble in alkalis. It is not reddened by oxidizing agents. The Chinese safflower is considered the best, and that from Bombay is least esteemed. The price of safflower in the English market varies from £ 1 to £ 8 per ton, according to quality, that from Bombay about £ 1 to £ 1-10*s*. The annual quantity imported into England is from 400 to 500 tons, ⅘ths of which is sent from Calcutta, and about 150 tons is grown in the Dacca Collectorate. The pink colour of safflower is resinous in its nature, and is best dissolved by the fixed alkalis. In Bengal, the flowers are gathered, placed in a bag, and trodden under water to get rid of the yellow colour. They are then placed in a trough with soda, in the proportion of 6 lbs. to 120 lbs. of carthamus. After soaking for a time, the contents of the trough are transferred to another, having a perforated bottom, but lined with a finely-woven cloth. This perforated trough is placed over an unperforated empty one, and water is poured through the upper one. This carries with it a large amount of the colouring matter released by the alkali. When the lower trough is full the bath is placed over another trough. A little more alkali is added and fresh water, until the latter runs through without carrying any more colouring matter. Lemon juice is added to the dye stuff in the troughs, and raises the colour to a bright cherry-red; silk, in hanks, is then immersed and turned round skein-sticks in the bath so long as it will take up any colour. It is then dried, and if the colour be not deep enough, it is passed through another bath of similar strength. A final brightening is given by turning the silk round the skein-sticks, seven or eight times, in warm water, with lemon juice, in the proportion of half a pint to each pailful of water. This colour will not bear the action of soap, nor will it long withstand exposure to the sun and air; it is chiefly employed on silk for imitating the fine dye of the French called ponceau. For ponceau, or flame-colour, the silk is first boiled, and then receives a slight foundation of annotto; but it must not be alumed. Safflower dye is costly: it is chosen in flakes of a bright pink colour; that in powder, dark-coloured, or oily, is of inferior quality. The beauty of the colour, in its purest form, has caused it to be employed in the manufacture of rouge. The preparation of the finest rouge, however, is from cochineal. The delicate and beautiful rouge, known as rouge vegetale, is nothing more than the colour of safflower which has been extracted by means of crystallized soda, precipitated by citric acid, then slowly dried, and ground up with the purest talc. In the process of rouge-making from safflower the flowers, after being washed with pure water till it comes off colourless, are dried, pulverized, and digested with a weak solution of crystals of soda, which assumes

thereby a yellow colour. Into this liquor a quantity of finely carded white cotton wool is plunged, and then so much lemon-juice or pure vinegar is added as to supersaturate the soda. The colouring matter is disengaged, and falls down in an impalpable powder upon the cotton filaments. The cotton, after being washed in cold water, to remove some yellow colouring particles, is to be treated with a fresh solution of carbonate of soda, which takes up the red colouring matter in a state of purity. Before precipitating this pigment a second time by the acid of lemons, some soft powdered talc should be laid in the bottom of the vessel for the purpose of absorbing the fine rouge, in proportion as it is separated from the carbonate of soda, which now holds it dissolved. The coloured mixture must be finally triturated with a few drops of olive-oil in order to make it smooth and marrowy. Upon the fineness of the talc, and the proportion of the safflower precipitate which it contains, depends the beauty and value of the cosmetic. The rouge of the above second precipitation is received sometimes upon bits of fine-twisted woollen stuff, called crepons, which ladies rub upon their cheeks. The imports into the United Kingdom of Great Britain were as under :

1835,	Tons 231,	Cwt 13	1848,	Tons 506	
1840	267	12	1849	407	
1847	405				

The annual quantity of safflower, according to Dr. Taylor, exported from the district of Dacca for eight years ending with 1839, amounted to 4,000 maunds, or about 149 tons. The exports through the Calcutta Custom House are occasionally large : in 1824–25 there were about 316 tons ; 8,500 Indian maunds were shipped from Calcutta in each of the years 1841 and 1842. The prices in the Liverpool market, in January 1853, were for Bengal, good and fine, £6 to £7 10*s*. per cwt. ; middling, £4 to £4 10*s*. ; inferior and ordinary, £2 10*s*. to £3.—*Ure's Dictionary* ; *Tomlinson, p.* 333 ; *Simmonds, p.* 450 ; *Faulkner* ; *Eng. Cyc., p.* 787 ; *Smith, Chinese Mat. Med.*; *M. E. J. R.* ; *O'Shaughnessy, Beng. Disp.*

SAFFLOWER OIL.

Kurru or Cusum ka tel,	HIND.	Karirma safir,	PERS.
		Chenduruku yennai,	TAM.
Poliyan,	PANJ.	Kusumba nuna,	TEL.

A light yellow, clear oil, is obtained from the seeds of the Carthamus tinctorius. It grows plentifully in Mysore and Tinnevelly. In Mysore and Bellary, it costs about Rs. 2-8-0 per maund, and is used for lamps and culinary purposes.—*M. E. J. R.*

SAFFLOWER SEED.

Kurdeh, GUZ. and HIND.

The seed of the Carthamus tinctorius affords an oil used by the natives of India for culinary purposes. It has of late been exported from Bombay to England and France as an "oil seed."—*Faulkner.*

SAFFRAGAM, a district of Ceylon. See Ceylon, Rhodia.

SAFFRAN, GER., SP. Saffron.

SAFFRON.

Karkam, Zaifran,	AR.	Crocus sativus,	LAT.
Tha n'wen,	BURM.	Crocus,	,,
Fan-hung-hwa,	CHIN.	Safarun,	MALAY.
Hwang-hwa	,,	Kumkuma,	,,
Si-tsang-hung-hwa,	,,	Kungkuma,	,,
Sah-fah-yin,	,,	Safaron,	MALEAL.
Poh-fu-lan,	,,	Abir, Kurkam,	PERS.
Keysur,	DUK.	Kurkum, Zaifran,	,,
Safran,	DUT.	Acafrao,	PORT.
Rootla saffron,	ANG-HINDI.	Schafran,	RUS.
Hay saffron,	ENG.	Kasmira-janma,	SANS.
Asafran,	FR.	Kunkama,	,,
Saffron,	GER.	Khohun,	SINGH.
Keysur ; Zaifran,	HIND.	Saffron,	SP.
Zaifran,	,,	Kun-guma-pu,	TAM.
Zafferano,	IT.	Kunkumapuvu,	TEL.

Crocus sativus, saffron, is a native of Asia Minor, naturalized in many parts of Europe, and cultivated in Persia and Cashmere. The Chinese obtain it from Tibet. Saffron is brought to India from England, the sea ports of the Red Sea, Persia, and Cashmere. The dried stigmata of the flower, are picked out, dried on paper either in a kiln or by the sun. If compressed into cakes it is called cake saffron : hay saffron, what is usually met with, consists of the stigmas, each about an inch and a half long, brown-red, the upper part flattened, widened, and cleft ; the lower, hair-like and yellowish. The odour is fragrant, taste bitter but agreeable. Saffron tinges the saliva yellow. One grain of good saffron contains the stigmata and styles of nine flowers, so that one ounce of saffron is equal to 4,320 flowers. Cake saffron as now met with, contains none of the real article, being prepared from the florets of the safflower or Carthamus tinctorius made into a paste with gum water. Dr. Honigberger, (p. 263,) mentions that in his time Crocus sativus was monopolized by the Cashmerean government, and that the hakims of the Punjab use saffron in melancholy, typhus fever, enlargement of the liver, and retention of urine. It is now imported into India both from Persia and Cashmere, but into the North-western parts of India from the latter only. Dr. Falconer formed the opinion that saffron could be successfully cultivated in the Himalaya, at heights varying from six thousand to six thousand five hundred feet above the sea, and that if it were once brought into the market, the demand for it would be almost unlimited. The dried pistils compressed into firm cakes or masses, are termed in India Rootla saffron ; good saffron has a sweetish, penetrating, diffusive odour ; a warm, pungent, bitterish taste ; and a rich

deep orange colour. It is used in medicine, as a colouring substance, and in domestic cookery. The vytians prescribe this article in nervous affections attended with vertigo, and where there appears to be an approach to apoplexy, by accumulation of blood in the head. They also believe it to possess considerable virtue in melancholia, hysteric depressions, and kistnah dashum (typhus fever), in which last they suppose it to act as a cordial and restorative. To women, soon after the pains of childbirth are over, an infusion of saffron is frequently administered by the Tamil midwives to prevent fever, to support the animal spirits; and gently to assist in carrying off the lochia. 'It is besides used by the Indian practitioners as an external application in ophthalmia when mixed with a small quantity of pounded chebulic myrobolan and lime juice and applied round the eye, but close to it. The Arabians class it amongst their Mosehetat (Hypnotica) Mokewyat (Cardiaca) and Mufettehat (Deobstruentia). Used as a dye, a rich yellow-red colour is obtained which, when dried and pure, is of a scarlet hue. The use of saffron in Europe is diminishing. It is employed as a seasoning in cookery: also to colour confectionery, liqueurs, varnishes, and sometimes cheese and butter. It is used to a small extent by painters and dyers. It was formerly much used in medicine as a carminative, antispasmodic and emmenagogue, and it is still occasionally employed to promote the eruption of certain diseases of the skin. It is given to birds to assist their moulting. The colouring ingredient of this plant as "a peculiar principle to which the name of polychroite has been given; it possesses the properties of being totally destroyed by the action of the solar rays, colouring in small quantity a large body of water, and of forming blue or green tints when treated with sulphuric and nitric acid, or with sulphate of iron. In moderate doses, this substance stimulates the stomach, and in large quantities excites the vascular system. Moreover it seems to have a specific influence on the cerebro-spinal system, as it affects, it is said, the mental faculties, a result which De Candolle considers analogous to that produced by the petals of certain odorous flowers. Saffron known in commerce as a kind of fibrous cake, should be moderately moist, close, tough, and compact, the smell sweet and penetrating, the taste warm, pungent, and somewhat bitter. It is a considerable article of trade, both east and west, it is esteemed medicinal in the east with all sorts of virtues ascribed to it. To put on the saffron robe, is the sign of "no quarter" with the Rajput warrior.—*O'Shaughnessy, p.* 654; *Rhode, MSS.*; *Faulkner*; *Ainslie's Mat. Med., p.* 38; *Tomlinson*; *Honigberger, p.* 263; *Falconer*; *Royle*; *Smith*; *Powell's Hand-book, Vol.* i, *p.* 303.

SAFI, are a widely spread people occupying Dara Nur, Dara Mazar, Dara Pech, and the valleys opening on the Khonar river and in a district called Surkh Khambar, south of Bajur. It has been noticed that they inhabit Taghow. They now speak the Affghan dialect, but also Pashai. In the emperor Baber's time, they were styled Kafir, and they were subsequently expelled by the Ghilji from the lands to the south of Taghow, and between Kabul and Jellalabad. Nadir Shah cultivated a friendship with them. They speak a dialect called Kohistani. South of the Safi, at Bahi, the first march from Goshter, on the Jellalabad river towards Bajur, are a people called Yeghani who consider themselves Affghans, but are probably converted Kafir, for they speak a dialect which no Affghan can understand.—*Masson's Journeys.* See Kelat, Kafir, Kassi.

SAFIRO, also Safir, Sp. Sapphire.

SAFLINAFF, or Zalinaf, or Laars Island, in the Java Sea, in lat. 5° 31′ S., long. 118° 25′ E., is a low woody island and the southernmost of a group lying on the north end of Laars bank.

SAFRAN, Dut., Fr. Saffron.

SAFRI-AM, Guava tree, Psidium pyriferum.

SAG, Beng., Hind. Greens; green vegetables; any vegetable pot-herb; gogi sag, is Malva parifloria, Jau sag, is Chenopodium album, Phapru sag, is Pharbitis nil, Rin sag, is Phytolacca decandra.

SAG, Beng., Hind. Corchorus olitorius.

SAG, Pers. A dog. See Kurmsaq.

SAGA, also Chaga, Tel. Sanseviera zeylanica, *Willd.*; Sanseviera roxburghiana, *Schult.*

SA-GA, Burm. Michelia champaca, *Linn.* also Michelia aurantium, *Wall.*

SAGA, Siam. The red seeds of Abrus precatorius, 32 of which make a phainung, worth about ¾*d.*; a gold and silver weight used in Malacca, the 12th of the mayam, and=4·33 grains.—*Simmond's Dict.*

SAGA CHETTU, Tel. Sanseviera roxburghiana, *Schult*; S. zeylanica, *R.*, ii, 161.

SAGAFIUN, Pers. Sagapenum.

SAGAH BARK, Anglo-Malay. A bark of Singapore, resembling mangrove bark in appearance, and employed as a dyeing material.

SAGALA, was the capital of the Bactrian dynasty that ruled in the Panjab and its name was changed by Demetrius to Euthymedia. Bayer says that according to Claudius Ptolemy, there was a town within the Hydas-

pes yet nearer the Indus called Sagala, also Euthymedia, but he scarcely doubts that Demetrius called it Euthydemia, from his father after his death and that of Menander. Colonel Tod supposes Sagala to be the Salbhanpoora of the Yadu when driven from Zabulist'han and that of the Yuti or Yuchi who were fixed there from Central Asia in the 5th century and if so early as the second century when Ptolemy wrote, they may have originated the change to Yutimedia, the Central Yuti. Numerous medals have been found within the probable limits of the Greek kingdom of Sagala, belonging to these kings or to the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sassanian character on the reverse. The names of Apollodotus and Menander have been decyphered, and the titles of Great King, Saviour, and other epithets adopted by the Arsacidæ are perfectly legible. The devices however resemble the Parthian. These Greeks and Parthians must have gradually merged into the hindoo population.—*Hist. Reg. Bact.*, *p*. 84. See Bactrian.

SAGALLEEN, see Japan, Kurilian, Saghalin.

SAGAPENO, It. Sagapenum.

SAGAPENUM.

Sugbinuj: Sakbenuj,	Ar.	Sagbenuj,	Guz.
Sakbinj,	"	Kundil: Sagbenuj,	Hind.
I-sus,	Bombay.	Kundel,	"
Sagapenum,	Fr.	Sagapeno,	It.
Sagapenummi,	Ger.	Sagafiun,	Pers.
Sagafiun,	Gr.	Kundel,	Sans.

A concrete gum resin supposed to be a kind of assafœtida from the Ferula persica, obtained from Smyrna, Alexandria, &c. It is found in masses formed of soft, adhesive fragments, the size of the thumb or more, somewhat transparent, reddish yellow externally, pale within, of a waxy or brittle consistence, often mixed with impurities and seeds. Its odour resembles that of garlic and assafœtida, its taste is hot, nauseous, and rather bitter. Its medicinal uses are the same asthose of assafœtida, but it is considered less energetic, and is but little employed. F. persica, a native of Persia, with a stem about two feet high, according to some authorities produces Sagapenum. Nees von Esenbeck and Lindley, however, consider it as one of many plants from which assafœtida is procured. Sapagenum is found in masses. Its odour resembles that of garlic and assafœtida, its taste is hot, nauseous, and rather bitter. It is sometimes adulterated with bdellium, gundabirosa, and other similar gum resins or turpentines. It is collected in the same manner as assafœtida; sells at four rupees the lb.—*O'Shaughnessy, pp*. 363-64.

SAGAPU MARAM, Tam. Hymenodyction excelsum, *Wall.*

SAGAPPU SOALUM, Tam. Sorghum vulgare.

SAGAR, Sans. The sea.

SAGAR and Nerbudda territories include part of the basins of the Ganges and Nerbudda. The Sagar district of India is situated in the extreme north-west of the Central Provinces, and comprised within north latitude 23° 5′ and 24° 25′, and east longitude 78° 10′ and 79° 15′. The Vindhyan outcrops belong to the group named the "Upper Rewa," which is a mixture of thick massive strata and false-bedded flags, usually hard and compact, and often glazed or semi-vitrified, yellowish and greyish white in colour, sometimes reddish. The curious intertrappean beds of the Sagar, and the silicified trees which they contain, described by Mr. J. G. Medlicott, are the remains of lacustrine deposits, formerly accumulated in probably detached basins, and under conditions slightly differing in different places. The calcareous bands of the intertrappean rocks occur largely near Sagar. Iron-ore is found and worked at Hirapur, a small village in the extreme north-east. It is said to be of excellent quality, but at present only a few smelting-furnaces of the commonest native description exist. The greater part of the iron manufacture is sent to Cawnpore. Some of the sandstone is said to be equal to the English tiling stone. The population of the district amounts to 498,642 souls, of whom 220,070 are returned as agriculturists, and 278,572 as nonagriculturists. The best cultivators are Kurmi, Kachhi, Lodhi and Dangi. The artisans and handicraftsmen are chiefly the Lohar, Barhai, Kohri and Sunar. Except in some of the large towns, and the city of Sagar itself, the manners of the inhabitants generally are decidedly uncouth. The tribes most addicted to crime are the Lodhi, Bundela, Brahman, Khangar, Chumar and Kohri. They are mostly to be found in the borders of the district near native states, where they find protection and concealment if pressed by British police. On the whole the inhabitants of Sagar may be said to be a sturdy race. They are not high in stature, but they possess a fair share of stamina, muscles, thews and sinews. The houses are generally built of either stone, or stone and mud and are tiled. A few of the huts inhabited by the poorer classes, such as Chamar, Sunar Gond, &c., are thatched, with walls formed of wattle and dab; but every endeavour is being made to get them to build permanent residences, not subject to be destroyed by fire. In the beginning of the year A. D. 1818, by a treaty concluded between the peshwa Bajı Rao and the British government, Sagar with the greater part of

the present Sagar district Damoh, Jabalpur and Mandla, were made over to the British.

SAGAR. Colonel McMurdo quotes native authors to show, that the western branch of the Indus was called the Sagara river, which, he thinks, may be identified with the Sagapa Ostium of Ptolemy, which was also the most westerly branch of the Indus in his time. Now this channel passes about two or three miles to the south of Bhambura, so that the town was also accessible from the Piti, the Phundi, the Kyar, and the Pintiani mouths of the river. General Cunningham is of opinion that the northern channel of the Ghara was the western branch of the Indus, which was navigated by Alexander and Nearchus, and that before A. D. 200, its waters found another channel more to the south, in the southern Ghara which joins the main stream of the Indus just below Laribandar. By this channel, in the time of the author of the 'Periplus,' the merchant vessels navigated the Indus up to Barbarike, where the goods were unloaded, and conveyed in boats to Minnagar, the capital of the country. But after some time this channel also failed, and in the beginning of the eighth century, when the Arabs invaded Sindh, Debal had become the chief part of the Indus, and altogether supplanted Bhambura, or the ancient Barbarike. But though the Ghara river was no longer a navigable channel, its waters still continued to flow past the old town down to the thirteenth century, about which time it would appear to have been finally deserted.—*Cunningham's Ancient Geog. of India, pp.* 295-296.

SAGARA, SANS. An ocean. Ganga Sagara, the place where the Bhagarithi leaves the Ganges to the ocean.

SAGARA, a king who is fabled to have had 60,000 sons.

SAGARA RAJA, see Inscriptions.

SAGARGOTA, MAHR. Guilandina bonduc, *Linn., W. & A.*

SAG-DID, PERS. Dog-view. See Parsi.

SAGE.

King-kai,	CHIN.	Salbei,	PERS.
Tan san,	,,	Seys-elle,	TAM.
Salbia,	HIND.		

A perennial, native of the south of Europe, of Central Asia and China, it grows in all the gardens, and is propagated by seeds, layers, and slips without any difficulty. It is used for seasoning. Sage of Bengal, the Murtoo, BENG., are the leaves and herb of Meriandra bengalensis.—*Ben., p.* 223 ; *Smith.*

SAGE-LEAVED ALANGIUM, ENG. Alangium decapetalum, *Lam.*

SAGEN, GER. Saws.

SAGERETIA, a genus of plants belonging to the natural order Rhamnaceæ, found in S. and N. America, Java, China, and in India along the foot of the Himalaya.

SAGERETIA BRANDRETHIANA, *Aitch.*

Ganger, kanger,	Jhelum.	Mumani,	Trans-Indus.
Bhandi ; bajan,	Kangra.	Koher,	Ravi, Sutlej.
Maimana,	PANJ.		

A large shrub first collected by Griffith. It grows in Kaghan ; abounds in places, Trans-Indus, from 2,000 to 3,500 feet, and in the Salt Range, and occurs low in the Jhelam basin. The fruit is well-known in the bazaars of Peshawar and Affghanistan, it is small and black, and is very pleasant eating when fresh and in sufficient quantity, the flavour being not unlike that of the bilberry. In the Salt Range, a chatni is made of the fruit.—*Dr. J. L. Stewart.*

SAGERETIA HAMOSA, *Brongn.*

Rhamnus trigynus, *Don.* | Zizyphus hamosa, *Wall.*

A trailing plant of Nepal, *Voigt.*

SAGARETIA OPPOSITIFOLIA, *Brongn.*

Berchemia oppositifolia, *Wall.*
Zizyphus oppositifolia, *Wall.*
Rhamnus trigynus, *Don.*

Girthan,	Beas.	Kanak,	Kaghan.
Drange,	Ravi.	Gidarnak,	Kaghan.

A plant of the Dehra Dhoon, and in the N. W. Himalaya at from 2,000 to 3,000 feet in the outer hills. Its fruit is eaten.—*Drs. Voigt, Cleghorn and Stewart.*

SAGERETIA THEEZANS, *Brongn.*, is employed as a substitute for tea, in China, where the poor make use of the leaves in the same manner as those of the true tea, and for which it makes a good substitute from its astringency and fragrance.—*Voigt, Eng. Cyc.*

SAGES, see Rishi.

SAGETER, see Kelat.

SAGEWYN, see Pitt Strait.

SAGGA, see Inscriptions.

SAGGAR, also Baddi Kander, HIND., of Salt Range, Ehretia aspera.

SAGGINA, IT. Sorghum vulgare.

SAGHALEEN, of the Aino ; Isoka of Aborigines ; Oku Yesso of the Japanese ; Sachalien of the Russians ; the Karapto of old writers, also Ula-hata, also Augo-hata ; or Island of the Black River, also Amur ; Siebold and Keith Johnston call it Tarakai, but the usual name is Saghaleen from Sugaün, one of the names of the river Amur. The lips of the women are tattooed of a pale-black colour, they part their hair down the middle. They have metal ear-rings, and those on the coast wear silver-grey or spotted seal-skins, with long boots of the same materials. They have a leather waist-belt as a cestus veneris.—*Arthur Adams, Travels of a Naturalist in Japan and Manchuria, London,* 1870.

SAG-I-ABI, HIND., PERS. The otter of Bunnoo.

SAGIG, the name given by the Bisaya, to a variety of the Manilla hemp.—*Royle, Fib. Plants.*

SAGI MATTA, TEL. Agave americana, *Linn.*

SAGITTARIA SAGITTIFOLIA, the arrow-head, is one of the handsomest of British aquatic plants, whether as regards the elegant spear leaved canes of glossiest green, or the flower spikes rising in pyramidal form from the surface of the water. This plant is extensively cultivated among the Chinese, not for its beauty but for the sake of its edible rhizome, which fixes itself in the solid earth below the mud and constitutes an article of food.—*Art. Jour., p.* 108, *April* 1857; *Smith.*

SAGITTARIA SINENSIS.

Ts'ze ku, CHIN.

This plant is mentioned by Tatarinov as growing in China, but is also applied to the Chinese tulip species of Amaryllis or tulip.—*Smith.*

SAGIL, see Jakun.

SAGI MATTA, TEL. Agave americana.

SAG-KARM, or Sag-Karamb, HIND. Brassica oleracea.

SAG-LAHU, HIND., of Bunnoo, the otter.

SAGO.

Sagu,	MALAY, MALEAL.	Kwang-lang-mien,	CHIN.
Sagū-dana,	BENG.	Sagu, Sagu-chawl,	HIND.
So-muh-mien,	CHIN.	Show-arisi,	TAM.
Si-kuh-mi,	,,	Zow-bium,	TEL.

Sago, and starchy matter allied to it, is obtained from many palms. The starch is contained in the cellular tissue of the stem, and is separated by bruising and elutriation. From the soft stem of Cycas circinalis, a kind of sago is produced both in the East and West Indies. The finest is, however, procured from the stems of Sagus lævis *Rumph*, a native of Borneo and Sumatra; and Arenga saccharifera, *Labillardiere*; the Sagus farinifera *Gartn.* of the Eastern islands of the Indian Ocean, yields a sago. The starchy substance washed out of the stems of these palms is sago meal, and when it is granulated it forms the sago of commerce. The Arenga saccharifera also furnishes a large supply of sugar; sago, sugar, and palm wine, are procured from the Caryota urens: in China, sago is obtained from Rhapis flabelliformis, from which, also, sago is made for native use in Travancore, Mysore, and Wynaad, in the peninsula of India. The Cochin-China sago seems from Loureiro's account to be obtained from the Arenga saccharifera and Cycas inermis. According to Thunberg it is from the Cycas revoluta that the Japanese manufacture it. In the Moluccas, large quantities are obtained from the Sagus lævis, and Arenga saccharifera; a purious kind of arrow-root has long been made at Mergui from the same plant as that which yields the sago, but medical men have decided that it contains properties which render it unsuitable for the sick, and chemical analysis has developed that it contains only half the nutritious qualities of genuine arrow-root. The Malays prefer that of Sagus lævis, *Jack.*, Blume states that it is obtained from S. genuina. The Arenga saccharifera when exhausted of its saccharine sap, yields sago of good quality. In India, sago is obtained from the Phœnix farinifera and the Cycas circinalis. Bennet in his work on "Ceylon and its capabilities," (1843), states that sago is procured from the granulated pith of the talipot palm, Corypha umbraculifera.

Metroxylon filare, *Mart.*, a native of China, yields one of the inferior sago of commerce; as also does the Corypha gabanga, *Blume,* of Java.

The Sagus farinifera palm is grown in great perfection in some parts of Borneo, and its sago meal is exported in large quantities from the west coast to Singapore, and also by the Bugis boats from the eastern and southern sides of the island. In Borneo, the natives prefer rice, and the Milanowe, who live on the rivers Egan, Hoya, Mocha and Bintulu, who are the principal cultivators of the sago tree, always import considerable quantities of grain for their own consumption. The tree grows in marshy places, and rarely attains a greater height than thirty feet: as it freely produces offsets, the supply is easily raised. Amongst the Dyak, who grow rice, sago is very rarely used as food except in times of scarcity. The sago palm of the Spice Islands is the most plentiful but least esteemed, that of Siak on the north coast of Sumatra being the best, and that of Borneo second in estimation. Sago meal furnishes the principal food of the Javanese being baked into cakes, its native country is between Borneo, on the one side, and New Guinea on the other; Mindoro on the north, and Timor on the south; and though it is naturalised in other islands of the Archipelago, is never found beyond its limits. The process of extraction differs among many of the islands, as that of Mindoro from that of the Moluccas; so also does the size of the cake; those of Amboyna being four inches broad, and six long; while those of Ceram are much larger. The people of many of the islands live habitually on this nutritious substance. The mass of medulla extracted is immense; 600 pounds is not unusually afforded by a single tree; the

refuse, after the bread is made, is thrown in heaps from which, a delicate edible mushroom springs up, and in the heaps, as well as in the decaying wood, are generated worms of a white colour, held in great estimation among the epicureans of the Molucca islands. Certain wood-worms were in the same manner prized by the ancient Romans; and the taste of the Amboynese has been shared by Europeans, after a struggle with prejudices, which are indeed, mere matters of custom.

In most of the islands of the Archipelago the sago palms are private property and sell at about seven shillings a tree. Mr. Wallace tells us that in making sago meal, a tree is cut down close to the ground, the leaves and leaf stalks cleared away, and a broad strip of the bark taken off the upper side of the trunk. This exposes the pithy matter which is of a rusty colour near the bottom of the tree, but higher up pure white, about as hard as a dry apple, but with wooden fibres running through it about a quarter of an inch apart. This pith is cut or broken down into a coarse powder by means of a tool constructed for the purpose,—a club of hard and heavy wood, having a piece of sharp quartz rock, firmly imbedded into its upper end. By successive blows of that, narrow strips of the pith are cut away till it falls down into the cylinder formed by the bark, leaving only a skin, not more than half an inch in thickness. These pith strips are then put into a washing trough, made of the large sheathing vases of the leaves, and the strainer is the fibrous covering from the leaf stalks of the young cocoanut. Water is poured on the mass of pith which is pressed against the strainer and kneaded until all the starch is dissolved, and passes through into a trough with a depression on its centre, into which it is deposited, the surplus water trickling away. When the trough is nearly full, the mass of starch, which has a slightly reddish tinge, is made up into cylinders, neatly wrapped in sago leaves, and in this state is sold as raw sago. When this is boiled with water, it forms a thick glutinous mass, with a rather astringent taste, and is eaten with salt, limes and chillies. When sago bread is to be made, raw sago is broken up, dried in the sun, powdered and finely sifted. A small clay oven with 6 or 8 slits, ¾ of an inch wide and 6 or 8 inches square, is heated over a clear fire of embers, the powder is finely siften, the openings are covered with a flat piece of sago bark, and in about five minutes the cakes are turned out sufficiently baked. They are pleasant to eat. When not wanted for immediate use, they are dried for several days in the sun and tied up in bundles of twenty. They will then keep for years, can be eaten in that state, or soaked in water and toasted or boiled. A tree twenty feet long and four or five feet in circumference will produce nine hundred pounds and a pound weight will produce three cakes, and two of these cakes are sufficient for a man for a meal. Two men will finish a tree in five days, and two women will bake it all in five days more, so that for about 12 shillings, one man's food for a year will be had.

The *sago palm of Ceram*, has a midrib 12 to 15 feet long, used in lieu of bamboo. The lower part is as thick as a man's leg, entire houses are built of them, they form admirable roofing poles for thatch; when split and well supported they do for flooring, and when selected of equal size and pegged together side by side to fill up the panels of framed wood-houses, they have a very neat appearance, and make better walls and partitions than boards, as they do not shrink, require no paint or varnish, and are not a quarter of the expense. When carefully split and shaved smooth, they are formed into light boards, with pegs of the bark itself, and are the foundation of the leaf-covered boxes of Goram. The leaflets of the sago palm, when folded and tied side by side on the smaller midribs form the "atap" or thatch, in universal use, while the product of the trunk is the staple food of some hundreds of thousands of men.

In the *Moluccas*, the pith of the sago palm is prepared for use and exportation. It constitutes the principal food of the natives of the Moluccas, especially during their sea voyages. It is cooked by simply dipping the cakes into warm water which softens them, and renders them easily masticated. It is also made into a sort of soup.

The trunk of the *Sagus farinifera*, is five or six feet round, and it grows to the height of about 20 feet. It can only be propagated by seed. It flourishes best in bogs and swampy marshes; a good plantation being often a bog, knee deep. The pith producing the sago is seldom of use till the tree is fourteen or fifteen years old; and the tree does not live longer than thirty years.

Mr. Crawfurd says there are four of the sago palms, the cultivated, the wild, one distinguished by long spines on the branches, and a fourth destitute of these spines, and called by the natives female sago. This and the cultivated species afford the best farina; the spiny variety, which has a slender trunk, and the wild tree, yield but an inferior quality of sago.

The farinaceous matter afforded by each tree is very considerable, 500 lbs. being a

frequent quantity, while 300 lbs. may be taken as the common average produce of each tree. Supposing the plant set at a distance of ten feet apart, an acre would contain 435 trees, which, on coming to maturity in fifteen years, would yield at the before-mentioned rate 120,500 lbs. annually of farinaceous matter. The sago meal, in its raw state, will keep good about a month. The Malays and natives of the Eastern Islands, with whom it forms the chief article of sustenance, partially bake it in earthenware moulds into small hard cakes, which will keep for a considerable time.

The *Sagus farinifera* palm is one of the smallest of its tribe, seldom reaching to more than 30 feet in height, and growing only in a region extending west to Celebes and Bornéo, north to Mindanao, south to Timor, and east to Papua. Ceram is its chief seat, and there large forests of it are found. The edible farina is the central pith, which varies considerably in different trees, and as to the time required for its attaining proper maturity. It is eaten by the natives in the form of pottage. A farina of an inferior kind is supplied by the Gomuti palm, another tree peculiar to the Eastern Archipelago growing in the valleys of hilly tracts. Perhaps several palm trees contribute to produce the ordinary sagos of commerce.

The stem of Sagus farinifera, *Gærtner*, before maturity and previous to the formation of the fruit, consists of a thin hard wall, about two inches thick, and of an enormous volume of tissue (commonly termed the medulla or pith), from which the farina or sago is obtained. As the fruit forms, the farinacous medulla disappears, and when the tree attains full maturity, the stem is no more than a hollow shell.

Sago occurs in commerce in two states, pulverulent or granulated: 1, The meal or flour in the form of a fine amylaceous powder, whitish, with a buffy or reddish tint; odour faint, but somewhat unpleasant and musty; 2, Granulated sago of two kinds, pearl and common brown. The former occurs in small hard grains, not exceeding in size that of a pin's head, inodorous, and having little taste. They have a brownish or pinkish yellow tint, and are somewhat translucent. By the aid of a solution of chloride of lime they can be bleached, and rendered perfectly white. The dealers, it is said, pay £7 per ton for bleaching it. Common brown sago occurs in larger grains, about the size of pearl barley, which are brownish white.

Sago in its granulated form is that usually exported. The best sago is the produce of Siak, on the north coast of Sumatra. This is of a light brown colour, the grains large, and not easily broken. The sago of Borneo is the next in value; it is whiter, but more friable. The produce of the Moluccas, though greatest in quantity, is of the smallest estimation. The cost of granulated sago, from the hands of the grower or producer, was, according to Mr. Crawfurd, only a dollar a picul of 133⅓ lbs. It fetches in the London market—common pearl, 20*s.* to 26*s.* the cwt., sago flour, 20*s.* the cwt. The Chinese of Malacca and Singapore have invented a process by which they refine sago, so as to give it a fine pearly lustre, and it is from thence supplies of this article, are now principally derived. The exports from Singapore in 1847 exceeded 6½ million pounds. The imports into Great Britain in 1847, 1848 and 1849 were respectively 1,930 tons; 2,758 tons, and 3,275 tons. A considerable quantity of sago is, however, exported from Singapore in the state of flour. The whole quantity made and exported there exceeds, on the average, 2,500 tons annually. The estimated value for export is set down at 14*s.* per picul of 1¼ cwt. The quantity shipped from this entrepot is shown by the annexed returns, nearly all of which was grown and manufactured in the settlement.

		Piculs.			Piculs.
1840-41,	Pearl sago.	41,146	1843-44,	Sago flour,	14,067
,,	Sago flour,	33,552	1844-45,	Pearl sago,	18,472
1841-42,	Pearl sago,	46,225	,,	Sago flour,	36,141
,,	Sago flour,	7,447	1845-46,	Pearl sago,	19,333
1842-43,	Pearl sago,	25,306	,,	Sago flour,	26,925
,,	Sago flour,	4,838	1846-47,	Pearl sago,	40,765
1843-44,	Pearl sago,	14,266	,,	Sago flour,	9,025

The imports of sago, into the United Kingdom rose from 483 tons in 1826, to 4,494 tons in 1850 and the quantity retained for home consumption from 128 tons to 4,197 tons, in the same period.

Sago is now an extensive article of diet, contributing largely to the food of the nursery, the diets of the invalid and the delicacies of the tables of the rich; wheat; sago and rice are great food staples in the world.

Calamasagus laciniosus, *Griffiths*, is supposed also to yield sago, but that known as "Mergui sago" is manufactured from the Tacca pinnatifida. Sago of Mergui may be seen in every bazar in the Tenasserim Provinces, it is the produce of an indigenous plant abounding along the sea shores, the islands, and especially at Mergui—a species of tacca, the same plant, that is common in the South Sea Islands, whose tubers there supply to the inhabitants the place of bread. Considerable quantities of sago are made at Mergui. A sago was also exhibited in the Madras Exhibition of 1855, made from the Cycas circinalis. The pith of Caryota urens is much used as sago meal in Canara, when fresh, and deserves attention. Sago is obtained in Cochin from a palm called koota

pana, and sells there for 2 annas a pound, and in Cochin, the date palm flour and seed is called Eenthalkurroo. The best sago is made at Cochin from October to June, as in its preparation bright sunshine is required to mature the operation. The 1st sort may be delivered on the sea coast at Rs. 4½ per maund (25 lbs.), the 2nd sort Rs. 2¼ per maund. Sago is made in Malabar from the pith of the Talipot palm, the Corypha umbraculifera. In Java, the Arenga saccharifera is the only source of sago, which is used in considerable quantity in the western and poorer districts of the island and is offered for sale in all the markets. It is smaller in quantity than in the pith of the true sago-tree, more difficult to extract and inferior in quality: possessing a certain peculiar flavour from which the farina of the true sago is free. Some trees will produce five or six female spadices, before yielding a single male one, such trees are considered unprofitable by the toddy collectors, but in this case it is said that they yield sago equal in quality, though not in quantity, to the Cycas circinalis, from which, both in the East and West Indies a kind of sago is procured. One tree yielded about 150 lbs. of good sago meal. The farinaceous part of the trunk of old trees, of the Caryota urens or kittul palm is manufactured into sago, equal to the best farina, being highly nutritious. It is said, indeed, to be equal to that of the true sago palm. A farina is prepared in Brazil from the inside of the trunk of the "Carnauba," Copernica cerifera. The pithy portion of the trunk of the Gebang palm, Corypha gebanga, *Blume*, yields a sort of sago, as also that of the Sabal adansonii, the sago palm of New Ireland. The Encephalartos is called "Caffir Bread." The seeds of Dion edule, in Mexico, yield starch, and in the Bahamas and other West Indian Islands, a sago is obtained from a species of Zamia.

China.—Sago is brought to China to some extent in native vessels and is said to be the produce of the Sagus farinifera which grows in Sumatra and on the western side of Borneo.

Archipelago.—Crawfurd tells us that in the Eastern Archipelago, there are supposed to be five palms producing this article, of which the most frequently cultivated are the Sagus farinifera, rambaya, Malay: and the Sagus lævis, bamban, Malay. Sago trees are found in every part of the Malayan Archipelago and Philippines as far as Mindano, wherever there is a genial soil for them, and this soil consists of a marsh or bog, composed of decayed land and vegetables, near the sea but excluding tidal action. They are most abundant in the eastern parts of the Malay Archipelago at the Moluccas and neighbouring islands, with New Guinea and Borneo, and, in the Philippines, Mindano. All these palms yield an immense quantity of farina, the wood being a mere shell containing a mass of medulla, and the sago from them is more or less the food of the inhabitants of the Archipelago. Some sago trees propagate by lateral shoots, as well as by seeds, and only produce fruit once, after which they die. From the first of their properties, a sago plantation once formed is perpetual. When a plantation has once arrived at maturity there will be a constant harvest. The trees are cultivated in small patches, and a man and his family can manage a plantation of about 400 trees, in a space of 100 square fathoms. The trees are cut down immediately before bearing fruit, which is usual about the age of 15 years. The sago tree when cut down and the top severed from it, is a cylinder about 20 inches in diameter and from 15 to 20 feet in height. Assuming this to be the average, the contents will be nearly 26 bushels, and allowing one-half for woody fibre, there will remain 13 bushels of starch, which will give about 700 pounds for each tree, or 12½ bushels. It may give some idea of the enormous rate of this produce, if it be considered that three trees yield more nutritive matter than an acre of wheat and six trees yield more than an acre of potatoes. An acre of sago, if cut down at one harvest, will yield 5220 bushels, or as much as 163 acres of wheat, so that according as we allow 7 or 15 years for the growth of a tree, an acre of sago is equal in annual produce to 23 or to 10 acres of wheat. Up till 1814 the Archipelago used to export small quantities of the granulated form of sago, of a dirty brown colour, but about the time when the trade with Europe was first thrown open, the Chinese of Malacca began to prepare a much superior article known in commerce under the name of pearl sago. Of this and sago flour, or the ungranulated starch, Singapore is at present the chief place of manufacture and principal mart, the Chinese being the sole manufacturers, and the raw material being brought from various neighbouring countries, but chiefly from the north-western coast of Borneo and the north-eastern of Sumatra, with its adjacent islands from Siak to Indragiri. In the years 1847-48, the quantity of sago exported from Singapore was about 80,000 cwt., worth on the spot about £45,000.

In most parts of the Archipelago two kinds of alluvial soil are found in greater or less abundance, one consisting chiefly of sand often thrown up in long banks, and the other principally of decomposed vegetable

matter. The latter is often a consequence of the production of the former, which serves to keep out the waves of the sea, and allow a rank vegetation to flourish. In process of time, by the elevation of the surface and the extension of a similar formation seaward, the older marshes are no longer subject to tidal invasion, and become gradually filled up by the decay of fresh water plants. For these two descriptions of soil nature has provided two kinds of palm adapted in wonderful manner to the necessities of man. On the barren sand she has planted the cocoanut, and in the morass the sago tree.

Along the immense alluvial tract of the Sumatra coast from Siak to the Lampongs, and in the large plains of the rivers of the peninsula such as those of Rio, Formosa and the Muar, are hundreds of miles of sago land unoccupied and unproductive, every acre of which is capable of yielding at the rate of about twenty thousand pounds of meal yearly.

One or other of the kinds of the sago tree is found throughout the whole length of the Archipelago, from the islands off the west coast of Sumatra to New Guinea. It is probably capable of flourishing with complete vigour across nearly its entire breadth where-ever its natural soil occurs, and certainly within ten degrees north and south of the equator, a band which includes all the Archipelago save the Philippines. The only countries however, where it is found growing in large forests are New Guinea, the Moluccas, Celebes, Mindanao, Borneo and Sumatra, being widely spread over the Moluccas, but confined to particular parts of the others.

In the eastern parts of the Archipelago it forms in many places the chief portion of the inhabitants food. The sago palms do not appear to be indigenous in Sumatra and the Malay Peninsula.

Moluccas.—Amongst all the trees which we have yet mentioned, says Valentyn in his account of the vegetation of the Moluccas, there is none more useful to the Amboynese than their sago tree. It shows itself at first, and for a long time afterwards, merely as a bush or shrub, consisting of different upright branches which are about 15 or 16 feet high, green, concave in the inner side, convex on the outer, and smooth. On the lower part of these, long small thorns are seen, which stand in order above each other like needles, the middle being always the longest. The leaves, which are very long and small, stand out on both sides of these branches, are longer, broader, and thinner than those of the cocoanut, and have on the sides soft, erect spines. In due time there rises from this bush a stem, which having reached twice the height of a man, gradually looses its thorns except those above, which also afterwards gradually fall off. The branches which become tolerably thick, have a broad base called gururu, about three feet long and a foot broad, being almost like a gutter which surrounds the stem and the next branch, and decreases to its top. The upper part of the branch is called gabba gabba and is about the thickness of the arm at its top and much thicker below. So long as the stem is immature, thorny branches at the bottom protect it from the wild hogs who would otherwise fatten on the meal. It gives no fruit until all its strength is expended and its death approaches, and when the branches are strewed with meal, at which time small fruits like round pigeon's eggs show themselves in great number at its top, like a crown. These are green, and when ripe sour, and they finally become yellow. This appears to be Sagus farinifera, Sumatra and Malacca, Dr. W. Jack, in his notice of the Sagus lævis, says it rises to the height of about twenty feet, and is generally surrounded by numerous smaller and younger plants which spring up around it after the manner of the plantain or Musa sapientum. The stem, which is about as thick as that of the cocoanut tree, is annulated by the vestiges of the fallen leaves, and the upper part is commonly invested with their withered sheaths. The leaves resemble those of the cocoanut, grow more erect, and are much more persistent, so that the foliage has not the same tufty appearance, but has the more graceful ascending curve of that of the Sagus farinifera ; they are pinnate, unarmed ; the leaflets linear, acute, carinate, and smooth. That tree is from fifteen to twenty years in coming to maturity, the fructification then appears, and it soon after decays and dies. The inflorescence is terminal ; several spadices rise from the summit of the stem, enveloped in sheaths at their joint ; and alternately branched. It is on these branches that the flowers and fruit are produced, and they are generally from five to eight inches in length. They are of a brown colour, and closely imbricated with broad scariose scales, within which is a quantity of dense feruginous wool, in which the minute flowers are imbedded and completely concealed. Each scale supports two flowers which are hermaphrodite, and scarcely larger than a grain of turnip-seed. The perianth is six-leaved, of which three are inferior, the leaflets nearly equal. Stamina six, filaments very short ; anthers long, two-celled. Ovaria three, connected together in the middle, each monesporus. Style none, stigma small. Fruit single, nearly globular, somewhat depressed at the summit but with a short, acute, mucre

or point in the centre ; it is covered with scales which are imbricated from the top to the bottom, and are shining of a greenish straw colour, of a rhomboidal shape, and with a longitudinal furrow down their middle. Below the scales the rind is of a spongy consistence ; and the fruit contains a single seed, of rather an irregular shape ; and having the umbilicus situated laterally a little above the base of the fruit. The progress of the fruit to maturity is very slow ; and is said to occupy about three years from the first appearing of the spadices to the final ripening of the fruit. During the period of inflorescence, the branches of the spadix are brown, and apparently quite bare. Afterwards a number of small green knobs appear above the brown scales, which grow enlarging till they at length acquire the size of a small apple. But few fruit come to maturity on each branch. In habit and character this tree recedes considerably from the true Palmæ. Its propagation by radical shoots, exactly in the same manner as the common cultivated plantain, is peculiar, and is not observed in the true palms. The terminal inflorescence and death of the tree after fructification is another peculiarity. It is allied to Calamus by its retroversely imbricated fruit.

This species of the sago tree is abundant in many parts of Sumatra and at Malacca, and is employed in the preparation of sago for food. Considerable quantities are made at the Peggy Islands, lying off the west coast of Sumatra, where in fact it forms the principal food of the inhabitants. The sago of Siak is remarkably fine, and is also, I believe, the produce of this species. At the Moluccas the spinous sort is considered superior to this. The Sumatra plantations contains three sago palms, one spinous both on the trunk and leaves "rumbia" (Sagus konigii) ; one spinous on the leaves only, "sanka ;" and the other without spines "bumban," which appears to be the female sago in the Moluccas and the sagus lævis of botanists. Valentyn says the meal of the female sago does not keep so long as that of the other species.

Manufacture in Amboyna.—The native mode of preparing sago, which comes entirely within their reach and understanding, was taught to the Amboynese by Rumphius. Before his time the Amboynese like the natives at this day at various places on Ceram and Buru, and also elsewhere as on the west coast of Sumatra, used the sago mixed with the ela. The recollection of Rumphius amongst the Amboynese, was long continued, accompanied by a true recognition of the value of this most necessary mode of preparing an article of food which nature has so bountifully bestowed.

A good sago tree produces about 25 tumang of meal, which being sold at from 0·75 to 0·80 k. gives the manufacturer a good profit. The natives of the Moluccas prepare the meal in different ways, chiefly however, as a hard bread, which, if kept dry, may be preserved as long as ship's biscuits, and is called sago "lemping." The meal after having been dried for two or three days is sifted until it becomes tolerably fine but remains somewhat adhesive. It is then formed into small flat cakes which, to the number of 7 or 8, are placed in a mould of red earth and baked to the proper degree.

The sago bornek or Borne the granular sago, is dried for a shorter period, then sifted, and shaken by two men in a piece of cloth until it granulates. It is then smeared with fresh cocoanut oil and heated in an iron pan (tatyu) until it attain a certain degree of hardness, after which it is placed in the sun to dry.

A third mode of preparation is the sago tetu-pala. The meal is aired until it become red, when it is sifted, and stuffed into an entire fresh bamboo, which is placed in different rows above a fire until it bursts and the sago is roasted. Sago thus prepared may be preserved a long time if kept dry.

The fourth mode is the "sago buksona." The meal is mixed with grated santang kalapa, sagar, and a little pepper and salt, enveloped in young sago leaves, and boiled in water.

To make the "sago bagea or kwee bagea," the meal, after being dried in the air to redness, is sifted, mixed with fresh kanari kernels and then baked in young sago leaves. "Sago baruwa" are small sago cakes of different forms. The "sago sinale" is the meal baked to a cake in a pot. The "sago uha" is the meal enveloped in fresh sago leaves and baked on the fire. "Sago kalapa," like the lemping, is baked in moulds and mingled with much grated santang kalapa ; the outside is smeared with gula areng, and it is eaten warm. Sago kalapa is even preferred by Europeans to bread at breakfast, and ranked as a dainty. "Papeda," "sago bubur or pap" is prepared in the same way as arrowroot.

Moluccas.—With the native of Moluccas, over and above extracting from it a wholesome and abundant article of food, no part of the sago tree is lost or suffered to remain unappropriated. The branches, dried and cut to lengths of 6 to 10 feet, and in the state called gaba gaba, soon gain a fine brown, shining colour ; the hard shell preserves the spongy interior from destruction when it is not exposed to rain and humidity. The houses are partly and sometimes wholly made of gaba gaba ; the best are those of which the framework is of wood and the sides of gaba gaba. The branches

having a concave and a convex side are fastened to each other by small pins, and make as good a wall as planks. Instead of a wall round the yard they also use the gaba gaba, which is made to rest on a low frame work or foundation of stone, and is protected above, by a little atap copping. The gaba gaba placed on a wooden framework generally lasts from 10 to 15 years. The leaves of the tree, while still green, are made into atap, and serve to cover dwellings. When well laid on they last about 7 years. The bark of the tree furnishes a valuable fuel. The stalk of the leaf gives the well known "sapu lidi," like that of the cocoanut and gomuti. The hard rind or bark of the thicker or lower side of the branch-stem is made into a kind of bucket called gururu, in which the saguwero liquor is collected. From the extremity of the branch, while it is yet very young and green, they prepare a kind of kadas which is used for the sails of native vessels and of orembaai, and also for making the thick and middling sails called ayia ayia. The root of the tree which has been cut down produces new shoots, and is therefore not dug out. The Moluccas produce five kinds of sago trees, viz., sagu-ihar, with all its leaves depending and full of thorns; sagu-tuni with horizontal leaves and less thorny; sagu-molat, entirely divested of thorns; sagu-makanaru, with leaves somewhat bent down, and sagu-rottan, like the last, but with a stem much higher than the other kinds. Forrest and his crew, during the voyage in the Tartar Galley lived much on sago, and his experiences as an actual sago-eater in the Moluccas, enable him to speak with knowledge and discretion. The following remarks by him will therefore complete the notices of sago in the Moluccas. One tree will produce from two to four hundred weight of flour. I have often found large pieces of the sago tree on the sea shore, drifts from other countries. The sago thus steeped in the salt water, had always a sour disagreeable smell; and in this state, I dare say, the wild hogs would not taste it. The leaf of the sago tree makes the best covering for houses, of all the palm kind. Those trees of the palm kind, have all a heart like what is called the cabbage tree; even the head of the common ratan has a small cabbage, of which I have eat. The sago tree thatch will last seven years. Coverings of the nipa leaf or common atap, from the nipa fruticans, such as they use on the south-west coast of Sumatra, will not last half the time. When sago trees are cut down, fresh ones sprout up from the roots. In Europe, sago is seldom or never seen but in a granulated state. To bring it into this state from the flour, it must be first moistened, and passed through a sieve into a very shallow iron pot held over a fire, which enables it to assume a globular form.

Thus, grained sago is half-baked, and will keep long. The pulp or powder, of which it is made, will also keep long, if preserved from the air, but, if exposed, it presently turns sour.

The Papua oven, for this flour, is made of earthenware. It is generally nine inches square, and about four deep: it is divided into two equal parts by a partition parallel to its sides. Each of those parts is subdivided into eight or nine, about an inch broad; so the whole contains two rows of cells, about eight or nine in a row. When the cell is broad, the sago cake is not likely to be well baked; the best sized cell is such as would contain an ordinary octavo volume upon its edge. When they are of such a size, the cakes will be properly baked, in the following manner. The oven is supposed to have at its bottom a round handle, by which the baker turns the cells downward upon the fire. When sufficiently heated, it is turned with the mouths of the cells up, and then rests upon the handle (which is now become the bottom) as on a stand. When the oven is heating, the baker is supposed to have prepared his flour, by breaking the lumps small, moistening it with water, if too dry, and passing it once or twice through a sieve, at the same time rejecting any parts that look black or smell sour. This done, he fills the cells with the flour, lays a bit of clean leaf over, and with his finger presses the flour down into the cell, then covers all up with leaves and puts a stone or piece of wood at top, to keep in the heat. In about ten or twelve minutes, this will be sufficiently baked, according to their thickness; and bread thus baked, will keep, several years; kept for twelve months, vermin did not affect it. It may not be amiss to mix a little salt with the flour.

Sago bread, fresh from the oven, eats just like hot rolls. Forrest grew very fond of it as did both his officers. If the baker hit his time the cakes will be nicely browned on each side. It the heat be too great, the corners of the cakes will melt into a jelly, which, when kept, becomes hard and horny; and, if eat fresh proves insipid. When properly baked, it is in a kind of middle state, between raw and jellied. A sago cake, when hard, requires to be soaked in water, before it be eaten, it then softens and swells into a curd, like biscuit soaked; but if eat without soaking (unless fresh from the oven) it feels disagreeable, like sand in the mouth. Agriculture is neglected in a country, where the labour of five men, in felling sago trees, beating the flour, and

instantly baking the bread will maintain a hundred; my crew says Forrest, would have preferred rice; and when my small stock of rice, which I carried from Balambangan, was near expended, I have heard them grumble, and say manti makan roti Papua, "we must soon eat Papua bread." But as I took all opportunities of baking it fresh, being almost continually in port, they were very well contented. The sago bread intended for immediate use, need not be kept so long in the oven as what is intended for sea use, in which it may be said to resemble biscuit. I have, he says, often reflected how well Dampier, Farnel, Roggewein, and many other circumnavigators might have fared, when passing this way in distress for provisions, had they known where to find the groves of sago trees, with which most islands here in low latitudes abound; Morty, near Gilolo especially. Fresh bread made of sago flour, and the kima (a large shell fish like a cockle) would have been no bad support among the Moluccas. The kima is found in abundance, of all sizes, at low water, during spring tides, on the reefs of coral rocks. From experience, I equal says he, the fresh baked sago bread to wheat bread; and the kima stewed, is as good as most fish, nor does one tire of it; but it must be stewed sometime, or it will not be tender. Its roe will sometimes weigh six pounds; the fish altogether, when cleared of the shell, weighing twenty or thirty pounds.

The Sago of Sumatra.—The Singapore Chronicle mentions that low marshy situations shut out, but at no great distance from the sea, and well watered by fresh water seem most productive. The soil in such situations to the depth of several feet is generally a flaccid mould, composed chiefly of decayed vegetable matter and extremely pervious to water; below the above depth a stratum of marine formation generally exists. According to Sir Stamford Raffles, in Java this tree is found only in a few low marshy situations, all of them being deep bogs, next to impassable to one unaccustomed to such walking, and the preparation of sago from the nature of the soil in the places we have mentioned is very similiar, cutting down and burning the jungle is all the preparation required previous to planting the palm, at about 5 fathoms apart, which is best done from the seed, a small black nut, about the size of a pullet's egg. Plantations have been tried from the suckers, but the injury sustained by their roots in the separation from the parent stem has invariably retarded their growth above a year. From seven to ten years is the time it takes for the tree to bear fruit, when planted from the seed in the first instance; the pith commences generally at about the age of 6 or 7 years; after this period, it gradually loses its moisture, and is no longer fit for sago when the tree comes into bearing. Sago is cultivated in large patches, divided into lots the property of individuals, and as much as one man, his wife and family choose to look after: which is not so much as they could, if they would, attend. One man as above can manage 100 fathoms square, upon this he plants 400 seeds, and subsists himself for the first 6 or 7 years on his means, not unfrequently leaving the trees to take care of themselves. Marsden says, that sago is but little used by the Sumatrans, and Crawfurd presumes that in this, or the western part of the Archipelago, the sago palm is an exotic. It does not seem to exist in the native wild state to the westward of Borneo. The best sago produced in the western islands of the Archipelago, is from the islands of Appong and Panjang, which form the east bank of Brewer's Straits or properly Salat Panjang, and next in quality, is that from the rivers Mandha, Kataman, Goung Egal, Plandok, and Anak Sirka, lying between the Kampar and Indragiri rivers, on Sumatra, or Pulo Percha, as it is called by the Malays. Of least value is the produce of the islands of Buru, Ungah, and Kundor, in the straits of Dryon or Salat Duri. The sago palm is found in several other places in small quantities, but is seldom cut down by the lazy possessors of it, to whom it probably descended through a long line of equally sluggish ancestors, from some Inchi of Zaman daulu, who had better notions when he planted it: each tree throws out from 10 to 20 suckers, which increase so rapidly that the owner is obliged to thin them constantly. A good tree yields from 40 to 50 tampin, and the worst ever cut down about 25; this is on Appong. The tampin of Appong is to that of Mandha as 4 is to 5. It is a rough measure made of the leaves of the sago tree of a conical form, 20 to 30 inches long with a base of about 8 inches diameter, both ends of this are stuffed with the refuse pith to prevent the escape of the farina, and the tampin of Appong holds on an average 19 pounds avoirdupois—thus 7 tampin very nearly equal a picul of 133½ lbs. avoirdupois. The sago of each place, differs but a little in quality, 100 tampin of Appong may always be purchased on the spot, cheap or dear at other places it matters not, for 6-1-4 real or Sp. Drs. 5-12, as a Sp. Dr. or a real is the same thing with them and both go alike for 244 doit or 82 cents of a Sp. Dr. of Singapore. If the person in quest of sago take doits, they must be of the small kind, but thick. At Mandha, on the same principle

the same number of tampins may be had for Sp. Drs. 9·61. Now the Appong measure yields 14 piculs, 29 catties; and the Mandha 17 piculs 86 catties; being a difference against Appong of Sp. Drs. 2·61, and all because they say it has been the adat or custom to sell it so.

One person is sufficient to clear the underwood away as it grows up in every lot of 100 fathoms square. The whole family are however fully occupied when they cut down the trees for manufacture which is always done on the spot where the tree is felled. They prepare the number of tampin or measures required for the reception of the sago in the first instance, and put them out to dry; they then fell the tree, and split it in halves by means of wedges, build a temporary house over it and dig out the pith with hoes made from the rind of the tree. They then carry the pith up into the house; the floor of which is latticed so close as just to allow the finer parts of the medulla to pass through on being wetted with water and trodden by the feet. Into this house the produce of two or three trees is brought at a time, and all the finer parts are carried down by the water into the trunks of the trees, though 3 or 4 feet in diameter, which are cleanly hollowed out and left below to receive it. In order that no wastage may take place, they lead a mat, made also of the leaves of the palm, from the floor of the work-shop down into the shells of the trees, and this carries the water without spilling any. They trample it until the water passes through clear of the farina, and then throw away the refuse, merely keeping sufficient to stuff the ends of the tampin. By the next day, the medulla has settled in the trunks of the trees, leaving the water at the top; this is drawn off and the sago flour thrown in its wet state into the tampin already prepared, and left to strain itself: some refuse pith is then put on the end, before left open, of the base of the cone, and the work is done. The shell of the tree is cut up for firewood or in slips and thrown into the marsh, to facilitate its carriage down to the boats waiting for it. This is always the sellers duty. Sago once made is obliged to be kept wet or it would spoil in a few days; again, kept constantly wet the tampin leaves soon rot; cultivators cannot therefore keep a stock ready, but at great risk. They have a method of frying the meal over the fire called there sago randang, which sells for a real or 82 cents of a Sp. Dollar, for 16 of their gantong are equal to 20 of Singapore or one picul. This, however, will not keep long; as damp throws it all into a glutinous mass and in a short time spoils it. At Appong the sago is made by Orang Utan or people of the woods, who speak a jargon of Malay, are not mahomedans, and eat the hogs, deer, &c., with which their island abounds. The maritime Malays who visit them for sago, are obliged to be always upon their guard, and not unfrequently wait two months for a cargo of a few hundred tampin; if they take money to purchase they get it much quicker, but require additional caution in making advances. Most of these people are dependants of Siak and Campar, the chiefs of the former place practising a system of extortion and rapine enough to induce any other class of people less accustomed to it to desert the place: some manage to make their escape. The cultivators in the other places are Malays and much superior, though their exports are severally less, and trafficing with them is not so dangerous or uncertain. Appong has 350 souls employed and could produce 3,000 piculs. This would afford under all the disadvantages at which they sell it Sp. Dollars 1,024 per annum, a sum quite adequate to the demands for foreign luxuries of people who do not eat rice, and live upon the produce of their woods.

Siak.—The people of Siak were the chief importers of sago into Malacca, whence erroneously it got the name of Siak sago, described as the best by Crawfurd: Siak itself exports no sago.

Malays all agree that the cultivation of sago is the most profitable of agricultural pursuits, not yielding even to the cultivation of rice by Sawas, for once in bearing the trees are, ad infinitum, equally profitable and require little or no labour. It has been calculated that the profits of an English acre when the trees were once fit to cut would amount on a low estimate to 50 pounds sterling per annum after paying all expenses. The maritime Malays, who are almost the sole importers of sago, are enabled generally to realize from 80 to 120 per cent. on their cargoes: they are seldom ten days at sea, and notwithstanding the occasional detentions and annoyances they experience in carrying on this traffic, must, with few exceptions, be well recompensed. Allowing an absence of two months, in a boat of two coyan, and five men, bringing back four hundred tampin, they have a clear gain on their return cargo of 17 to 26 dollars according to the state of the market, giving each person a profit as wages, when sago is in demand, of two and a half Spanish Dollars per month, and putting aside 50 cents for wear and tear of the boat, a sum quite adequate for this purpose—independent of the preference which people bred up to a sea-faring life generally give to it over all other modes of more profitable subsistence, and setting aside the chance of a gain which they have on

their cargoes imported into the sago districts. The rude inhabitants of Appong, by calculation of their wages of labour and profits of stock, on a reduced scale compared with their more civilized and wealthier neighbours, the Malays of Mandha and other places, have contented themselves with an average rate about 30 per cent. less, evidently arising from their poverty and barbarous condition.

Pearl Sago.—The greater number of the Singapore manufactories are placed on the flat ground between the basis of Pearls and Oo Long's hills and the winding and branching creeks and canals of the Singapore river, a situation admirably adapted for them, for the creeks bring the sago boats up to them in front and the hill supplies them from behind with an abundance of pure water. To procure a constant supply, wells are dug on the lower slope of the hill, and the water is led into the manufactories by a succession of wooden troughs having their bottoms lined with clay and which are supported by cross sticks fastened at the place of contact by rattan. The essential features of every manufactory are, the landing place where the sago is taken from the boats to a rude shed, where it is removed from the sago leaves in which it is enveloped, a second shed where it is purified, and the large house where it is formed into pearl sago. Besides the tables, furnaces, and bins required for the sago, the latter contains the beds, stools and dining tables of the workmen, and occasionally heaps of boxes. Hitherto it has been an atap shed roughly put together and often only partially closed at the sides. But some of the more wealthy manufactures are now raising substantial edifices of brick and tile, and it is to be hoped will also introduce into their establishments a little attention to cleanliness and comfort. At present the mass of decomposing vegetable matter which surrounds the sheds produces a sour disagreeable smell. The sago leaves and refuse accumulating in some places for the last 30 years, have there formed extensive beds, spongy at the top and solid below six or seven feet in thickness.

The tampins having been placed in heaps in the shed, the first step is to open them, cast the contents on a plank frame about 12 feet square, surrounded by a rim rising about 2 inches from the surface. The sago, massed together by having remained compressed in the tampin, is here broken up by the common chankal, a kind of hoe.

The raw sago having been thus made ready for the manufactory, the first process to which it is subjected is that of a thorough washing, without which it would remain impure and coloured. For this purpose strong tubs are employed, about 32 inches deep, 40 inches in diameter at the top and 6 inches more at the bottom ; they are bound by three hoops, each formed of about six thick rattans twisted together. A piece of thin coarse cloth is fastened by its four corners over each tub when used, and hangs loosely into it. The moist sago being poured into this strainer, and there broken and bruised by the hand, is agitated until all its fine particles pass through the cloth and descend to the bottom of the tub, while the fragments of leaf, fibre and other impurities which remain in the cloth, are shaken into a round mass, which is taken up in a bowl and thrown aside. The rapidity and deftness with which this and all the other manipulations are performed are very striking. The sago is next stirred about with an oar for about an hour, after which it is left to stand for about 12 hours, when the water is ladled out, and the sago, which fills about half the tub, is removed to undergo the last purifying process which precedes the granulation. This is performed in a mode at once simple and ingenious, the same principle being availed of which serves the gold and tin miners of the Archipelago to clean the ore ; the more precious matter happening, in all three cases, to be heavier than that with which it is mixed ; and being thus readily separable by the action of running water.

Two tubs are placed at a distance of ten or twelve feet from each other, and connected by two troughs raised by a framework above them. These troughs are about 10 inches deep, 14 inches broad at the top and 11 at the bottom, one end being closed, and the other open, but having grooves in its sides and bottom, like those of a sluice, into which a series of horizontal pieces of wood or sticks fit, each being about ⅜ths of an inch in thickness. The end of a piece of cloth of the breadth of the trough being placed over the grooves at the bottom, the shortest of the sticks is pressed down upon it, and the cloth, thus fastened, is made to hang down over the edges of the trough into the tub below it. The tub at the other end now receives the sago to about two-thirds of its depth, when it is filled up nearly to the top with water. A man now stirs up a portion of the sago with an oar till the water obtains a milky appearance, when he proceeds to pour it into the troughs. To prevent its falling abruptly, an inclined piece of wood, eight inches broad, is fixed across the trough, so as to leave only a narrow slit between it and the end of the trough. The water is poured on this, descends into the trough, and slowly flowing to the other end deposits a portion of the sago in its progress. The suspended cloth, becoming saturated,

serves at once to maintain and equalize the overflow of the water into the tub below it. When the water is poured in, the first waves advance rapidly and carry away much of the sago, but those that succeed deposit the greater part of their more solid contents, transporting into the tub only the lighter fibrous particles which it is the object of this operation to separate from the farina, and by the time the man has performed a similar service at the other trough, and is ready to pour a fresh supply into the first, the water flowing down the cloth has lost its whiteness. This process is continued until the deposit rises nearly to the level of the stick, when the sago next to it, which generally contains some impure sediment, is taken up with the fingers and thrown into the tub. The second stick is now fixed above the first, a fold of the cloth being interposed between them to prevent any liquid sago escaping through the seam, and the operation goes on as before. When the milk in the upper tub begins to grow shallow, it is again filled up with water and more sago stirred up and mixed with it. During the interval and at other more prolonged interruptions the water in the troughs has sometimes time to deposit all its contents, the last being a fine fibrous matter which, if not removed, would leave a thin yellow layer. The surface is washed with the hand until this layer is effaced and held in suspension. When the troughs have been gradually filled up in the manner described, by succession of deposits, and the wall built up to the top by the last stick, the sago is left to consolidate for 12 or 14 hours. The farina which passes out of the troughs in the current is afterwards thrown into one of the tubs whose contents are to be washed and deposited in their turn, and some of it may even be destined to pass through the process many times before it sinks in the trough. In order to give it the degree of dryness required, it is removed from the troughs and exposed for one day to the sun in lumps about a cubic foot in size, which are placed on tables standing in the open air. Large kajang, which are mats made of the leaf of the mang-kwang, are kept in readiness to cover it when a shower of rain falls. It is next carried to the large shed where it is thrown in a heap on a long table and broken down into a pulverulent state. It then passes through an oblong sieve, 30 inches by 20 inches, of which the bottom is formed of parallel fibres from the stem of the cocoanut leaf, kept in their positions by strings which cross them at distances of about 2 inches. The lumps which do not pass through the long interstices between the fibres are thrown back into the heap. The granulation or pearling now takes place. The sifted sago is placed in a cloth of which the ends are tied to a long stick and which is kept expanded in a bag shape by a short cross stick. A horizontal vibratory motion is given to this, the whole mass being kept in constant agitation, and every part successively driven along the sides of the bag. Some experience is required in drying the sago to the proper degree preparatory to granulation. If under-dried or over-dried it will not granulate. This lasts for about a minute, when the new granular sago is again passed through a sieve similar to the preceding one, but the smaller grains which pass through are those which are now rejected. Those that remain are transferred to a circular sieve, of which the bottom is formed of fine stripes of bamboo crossing each other. The grains that pass through the square holes thus produced form the pearl sago of commerce in the unroasted state. Those that are larger than the holes are thrown back into the heap to run through the same course again. To assist the men, the oblong sieves and granulating bag are sometimes suspended by rattans from the rafters of the shed.

The roasting takes place in a row of iron pans, each about 2½ feet in diameter, which are built into a platform of masonry about 15 feet long and 4 feet in breadth, covered with flat tiles. The pans rest in an inclined position partly against the back of the platform which rises about a foot above its level, and partly on a small prop of brickwork on the right side, an offshoot from the wall. Into the top of this prop a plate is sunk in which a cloth saturated with wood oil or Miniak-krueng, is kept. Behind each pan is an open furnace mouth, and a man constantly attends to the fires, keeping them supplied with a few billets of bakau wood, and regulating them with a long two-pronged iron fork so as to maintain a moderate heat. The pan being gently rubbed with the cloth a man who sits in front of it on a low stool placed on the platform pours into it a quantity of granular sago. This he slowly stirs for a short time with a wooden implement called "weah" having a sharp curved edge. More sago is poured in until it amounts to about two chupa, when as it hardens he uses the weah more freely. After about three minutes' roasting, it is removed to a table and passed through a round sieve similar to that before described. The grains that adhere to each other are thrown aside, and those that pass through form a smoking heap which is allowed to lie undisturbed for about 12 hours. The grains are about the same size as they were before roast-

ing, and some retain wholly or partially their white and mealy appearance, but the greater part have become translucent and glutinous, and all have acquired a certain degree of toughness, although still soft. This change appears to be brought about in this way. The water contained in the granules being heated first converts the mealy starch into a jelly and then escapes by evaporation, leaving the jelly tough. The second tumifaction drives out the remainder of the water. The final process is another roasting, which renders them hard and tough, and greatly reduces their size. The pearl sago thus prepared and fit for exportation, is put away in large open bins ready to be transferred to boxes or bags when sold.

This method of making pearl sago appears to have undergone no improvement or change whatever since it was introduced into Singapore in 1819. It was taught to the first Chinese who tried it here, by a woman who came from Bukit Batu, a place on the coast of Siak facing the large island of Bencolin, and famous for its great fishery of the trubu, the roe of which is so extensively used. In Malacca, however, manufactories had existed for many years before the establishment of Singapore. It is certain however that Malacca derived the art from Bukit Batu, where it originated about the beginning of the 19th century. It was long kept secret, but in Singapore it appears almost from the first to have been conducted without any attempt at concealment.

From 20 to 30 men are employed in the larger manufactories, but if their labours were confined to the making of pearl sago, 16 men would suffice for a manufactory such as described above, and they would produce about 450 piculs per month. Their wages are, for the roasters and the man at the troughs 4 dollars, and for the other men 2¼ to 3 dollars a month, and they receive their food besides. The original outlay is probably from 300 to 400 dollars. The profit of course varies greatly; and the business cannot be so certainly lucrative as has been sometimes supposed, since there have been instances of failures. There were, about the year 1840, fifteen Chinese manufactories in Singapore, and two had recently been commenced by Europeans, whose power to compete successfully with Chinese, was doubted, unless they can introduce a more perfect washing and granulating process, that adapted at present requiring so much labour, and being attended with so much waste, that unless the full work be got from the Chinese employed, there will be little room for profit. The Chinese method of preventing all loss of labour which they carry into most of their undertakings is brought into the sago concerns also. One of the principal shareholders lives in the manufactory, and the best workmen have small shares in the profits besides their wages.

The Trade in Sago.—A large portion of the sago imported into Singapore is the produce of the marshes of Siak and Indragiri, the low island of Rantan containing the most extensive plantations. It is purchased in Siak from the Malays and Orang Sakai by Malays, chiefly of Siak and Singapore, who resort there in small boats for the purpose. In their hands its cost is enormously enhanced, the Sakai selling it to them at about 10 cents per picul, and they selling it to the Singapore manufacturers at from 70 cents to one dollar per picul. The plantations belong to Malays who employ the Sakai as serfs in planting them and preparing the sago, allowing them one-half of the produce. On this and wild animals they subsist, and the sago which they do not require they dispose of to Malays in barter for cloth, tobacco, &c. The Malays admit that by this mode of dealing the sago does not cost them much more than 10 cents per picul. This entirely agrees with the system adopted in their dealings with the Binua of Johore—(Jour. Ind. Arch., Vol. i.) The Malays at the Siak islands, and at the sago plantations between Kampar and Indragiri where they have no serfs, sell the sago on the spot at about 20 cents per picul. The price obtained by the latter for pearl sago was at first 6 dollars per picul. The Singapore manufacturers having succeeded in improving its quality by a more careful manufacture, and the demand increasing for export to Europe, the price rose in 1824 to 7 dollars. This caused the establishment of several new manufactories towards the end of that year which at once brought it down to 5½ to 6½ dollars. In 1825 the supply exceeded the demand and two of the principal manufactories, one of which had employed 55 men, were abandoned, and the price fell to 4 to 5 dollars. In 1826 it descended to 3½ dollars to 4 dollars, and by 1831 it was 2¼ to 2½ dollars. In 1838 it was so low as dollar 1¼ to 1½. After this it rose again. In 1845 it was about 3 dollars. It is now about 2 dollars 65 cents., and has for several years remained between 2 and 3 dollars. The importations during the earlier years of the settlement were as follows:—

1819—22 boats, quantity not ascertained.	1824—11,669.
1820—5,684 piculs.	1825—25,612.
1821—10,694.	1826—21,666.
1822—11,445.	1826-27—17,768.
1823—no imports.	1827-28—16,205.
	1828-29—15,818.

The following tables, furnished by the Honorable the Resident Councillor, will show

SAGO.

the state of the trade for the last five years as far as the records of the Office of Registry of exports and imports can be relied on, having been carefully prepared by Deputy Registrar, Mr. Holloway. The average of the exports for that period is about 16,000 piculs of sago flour and 24,000 piculs of pearl sago, or a total annual export of 40,000 piculs, of the value on the spot, at present prices, of 100,000 dollars :—

Imports during the year 1847–48.

RAW SAGO.	Piculs.	Bundles.
From Borneo	33,652¾	279,954
Cochin-China	30	..
Sumatra	..	266,160
Java, R. B. L. and Sombawa	..	300
Malacca and Pinang	..	2,250
Celebes	880.	..
Other Islands and places	540	151,553
	35,102¾	700,217
PEARL SAGO.		
From other Islands and places	1,573	..

Exports during the year 1847–48.

	Sago Pearl.	Sago Flour.
	Piculs.	Piculs.
To Calcutta	1,595	..
Malacca and Pinang	1,256	13
New South Wales	758·24	1,263
United Kingdom	14,570·71	37,577·46
Malabar Coast	1,934	..
China	240	..
Borneo	12	..
Java, R. B. L. and Sombawa	40	..
Maulmain	31	..
Other Islands and places	4	5
France	105·18	..
North America	740	..
Ceylon	132	22·50
Coromandel Coast	1,507½	..
Cape of Good Hope	127	..
Bremen including Hamburgh	3,805·47	195
Manilla	592·84	..
Cochin-China	15	10
Mauritius	30	..
Denmark	1,212	268
Malayan Peninsula	14	..
	28,721·94	38,103·54

Imports during the years 1842-3—1846-7.

RAW SAGO.	1842-43	1843-44	1844-45	1845-46		1846-47
	Bundles.	Bundles.	Bundles.	Bundles.	Piculs.	Bundles.
From Neighbouring Islands.	16,430	24,450	45,122	114,728	..	125,500
Borneo	134,500	119,380	339,900	180,400	..	113,980
Sumatra	201,910	176,910	232,200	195,079	..	288,192
Rhio	..	700	350	..	1,300	3,980
E. C. Peninsula	..	..	1,150	5,300	..	100
Celebes	..	..	..	..	..	100
Malacca	..	..	..	..	..	3,500
	352,840	321,440	616,722	495,507	1,300	535,352

PEARL SAGO.	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.
From Pinang	100	..	..	..	..
Malacca	50	..	..	..	..
Neighbouring Islands	710	980	1,567	126	1,227½
Borneo	555	640	400	..	1,100
Rhio	..	..	..	..	280
	1,415	1,620	1,967	126	3,617½

Exports for 1842-43—1846-47 :—

SAGO FLOUR.	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.
To Pinang	20	..	..	10	..
Great Britain	3,813	13,697	3,401	23,765	8,985·08
Mauritius	12	..	..	7	10
Foreign Europe	578	370	150	135	..
China	..	..	2,000	49	..
Malacca	..	..	6	38	..
Manilla	..	..	..	50	..
Java	..	..	..	545	30
Calcutta	..	..	..	18	..
	4,423	14,067	5,556	24,517	9,025·08

PEARL SAGO.	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs.	Piculs.	Picusl.	Piculs.	Piculs.
To Pinang	415	439	81	206	766
Calcutta	311	1,065	1,198	2,170	2,021·71
Great Britain	18,658	8,541	8,563	12,460	30,732·18
Mauritius	439	117	307	345	70
Manilla	337	110	415	249	538
Foreign Europe	2,713	2,213	4,016	2,781	2,960·21
United States	693	..	370	251	476·36
China	248	605	219	459	629
Java	954	123	27	62	5
Madras	160	200	175	535	635
Ceylon	11	25	50	155½	133
Bombay	144	189	954	105	807·74
Malacca	20	..	26	7	35
Siam	200	..	..	..	227
Cochin-China	..	100	..	..	45
EastCoastPeninsula.	..	..	5	..	10
Arabia	..	..	17	..	..
Neighbouring Islands	..	..	5	..	..
Rangoon	..	..	..	20	..
New South Wales	..	..	..	..	620·66
Cape of Good Hope	..	..	..	..	53
	25,306	13,827	16,428	19,758½	40,764·86
RAW SAGO.					Bundles
To Borneo	..	..	..	..	100

Sago is not an article which can ever displace the cereals, or which should be anywhere substituted for them, but it ought to be produced in an exportable state at such a price as to be within reach of the poorer classes, whenever a diminution in the supplies of rice or corn deprives them of a sufficient quantity of their ordinary food. This could easily be accomplished by Europeans possessed of a little mechanical skill, who would combine manufactories and plantations, and thus save the present enormous waste of labour and raw material, 25 cents per picul

  58

seems to be about the natural price of sago flour properly prepared at the plantation for exportation, and this is nearly equivalent to 10 pounds for a penny. The poor Sakai get only about a half penny for that quantity.

Singapore itself is well adapted for sago. There are considerable tracts of marshy land at present lying waste, in all of which sago would grow well, for it is in the very same kind of soil that it flourishes in the neighbouring islands along the Sumatra coast. Arrow and other roots yielding starch are now cultivated with profit, and as one manufactory will serve for the preparation of all the varieties of farina, it would be found advantageous to unite the culture of these roots with that of sago. As all the marsh valleys in the island are bounded by low hill ranges, tracts of land adapted for the purpose could readily be selected.

Forrest states the average produce of a Molucca tree to be 336 pounds, but Rumphius makes it from 600 to 800 pounds, and according to the writer in the 'Singapore Chronicle,' who seems to have paid great attention to the subject, good Sumatra trees yield from 760 to 950 pounds, and the very worst 475. Perhaps therefore 700 pounds may be assumed as an average for the Sumatra trees, which at 10 feet apart (the distance stated by Forrest and followed by Crawfurd) would give about 300,000 pounds for the harvest from one acre, and, allowing that the harvests are 15 years apart, and not seven as Forrest assumes, this will give an annual average produce of about 20,000 pounds. We believe however that 5 or 6 feet is about the average distance of the large stems in the Sumatra forests. When a plantation has once arrived at maturity there will be a constant harvest, because the natural mode of growth secures a continual succession of new plants from the time those first planted have begun to extend their roots, and this succession can be regulated by the knife in any way the planter desires. The sago tree when cut down and the top severed from it, is a cylinder about 20 inches in diameter and 15 to 20 feet in height. If we assume 20 inches by 15 feet to be an average size, the contents will be nearly 26 bushels, and allowing one-half for woody fibre there will remain 13 bushels of starch, which agrees very closely with our previous calculation, 700 pounds being equivalent to 1¼ bushels. It may give some idea of the enormous rate of this produce, if it be considered that three trees yield more nutritive matter than an acre of wheat, and six trees more than an acre of potatoes. An acre of sago, if cut down at one harvest, will yield 5,220 bushels or as much as 163 acres of wheat, so that, according as we allow 7 or 15 years for the growth of a tree, an acre of sago is equal in annual produce to 23 or 10 acres of wheat.—*Jour. of the Indian Archipelago, Vols.* i; iii, *No.* v, *May* 1849, *pp.* 288 *to* 313; *Bennett's Ceylon*; *Low's Sarawak, p.* 39; *Forrest's Voyage to New Guinea, p.* 42; *Crawfurd, His. Ind. Archipelago, Vol.* i, *pp.* 386, 393; *Hogendorp, Coup d' Œil sur Java*; *Dampier, Voyages, Vol.* i, *pp.* 310, 311; *Rumphius, Nat. Hist. Amboinensis, Vol.* i, *p.* 80.; *St. John's Indian Archipelago, Vol.* i, *pp.* 129-30; *Wallace, Archipelago, Vol.* ii, *p.* 66; *Roxburgh, Flor. Indica, Vol.* ; *Voigt, Hortus Suburbanus Calcuttensis*; *Poole's Statistics of Commerce*; *Seeman on Palms*; *Madras Exhibition of* 1855; *Juries Reports*; *Report of the Madras Central Committee for the Exhibition of* 1851; *Dr. Pringle*; *Griffith, Palms*; *Dr. Mason, Tenasserim*; *Morrison, Compendious Description*; *Crawfurd's Dictionary of the Archipelago, p.* 372; *Dr. W. Jack, Malayan Miscellanies published at Bencoolen*; *Valentyn, Oud en N. O. J.*; *M. de Steur's Tijdschrift. Neer L., Ind. 8th year, 3rd part, p.* 367; *Singapore Chronicle*; *Malayan Miscellanies*, See Cocoa-nut Palm, Food, Sago, Sagus lævis.

SAGOWANI, HIND. Dæmia extensa? *R. Brown.*

SAGRA. To one of the families which bring up the rear of the Coleoptera, belongs Sagra purpurea, found on Euphorbia antiquorum; S. lugubris in Ceylon, is found on the castor oil plant, and is also one of the Coleoptera of Hong Kong.

SAGRI, an Affghan tribe in the country between the plains of Peshawar and the Salt Range at Kala Bagh. The Sagri Patan tribe dwell below the Khuttuk. The tribe continued entirely independent of the Sikhs. They hold the country on the west bank of the river for nearly 30 miles above Kala Bagh, and also possess it on the opposite bank as high as the plain commencing at Hassan Abdal. They are shepherds, and have numerous flocks. The number of the Khuttuk tribe is variously stated at 6,000 and 8,000 armed men.—*Burnes' Kabul, p.* 105; *Papers, East India, Cabul and Affghanistan*, 1859, *p.* 21.

SAGU, MAL., also Sagu-Chawal, HIND., also Sagu-dana, HIND. Sago.

SAGUERUS, see Gomuto, Sagus.

SAGUEIR, palm-wine of the Arenga saccharifera. It is as intoxicating as ordinary beer, or cider.

SAGUERUS RUMPHII, *Roxb.*, syn. of Arenga saccharifera, *Labill.*

SAGUL, MAHR. Horse raddish tree.

Hyperanthera moringa. Sagul-ke-jhar-ki-jar. Its root.

SAGUN, HIND. Tectona grandis.

SAGUS FARINIFERA, *Gærtn.*

Sagus Rumphii, *Willde.*	Metroxylon sagus, *Konig.*
S. spinosus, *Roxb.*	

This sago palm is a native of the peninsula of Malacca and of the Eastern Archipelago. Its pith is made into sago flour, which is the staff of life of the people of the Moluccas. The seeds are generally abortive and it propagates itself by suckers from the roots of the old trees. Hartwig says that it forms large forests, grows at first slowly and is covered with thorns, but so soon as its stem is formed, it shoots speedily to its full height of ten yards, with a girth of five or six feet. The tree is felled before the fruit begins to form as otherwise the farina would be exhausted. Cossus saguarius, a large lamelliform beetle, found in the pith of the sago palm, is considered by the natives a great delicacy.—*Roxb.* ; *Voigt* ; *Hartwig.*

SAGUS KONIGII, syn. of Metroxylon sagus.

SAGUS LÆVIS, *Rumph.*

Sagus inermis, *Roxb.*

True sago palm, ENG.	Rambiya, MALAY.

This is a native of Sumatra, Borneo and the Moluccas. The stem, which is from 15 to 20 years in attaining maturity, is as thick as that of the cocoanut tree. The petioles and spathes unarmed. This palm furnishes most of the sago sent to Europe.—*O'Shaughnessy, p.* 640 ; *Roxb.*, iii, 623 ; *Eng. Cyc.* ; *Voigt*, 639.

SAGUT-KE-JHAR KI JAR, HIND. root of Hyperanthera moringa.

SAGWAN, HIND. Teak. Tectona grandis.

SAGWIR or Gomuti palm, ANGLO-PORT. Arenga saccharifera. Gomuto.

SAH, HIND. Larix griffithii.

SAHAB, a place on the eastern bank of the Euphrates, near Koorna, whence caravans load and depart for Hawaizah.—*Mignan's Travels, p.* 290. See Sahal.

SAHA-BIRI, MALAY. Ambergris.

SAHADEVA, one of the five Pandava. See Magadha, Mahabharata.

SAHADEVI, HIND. Crozophora tinctoria. Sahadevi-bari is Sonchus orixensis, also Vernonia cinerea.

SAHA-DEVI-CHETTU, TEL. Echites frutescens, *Roxb.*, also Sida acuta, *Burm.*

SAHAJNA, SANS. Moringa pterygosperma. Hyperanthera moringa.

SAHAL, see Koorna.

SAHA-MARANA, HIND. Burning of a widow at the same time and place as her husband's body..

SAHAN, PALEMBANG. Black pepper.

SAHAN-SABED, HIND., PERS. Hematite, used as a drug.

SAHARA, AR., PERS., HIND. A desert, a sandy plain, the sandy desert of Africa and Central Asia. The intense heat and cold of deserts is owing to the circumstance, that among crystalline bodies, rock crystal, or silica, is the best conductor of heat. This fact accounts for the steadiness of temperature in one set district, and the extremes of heat and cold presented by day and night on such sandy wastes as the Sahara. The sand which is for the most part silica, drinks in the noon-day heat, and loses it by night just as speedily. The influence of the hot winds from the Sahara has been observed in vessels traversing the Atlantic at a distance of upwards of 1,100 geographical miles from the African shores, by the coating of impalpable dust falling upon the sails.—*Curiosities of Science, p.* 165. See Khiva, Khanat, Rain.

SAHARANPUR, in lat. 29° 57′ 2″, and long. 77° 28′ 8″, is a large station in Hindostan where Botanical Gardens have been fixed. Belville, one mile south of Saharunpur is 980 to 1,013 feet according to Herb. and Hodg. above the sea. The Botanical Gardens 1,002 and 965 according to Roxb., Schl. and Jacq. South of Africa, Extra Tropical New Holland, South America beyond 23½° south lat. Saharunpore and Northern Doab have similar climates. The gardens form a central depôt, from which the requirements of the greater part of the public gardens in Upper India are supplied. During the one season, no fewer than a lac and a quarter of fruit trees, half a lac of timber trees and flowering shrubs, and about two thousand parcels of seeds were distributed among almost every station from Calcutta to Peshawur. Large supplies of pine and other hardy timber seeds were sent to Britain, and exchanges effected to the Ionian Islands, to Turin and to France. Many kinds of seeds, when acclimatised in this country, particularly those belonging to the umbelliferous and cruciferous families, degenerate in two or three seasons.

ŞAHARAWAN, a district of Baluchistan. The Saharawan territories are about 10,000 square miles. The population does not exceed 50,000. The borders of this elevated plateau, the more northern of the Baluch confederate provinces runs with the Afghan districts of Peshing and Toba, dependent on Kandahar, and is separated on the east by a range of hills, from Dadar and Kach Gandava. It has only the Bolan river, and a few rivulets, but the climate is cool, and the rain ensure good grains harvests. The Raisani the most respectable of the Saharawani tribes (from

"rais" Arab a ruler), are able to raise 500 fighting men. The Brahui tribes in Saharawan and Jhalawan, whose great chief is the khan of Khilat, ethnologists consider to be of the same Scythic stock as the Dravidian races in the south, and infer from this that the passage of the Dravidian tribes from Turan was along the valley of the Indus. See Beluchistan, Brahui, Kelat.

SAHASTRAPUTRA, Sans. Nelumbium speciosum.

S'AH-BUI, Malay. Ambergris.

SAHEE, a river near Furrucknuggur in the Delhi district.

SAHCOTTAY OIL, from Canara used for cutaneous diseases.—*M. E. J. R.* 1857.

SAHHARAH, Arab. A wooden box, about three feet each way.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 182.

SAHI, Sayal, Sarsel, Hind. Hystrix leucura, *Sykes.*

SAHIB, Arab., Pers., Hind. The respectful term employed by natives of India, and by Europeans themselves, to designate a European of rank.

SAHIBAH, a lady. In Mewar, the title of the rani is simply Mahji ; at Jaipoor, where they have long used the language and manners of Delhi, they affix the Persian word Sahibah, or 'lady-mother.'—*Tod's Rajasthan, Vol.* ii, *p.* 380.

SAHIBAN, Ar. The Ullums.

SAHIB-I-NASIB, one who has eighty rupees in his possession for a year.

SAHIB-I-QARAN, a mahomedan titular term for a sovereign ruler.

SAHIB-I-TASSARUF, Ar., Pers., in speculative mahomedan theology, persons in the world holding supremacy over souls of men.

SAHIB KRAN, a Persian coin, rather less than a shilling.—*Baron C. A. DeBode's Trav. in Luristan & Arabistan, V.* ii, *p.* 233.

SAHO, also Sahocar, Pers., Hind. In India a hindoo who deals in money as a banker, or in exchanges.

SAHOE. The northern peninsula of Gilolo, and the great island of Ceram, are inhabited by the Alfuro of Sahoe and Galela. These people are quite distinct from the Malays and almost equally so from the Papuan race. They are tall and well-made, with Papuan features and curly hair. They are bearded and hairy limbed, but they are quite as light in colour as the Malays. They are an industrious and enterprising race. Cultivating rice and vegetables and indefatigable in their search after game, fish, tripang, pearls and tortoise shell.

SAHAJI, a rajah of Tanjore.

SAHRAI, the most numerous of the mahomedan tribes of the Indian desert, of which he is the terror. The Khossa is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless. The name is probably from sah'ra or sahara, a desert.

SAHRASHTRA, see Sumitra.

SAHR RUD, see Koh-i-Nokreh.

SAHUT, Pers. Watches.

SAHUKAR, Hind. A money-lender, a banker, a merchant in general.

SAHUJNA, also Sahajna, Hind. Ben Tree. Moringa pterygosperma. See Ben oil, Moringa oil, Oil.

SAI, Hind., of Chamba, Deutzia staminea, also Abelia triflora and Lonicera quinquelocularis.

SAI, see Kedah.

SAIA, Tam., Hedyotis umbellata, *Lam.*

SAIDE, the modern Sidon, is built on a small promentory over-looking the sea, and has about 15,000 inhabitants.

SAIDI, Hind. A kind of emerald.

SAIFALI, a section of the Kabul khel Waziri, inhabiting the independent hills to the westward of the Bunnoo thull. They entered into an agreement or treaty with the British to do all in their power, as far as their own tribe is concerned, to check and prevent the robbery or murder of British subjects, and to cause stolen property from British territory to be returned. Also not to receive property stolen from British territory by any other tribe, and not to give shelter to any criminal guilty of a heinous offence, also if any British subjects should make a pursuit into their country for the recovery of stolen property, or the apprehension of criminals, they will not interfere. This section of the Waziri is said to have been long unfavourably distinguished as receivers of stolen cattle and other property from the Bunnoo district.—*Lahore Courant.*

SAIGA TARTARICA.

Antilope colus, *Smith.*

It inhabits the open steppes and deserts from the Danube to the Irtish eastward, and as far north as 54° of north lat., found in Poland, Moldavia, about the Caucasus and the Caspian Sea, in Siberia, and in northern Persia. Their eye-sight is said to be defective from the reflection of the dry arid plains upon which they mostly reside.—*Eng. Cyc., p.* 235.

SAIGON, called Luknooi by the Cochin Chinese, is in lat. 10° 15′ north, long. 106° 43′ east. The surrounding country abounds with timber and other necessary articles for ship building. See Kobo.

SAIL, Hind. Slate or schist : a slate ; a slab of stone.

SAIL, Ar. A flood.

SAILA, or Sela, HIND. Muslin.

SAILAB. A flood of the great rivers, or overflow of waters from other sources.

SAILABI, HIND. Land watered by flood.

SAILA-DEVA, see Gujarat.

SAILAGIRI, the famous Gridhrakuta, or 'Vulture's Peak,' near Rajagriha.

SAIL CLOTH, ENG. Canvas.

SAILEE. A river of the Saugòr district.

SAIL-AL-ARAM, also called Sail-ul-Mareb, the flood of Aram, a great calamity which befel the Arabs of Yemen, soon after the time of Alexander the Great, Abid-Shams surnamed Saba, built the city of Saba, afterwards called Mareb, and made a great dam to form a reservoir. The water was 20 feet deep and was utilized for irrigation, but one night it burst and carried away the whole city with the neighbouring towns and people. Mahomed mentions it in the Koran. See Arim, Balak, Mareb, Saba, Yemen.

SAILING FISH, two remarkable inhabitants of the waters about Malacca and Sumatra, were described by Raffles; the sailing fish, called by the natives ikan layer, and the dugong, mentioned by Valentyn, and so long talked of as the mermaid. The inhabitants of Singapore say that these had become very scarce.—*American Expedition to Japan, p.* 155.

SAIL-LEAF. For many of the Burmese boats, sails are made of large narrow leaves, sewed together. They are the leaves of a species of screw pine, or Pandanus, that has a trunk like a palm, which usually grows near the sea, and is very abundant. The fruit is used by the Karens, to hackle their thread.—*Mason.*

SAIMIO. A titular prince of Japan.

SAIMME KIRAI, TAM. Caladium esculentum.

SAIN, in Sind, is the "sahib" of India, the "sir" of England.—*Burton's Scinde, Vol.* i, *p.* 143.

SAIN, HIND. The flying squirrel of Kangra.

SAIN NOIN, see Kalkas.

SAIN also Asun or Arjan, HIND. Pentaptera tomentosa, P. Glabra.

SAINDHAVA, is Sindh and Balochisthan.

SAINGRI, or Sangri, HIND. The seed pods of jhand, the Prosopis spicigera, one of the common shrubs of the rakh or preserves.

SAINHIKEYA. In hindu mythology an Asura or giant, who stole amrita or nectar when the gods churned the sea of milk, for which Vishnu cut him into two pieces, called Rahu and Ketu, which are said to cause the eclipses.

SAINJ, an affluent of the Beas.

SAINT HILAIRE, M. Barthelemy, a French author of great fame, the first historian of buddhism.

SAINT JOHN'S BREAD. Ceratonia siliqua, *W.*

SAINTS. Buddhists, hindoos, jains and mahomedans believe in saints and worship at, and make pilgrimages to, their shrines.

SAINT THOMAS' BALSAM, the Tolu balsam.

SAINT THOMAS' MOUNT, a military station of the British, ten miles south-west of Madras. It is famed amongst eastern christians as the site of the martyrdom of St. Thomas, and the church on the summit of the hill is visited by pilgrims even from Syria. It was plundered in 1752 by the troops of Chunda Sahib, under his son Rajah Sahib, and the advanced force of Hyder Ali later in the century again plundered it. The little Mount is on the right bank of the Adyar river three miles nearer Madras.

SAIR, AR., HIND. Transit duties; a due or tax levied on certain natural productions, other than cultivated lands; such as on date trees, fisheries and grass, &c.

SAIR also Sairi, MAHR. Bignonia xylocarpa.

SAIR YARI, PERS., TURK. Promenades.

SAIS or Syce, HIND. A groom.

SAISON, HIND. Antilope cervicapra, *Pallas.*

SAISU-NAGA, or Ses-nag. This Indian race reigned 360 years, and we find amongst them, B. C., 415, Nanda, Mahapadama, (B. C., 1602, Jones, 364 Wilson) regarding whom it was said he will bring the whole earth under one umbrella; he will have eight sons, Sumalya and others who will reign after Mahapadma. He and his sons will govern for 100 years. The brahman Kaulilya will not root out the nine Nanda. See Magadha.

SAIRINDHA, the people of Sirindha or Sarhind.

SAITHÆ. Dionysius, (Anc. Myth., Vol. iii, p. 226,) as rendered by Bryant says, upon the banks of the great river Indus the southern Saithæ dwell.

SAIVA, a sectarian hindoo follower of Siva. Many saiva hindoos believe in the three hindu gods, Brahma, Vishnu and Saiva, as triune, and many Saiva are essentially polytheists but vaishnava hindoos are rarely in accord in this, and the bulk of the hindoo religionists regard Siva or Ishwara, Vishnu and Brahma or Para-brahma as distinct deities. The Saiva sect far out-number the Vaishnava. The essential element in the Saiva faith is a reverence for or deification of the procreative power and seems to be the same idea of natural progression which is carried on by the

buddhist doctrine of gradual perfectability (raising man almost to the rank of a god.) The Vaishnava or Vedic creed is one of a separate creation of gods and their occasional incarnation in the form of man. If Saivites, buddhists and Jains be in some way connected, who they are who brought them is not known, the saiva are most in the west of India.

The Saiva, are worshippers of Siva, in one of his thousand forms, who, however, worship Siva and Bhawani conjointly.

The Ganapatia, worship Ganesa.

The Sacta, exclusively worship Bhavani or Parvati,—the sacti, or female energy of Siva.

The Ganapatya and the Sakta are sub-divisions, or ramifications of the Saiva ; of which may be traced these distinctions.—1, Saiva proper, meaning the worshippers of Siva and Parvati conjointly ; 2, Lingi or Langaet, the adorers of Siva, or his phallic type, separately, and these are a very strict and rigid sect ; 3, Sacta, the adorers of the Yoni of Bhavani, or her symbol, separately ; 4, the Ganapatya the exclusive worshippers of Ganesa, the first born of Mahadeva and Parvati. The ganapatya adore Ganesa as uniting in his person all the attributes of the Deity. The vira saiva, are very numerous in all the Canarese speaking countries and are distinguishable by their wearing the lingum in a silver or gold casket fastened round their arm or suspended from the neck.

The Avadhuta or Abd'hut of the south of India, is a religious ascetic mendicant of the saiva hindoos, who, similarly to the Virakta, Viragi, has subdued the passions and estranged himself from the interests and emotions of mankind, abandoning religious observances and wordly restraints. The Sakta have two classes of these, one the Vyakta-vadhuta, or professedly free, the other Gupta-vadhuta who privately throw off the usual restrictions of caste. The Akas-mukhi is a saiva devotee, who retains his head so long in the position of looking to the sky that he cannot restore the neck to its proper position.

Amongst vaishuava hindoos, in the south of India the Suttuthavan, TAM., are rigid Vaishnavi, are to the Vaishnavi what the Vira Saiva are to the Saivavi. They are flower selling minstrels and vagrant mendicants. They are said to have a communism of women, but if so, the practice is unknown to their neighbours.—*Wilson Gloss.* See Hindoo, Kancheliya, Kapila, Kara-Lingi, Mendicants, Sanyasi, Sikhs, Siva, Vairagi.

SAIVA NAGA, see Naga.

SAJ, ARAB. Shorea robusta.

SAJI-KHAR, also Papud-khar, HIND., PERS. Soda, Barilla, Alkali.

SAJI MATTI, coarse kind of barilla Dr. Royle alludes, to it, p. 319, as the produce of the incineration of some unknown plants. It is a mineral product very abundant near Monghyr and in the Doab.—*O'Shaughnessy, p.* 525. See Sajji-Matti.

SAJIRA SEED, Cuminum cyminum, Cummin seed.

SAJJALU, also Gantelu, TEL. Pencillaria spicata, *Swtz.*

SAJJI, or Sajja-khar, HIND. Impure carbonate of soda ; a soda salt manufactured from ashes of plants ;

Sajji-bhutni, 3rd quality of sajji.
Sajji-butha-sirsa, 2nd quality of sajji.
Sajji-chuwa sirsa, 1st quality of sajji.
Sajji-kangan-khar, 2nd quality of sajji.
Sajji-khara-sirsa, 3rd quality of sajji.
Sajji-lota, best kind of sajji.
Sajji-phul, a kind of sajji.

In the Panjab, the castes principally employed in the manufacture of sajji are the chura, dhobi, nunari, and a few arura. The Saji mutti, or Soda earth is found in many parts of India. It is called Dhobi's earth, Applicarum, TAM., it is a coarse kind of Barilla, sold in the Indian markets. It is also prepared by the burning of plants growing on the shores of the salt lakes which are scattered through the Indian deserts.—*Powell, Handbook Econ. Prod. Punjab, p.* 87.

SAJNA, PERS., BENG., HIND., also Sahajna, HIND. Hyperanthera moringa, Moringa pterygosperma. See Moringa.

SAJOR KARANG, MALAY. Plocaria candida, *Nees.* See Agar Agar.

SAK, HIND. Bark of the kikar, put into the fermenting mass in spirit distilling : the term is also applied to other barks.

SAK, or Thoek or Thak, called Chatu or Chat by the Bengali, a small tribe who inhabit the eastern branch of the Naf-river in Arakan, in lat. 21° 20' N., and long. 21° 30' E., about 25 miles east from Elephant Point near the Koladyn river.

SAKA, SANS. Vegetables. See Sag.

SAKA, SANS. A branch.

SAKACHERA, SANS. Lawsonia inermis ; henna.

SAKADITYA, see Pandu.

SAKÆ. This name frequently occurs in hindoo annals, and Colonel Tod believed that the Saka of the hindoo annals cannot be other than the Sacæ or Sakai of classical geography. They are repeatedly named in various works and seem to have been known on the borders of India or in its western districts in the first century preceding Christianity. Vikramaditya, king of Ougein, became known as the Sakari or enemy of the Sacæ, and as his era dates B. C. 56, it would appear that about

this time some northern tribes had settled themselves along the Indus, constituting the Indo-Scythi of Arrian. Their attempt to penetrate further to the east, by way of Kandesh and Malwa, was not improbably arrested by Vikramaditya, whence the epithet Sakari. The Sacæ are supposed by Professor Lassen to be the Szu Tartar who were expelled about 150 B. C., from the Ili valley by the Yue-tchi or White Huns, whom he supposes to be the Tochari. After occupying Tahia or Soghdiana for a time, they are further stated by the Chinese to have been driven thence also by the Yengar some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Kophen valley in Kohistan. The Sakæ country was Turkestan and they seem to have been one of the Central Asia tribes to whom the vague term Scythian was applied. Little is known of the Sakæ and their migrations, but they seem to have been widely diffused, occupying and colonizing countries remote from Central Asia : It is well known to geographers that the Seghistan of the Arabs, whence Sistan, is the same as the Sakestané, or country of the Sakæ of the Greeks. The Sakæ are located by Strabo and Ptolemy on the north of the Himalaya but they were also on the south. The Sakæ, were known as Sakko on the banks of the Cheban, in Assyria. Sakæ are mentioned on the Behistun inscription ; some tribes dwelt near the Jaxartes now called the Sar-i-Darya and penetrated early into India, making their way in force from the Hindukush into Orissa. The Sakæ were pastoral and warlike and have been supposed to give their names to the Sassani, Saxani or Saxons. All the Sakæ tribes undoubtedly belonged to Saka dwipa or scythia. The Sakæ and Buddhii took possession of Kashmir, 340 B. C. some tribes of Sakæ opposed Alexander. Others of the Sakæ overran India in the reign of Asoka who, according to the Ain Aktari were expelled by his successor Jaloka. The Sakæ countries were, in those ages principally divided into Hushka, Tushka and Kanishka. The following passage occurs in D'Anville's Eclaircissemens Geographiques sur la carte de l'Inde, p. 42. "On ignore le temps auquel les Scythes sont venus occuper le Sindi. Dans le Périple de la mer Erythrée, la ville de Minnagra, le méme que Monsora, est qualifiée de capitale de la Scythie. Denys Périegete dit, que les Scythes meridionaux, habitents sur le fleuve Indus. Eustathe les nomme Indo-Scythes : et ce que Ptolémée appele Indo-Scythic, remonte le long de l' Indus jusqu áu fleuve Coos."

The Budii or Boudioi, of Herodotus, the Putya of the Persians, the Budii of the Babylonian inscription, are believed to be the same people, and Rawlinson supposes them to be Scythians. Putya in HEB., means broken of God. Israelites, in Media and Scythia were identical with Phut. Budii in HEB. means separated and Dr. Moore has put forward the opinion that the Sakæ were Hebrews and Buddhists and that they arrived in India about 100 years after the return of the Jews from Assyria to Palestine. The Sakai, who settled in Armenia were named Sacassani (lib vi, c. 19) Saxons, the Sacosena of Strab, lit. xi, pp. 776-788.—*Rennell's Memoir, p.* 185 ; *Isodore Char. in Hudson's Geog. Minores, Vol.* ii, *quoted in Ed. Ferrier, Jour., p.* 428. See Afghan, Arian, Kabul, Kashmir.

SAKA ERA, see Vikramaditya.

SAKAI, a pagan population in the Malay peninsula divided into the Sakai Jina and Sakai Bukit, the latter being hillmen and mountaineers—the former more settled and civilized. They are strict worshippers of the elements. Sakai is the Pahang word for an aboriginal. The Halas is a branch of the Sakai population of the Malay peninsula. They tattoo their face and breast, pierce their ears and nose and insert porcupine quills. See Kedah, Semang.

SAKAI, the Ishaqzai of independent Tartary and Bokhara.

SAKAI, in Persian synonymus for glutton and drunkard.

SAKALA or Sangala, an ancient town in the Panjab now called Sanglawala Tiba. It is the She-kie-lo of Hwen Thsang. It was the capital of raja Milinda, was subject to raja Mihirkul, is the Sangala of Alexander and has long ago been recognized in the Sakala of the brahmans and the Sagal of the buddhist. It was visited by the Chinese pilgrim Hwen Thsang in A. D. 630. Both Arrian and Curtius place Sangala to the east of the Hydraotes or Ravi ; but the itinerary of Hwen Thsang shows that it was to the west of the Ravi, and as nearly as possible in the position of the present Sanglawala-Tiba, or "Sangala Hill." Wilford, has three times described its position in the Asiatic Researches. When Hwen Thsang visited the city there was a monastery of one hundred monks who studied the Hinayana, or exoteric doctrines of buddhism, and beside it there was a stupa, 200 feet in height, where the four previous Buddha had left their footprints. The brahmanical accounts of Sakala have been collected from the Mahabharata by Professor Lassen in his 'Pentapotamia Indica.' According to that poem, Sakala, the capital of the Madra race who are also called Jartika and Bahika, was situated on the Assaga rivulet to the west of

the Iravati, or Ravi river. The country is still well known as Madr-des, or the district of the Madra, which is said by some to extend from the Bias to the Jhelam but by others only to the Chenab. The buddhist notices of Sakala refer chiefly to its history in connection with buddhism. There is the legend of the seven kings who went towards Sagal to carry off Prabhavati, the wife of king Kusa. But the king, mounting an elephant, met them outside the city, and cried out with so loud a voice, "I am Kusa, that the exclamation was heard over the whole world, and the seven kings fled away in terror." This legend may have some reference to the seven brothers and sisters of Amba-Kapa, which is only 40 miles to the east of Sangala. Before the beginning of the christian era Sagal was the capital of raja Milinda, whose name is still famous in all buddhist countries as the skilful opponent of the holy Naga-Sena. The territory was then called Yona, or Yavana, which might refer either to the Greek conquerors, or to their Indo-Scythian successors; but as Naga-Sena is said to have lived either 400, or 500 years after Buddha, the date of Milinda is uncertain.—*Genl. Cunningham's Ancient Geog. of India, p.* 179.

SAKALA PHALA SAMPENGA, also Phala sampenga also Manoranjitam, TEL. Artabotrys odoratissimus, *R. Br.*

SAKALAVA, see India.

SAKAM KUZIRA, JAPAN. Grampus sakamata, *Schlegel.*

SAKAMUNIYA, HIND. An astringent extract of resin, properly scammony, but usually an imitation is sold.

SAKANTALA, or the Lost-Ring, a Sanscrit poem by Kalidasa.

SAKAR, SIND. An embankment. This gives the name to Sakar or Sukker, a town on the Indus opposite Rori, where is a natural lime-stone mound about 100 feet high.

SAKARAN, a district in Borneo. See Borneo, Dyak, Kyan, Sakarran.

SAKARI, a title of Vikramaditya, king of Oujein, given to him because of his successful opposition of the Sacæ, an Indo-Scythic tribe who settled along the lower Indus.

SAKAR-KAND, PERS., HIND. Sweet potato.

SAKARRAN ORANG KAYA, see Kyan.

SAKASTENE, see Arians.

SAKATAI, or Chaghtai, the Saca-dwipa of the Pooran corrupted by the Greeks to Scythia, whose inhabitants worshipped the sun, and whence is the river Arverma. As the Chaghtai dynasty drew to its close in Eastern Turkestan, the priestly element began to increase: in 1678, Galdan khan, sovereign of the Eleuth or Kalmuk tribes of Dzungaria, established the khojahs of the White Mountain; but, after a century of dissensions, the Chinese in 1757 brought the Turkestan states under their rule. See Sakæ, Sakitai.

SAKAWAND was in the territory of Kabul, which belonged to Kumlu. It is mentioned by Istakhri and Ibn Haukal as one of the dependencies of Bamian, along with Kabul, Ghazni, and Parwan. Idrisi gives it as being seven days' journey from Kabul and the same distance from Khou-i-ab for which General Cunningham reads Hariab, and believes it to be the Iryab or Irjab of Sharif-ud-din and the Hary-ab of the present day,—which is at the head of the Kuram valley, to the south-east of Kabul. Sakawand would therefore be at or near Jellalabad; and this position agrees with Idrisi's account of the warm climate of Sakawand and Hari-ab, at which places the palm tree did not grow, and snow did not fall. The buddhist establishments mentioned by Fa Hian and Hwen Thsang were no doubt still flourishing in the time of Kumlu.—*General Cunningham.*

SAKBINAJ, HIND. Sagapenum.

SAKEEN — ? see Capreæ.

SAKELA, HIND. An iron formed by forging and welding together bars of several varieties of iron.

SAKELA WANLOO, TEL. Washermen.

SAKEN, see Arians.

SAKES, ARAB., TURK. Mastic, Pistacia lentiscus.

SAKETA, or Ajudhya, the ancient capital of Oudh.

SAKHA, SANS. A branch, the branch of a tree.

SAKHALAT, MALAY. Woollen cloth.

SAKHALIN. The Tungus are the native population of the Amur, but even including emigrant Chinese and Mantchu, the people are far from numerous. They may be estimated at 24,000 for the whole of the territory at present in possession of Russia. With two exceptions, the tribes of the Amur belong to the Tunguzian stock. The language of the Gilyak, on the lower Amur, differs from the Tunguzian dialects along the river, but the features of these Gilyak are still Mongol, they have small obliquely set eyes, prominent cheek bones, and scanty beards. With the Aino, on Sakhalin, the language differs both from the Tunguzian and Gilyak; their features are decidedly not Mongol, and they are distinguished by a great profusion of hair. The close affinity between the various Tunguzian dialects, and the differences existing beween Tunguzian, Gilyak and Aino, will be observed in the following vocabulary:

	Tunguzians						
	Yeniseisk.	Nerchinsk.	Manyarg.	Manchu.	Orochi.	Gilyak.	Aino.
One	ummukon	omon	omun	emu	omoho	nlun	chine
Two	dzyur	jur	sur	juo	dhu	morsh	tu
Three	illim	ilan	ilan	ilan	ela	chlorch	che
Four	diggin	dyggin	digin	duin	dhi	murch	yne
Five	tungya	tongna	....	sunja	thungha	torch	ashne
Six	niu ngun	niungun	nugun	ninggun	nungo	nga k	yhampe
River	birrya	bira	....	bira	bila or widhi	....	....
Sea	lamu	lamu	....	namu	namu	atul (rur)	choiza
Water	mu	mu	mu	muke	mu	....	wakka
Sun	shiggun	shivun	....	shiln	su	....	tsuhu
Reindeer	oron	sokje	....	oron	....	....	....
Thunder	addi	akdi	....	akjan	....	....	kanna-ka-tumui or
Dog	ninakin	nenaki	....	indakhun	enuk	kan	sheta

See Sagaleen, Saghalien.

SAK-HIANG, Chin. Aloes wood.

SAKHI BHAVA, a sect of vaishnava hindoos in northern India, who adopt Krishna and his mistress Radha for their special worship. They assume the female garb, and the dress, ornaments, manners and occupations of women. See Hindoo.

SAK'HYA, also styled Sak'hya muni, was the son of the rajah of Kapila, and a contemporary with Ezekiel. He is one of the religious reformers to whom is applied the title of Buddha. Of these, there seem to have been several, but the last of them was Sak'hya Singha, or Sakhya Sinha B. C. 528, who incorporated all the previous writings and it is he whom the buddhists of the present day reverence in China, Burmah, Siam, Thibet and Ceylon. The doctrines taught by Sakhya Sinha were a refinement upon the worship of the elements, paramattha and the hosts of heaven, to which the Persians and some of the corrupted Israelites are known to have been addicted: he did not honour the hereditary brahman priesthood, who sacrificed not unlike the Hebrews. Neither did he symphathise with their opponents, the Swastika sect who promised to man only annihilation at last. But he pleaded the brahminical notion of the transmigration of souls and ultimate immortality with the idea that the spirit returns to him who gave it,—or union with God, as the highest state of man. Thus he reconciled the creed of the rationalistic fatalists, who said "so be it" with a morality that forbade atheistic indifference while it encouraged the suppression of merely selfish desires as alike inconsistent with the good of society, and the souls final emancipation from sin and suffering. His original titular sectarian designation is said to have been Saddharta, and the patronymics Sak'hya and Singha were added to it, the other term, muni means a holy man. According to Tibetan books, he died near the town of Kusha in Kamrup, beneath the shade of two sal trees on the southern bank of the Brahmaputra river, then called Hiranyo.

He was a Kshetrya by caste, and of the royal race of the Sakhya, who ruled at Kapilavasta, a town near the modern Lucknow: he was born there in the year 598 B. C. He was educated royally, in all the arts and sciences of the day; and he spent the first twenty-eight years of his life in the usual enjoyments of a court, and in the company of his three wives at one of his father's palaces. In his twenty-ninth year, reflections on the great problems of life enticed him to solitude, bent on discovering a remedy for the evils which he observed to prevail in the world. Flying from the royal palace, he cut off his hair and donned the yellow robe, which subsequently became the canonical attire of the buddhist priesthood, and he betook himself to the fastnesses of the Rajmahal Hills. He next sought out a celebrated abode of brahmans, on a hill near Gya; but soon ascertained that their practices were naught and their doctrines bootless. He then withdrew to a solitary spot on the Nilgan river, an affluent of the Phalgu, where, with a few disciples, he spent six years in fastings and mortifications of the flesh. But finding that his mental powers became impaired by such lengthened vigils, he renounced these ascetic practices, upon which his disciples deserted him and fled to Benares to expiate the sin of their master. Thus left alone, Sakhya sat down, absorbed in thought under a budhi-tree (Ficus religiosa); invigorated by the more generous diet he had adopted, he succeeded in attaining the highest state of perfect knowledge and became a Buddha, or Enlightened. For the next nineteen years, he wandered about Northern Hindustan, living entirely on alms, and making converts. His royal birth secured for his doctrines a ready acceptance amongst the upper classes of society: and

the rajahs of Kosala, Sravasti, and Ayodhia or Oudh, vied with his own father in erecting spacious vihara or monasteries to receive the devotees of the new faith. After promulgating during this period, the doctrines which, up to the present day, have combined the greatest number of mankind in the same belief, the royal reformer and truly great man feeling his end approaching, withdrew in company of a few disciples, to a solitary grove of sal trees (Shorea robusta) near Kusinara on the banks of the Ganduk, and there breathed his last, in the month of Vaisak, 543 B. C. The system of faith taught by him has been tersely and truly characterized by Mr. Hodgson, as "monastic asceticism in morals, and philosophical scepticism in religion." Mahomed was born in 569 A. D., he announced his mission in 609 at forty years of age, and died in 644 when he was seventy-five. In A. D. 640, or in thirty-one years from the announcement of his mission, the arms and the religion of Mahomed had spread over the ancient empires of Egypt, Syria, and Persia. The religions widely existing in the world from the time of Sakhya Muni to that of Mahomed, were several. In the earliest times of which we have any authentic record, the Arian race, both in Persia and India, was attached to the worship of the sun. In Persia, the fiery element was looked upon as the earthly type of Mithra, or the heavenly orb; and the sacred flame was kept continually burning by the Magian priesthood. But the worship of the elements was not unknown to the Persians, for Herodotus expressly states that "they sacrificed to the sun and moon, to the earth, to fire and water, and to the wind." In Northern India, the most popular system was that of the brahmans and their followers, who believed in the immortality of the soul after transmigration, while their opponents, the Swastika, affirmed that its existence was finite, and was limited to its connection with the body. The doctrine of the transmigration of souls was one of the earliest religious beliefs of the ancient world. In Egypt, its acceptance was universal, and in India it was denied only by the atheistical swastika sect, for the brahman, notwithstanding the differences of their metaphysical schools, agreed in believing that mankind were destined, by means of successive regenerations, to a prolonged existence in this world. The migration of souls was the fundamental belief of all classes, both buddhist and brahminical. The principal difference between these two creeds lay in the means for attaining final exemption from migration. As the champion of religious liberty and social equality, however, Sakya Muni attacked the brahmans in their weakest and most vulnerable points; in their impious assumption of all mediation between man and his Maker, and in their arrogant claims to hereditary priesthood. But his boldness was successful, and before the end of his career he had seen his principles zealously and successfully promulgated by his brahman disciples Sariputra, Mangalyana, Ananda, and Kasyapa, as well as by the vaisya Katyayana and the sudra Upali. At his death in B. C. 543, his doctrines had been firmly established, and the divinity of his mission was fully recognized by the eager claims preferred by kings and rulers for relics of their revered teacher. His ashes were distributed amongst eight cities, and the charcoal from the funeral pile was given to a ninth, but the spread of his influence is more clearly shown by the mention of the numerous cities where he lived and preached. Amongst these are Champa and Bajagriha on the east, Sravasti and Kausambi on the west. In the short space of twenty-five years, this wonderful man succeeded in establishing his own peculiar doctrines over the fairest districts of the Ganges, from the Delta to the neighbourhood of Agra and Cawnpore. This success was perhaps as much due to the early corrupt state of brahmanism, as to the greater purity and more practical wisdom of his own system. From Sakya's time until the end of the long reign of Ajatasatra, 519 B. C., the creed of buddha advanced slowly but surely. This success was partly due to the politic admission of women, who, even in the east, have always possessed much secret, though not apparent, influence over mankind. To most of them the words of buddha preached comfort in this life, and hope in the next. To the young widow, the neglected wife, and the cast-off mistress, the buddhist teachers offered an honourable career as nuns. Instead of the daily indignities to which they were subjected by grasping relatives, treacherous husbands, and faithless lords, the most miserable of the sex could now share, although still in a humble way, with the general respect accorded to all who had taken the vows. The Bhikshuni were indebted to Ananda's intercession with Sakya for their admission into the ranks of the bud'hist community, and they showed their gratitude by paying their devotions principally to his relics. The Pi-khieu-ni, or Bhikashuni, at Mathura, paid their devotions chiefly to the stupa of Anan (Ananda), because he had besought Buddha that he would grant to women, the liberty of embracing ascetic life. The observances required from the nuns are to be found in note 23, chap. xvi.

of the Fo-kwe-ki. The female ascetic even of a hundred years of age was bound to respect a monk even in the first year of his ordination. There has been some misapprehension regarding their buddha and bodhisatwa of the buddhism of Tibet, the regeneration of the Grand Lama being considered as an exceptional case of a Buddha returning amongst mankind. Mr. Hodgson, (pp. 137, 138,) however, truly calls the "divine Lama" of Tibet, Arhanta, but he believes "that a very gross superstition has wrested the just notion of the character to its own use," and so created the "immortal mortals, or present palpable divinities of Tibet." Fra Orazio says the Lama sempre sara coll'istessa anima del medesime Ciang-c'iub, oppure in altri corpi." Remusàt was not aware of this fact when he stated "Les Lamas du Tibet se considerent eux mêmes comme autant de divinités (Bouddhas) incarnees pour le salut des hommes." But the explanation which Major Cunningham received in Ladak, which is the same as that obtained by Fra Orazio in Lhasa, is simple and convincing. The Grand Lama is only a regenerated bodhisatwa, who refrains from accepting buddhahood, that he may continue to be born again and again for the benefit of mankind. For a Buddha cannot possibly be regenerated, and hence the famous epithets of Sathagata, "thus gone," and Sugata, "well gone" or gone for ever.

The religious opinions of the hindoos have been greatly modified by the philosophy introduced by Sakya muni which even yet forms the faith of about 220 millions of the human race. From its rise in the sixth century before Christ the doctrines of Buddha gradually spread over the whole of India. It was extended by Asoka to Kashmir and Kabul shortly after Alexander's invasion, and it was introduced into China about the beginning of the christian era by five-hundred Kashmirian missionaries. In A. D. 400, when Fa Hian visited India, buddhism was still the dominant religion, but the vaishnava sect with a mixture of the old Arian creed, and the saiva faith, were already rising into consequence. In the middle of the seventh century, although the pilgrim Hwan Thsang found numerous temples of the saiva, whose doctrines had been embraced by Skanda Gupta and the later princes of Pataliputra, yet buddhism was still the prevailing religion of the people. But though the faith of Sakya lingered about the holy cities of Benares and Gaya for two or three centuries later, it was no longer the honoured religion of kings and princes, protected by the strong arm of power, but the persecuted heresy of a weaker party, who were forced to hide their images under ground, and were ultimately expelled from their monasteries by fire. In 1835, Major Cunningham excavated numerous buddhist images at Sarnath near Benares, all of which had evidently been purposely hidden under ground. He found quantities of ashes also, and there could be no doubt that the buildings had been destroyed by fire, and Major Kittoe, who subsequently made further excavations was of the same opinion. The buddhist religion has long been extinct in British India. Its last remnants were extinguished, in blood and violence, about the fourteenth century, dying out about Trichinopoly and along the coast line from Vizianagram to Masulipatam. But it still flourishes in the countries on its north and north-east borders, in Nepal, Tibet, Burmah, Ceylon and China, and amongst the Indo-Chinese nations of Anam, Siam and Japan. Its followers far out-number those of all other existing creeds and form one-fourth of the whole human race. The buddhist faith was pre-eminently a religion of mercy and peace and charity, and benevolence. It had, however, the vital defect of not teaching or knowing God:—in the topes dedicated to the celestial Buddha, Adinath, the invisible being who pervaded all space, no deposit was made, but the divine Spirit, who is 'Light,' was supposed to occupy the interior, and was typified on the outside by a pair of eyes, placed on each of the four sides either of the base or of the crown of the edifice. But the budd'hism taught by Sak'hya Muni, coming to the world in ages of strife and violence, of deifying mortals, and of arrogant assumptions of an ignorant priesthood, as a creed that taught gentleness and meekness and kindness to living creatures, it must have exercised a great influence over the community, must early have gained many converts amongst the peaceable and good, and largely leavened the minds even of those who did not openly become converts; and amongst this class, must be included the entire populations from the primæval land east of the Oxus to China and Japan in the furthest east, to Singapore and Ceylon in the extreme south.

The doctrines of the branch of the Aryan race occupying India have since been modified by other religionists. Since buddhism disappeared from India, its nations have been overrun and conquered by races professing creeds, with numerous followers. Rapid as was the progress of buddhism, the gentle but steady swell of its current shrinks into nothing before the sweeping flood of mahomedanism, which, in a few years, spread over one-half of the civilized world, from the sands of the Nile to the swampy fens of the

Oxus. From the 12th century when the inroads into India, of mahomedans, began, up almost to the present time when they too, as a ruling race, have in their turn almost disappeared before christians, the Semitic Arabs, the Aryan Persians, the Scythic Tartars, and the Anglo-Saxon, have successively swayed the destinies of the races who are now occupying British India, and each of the new comers has to some extent modified the beliefs and social customs of the conquered Aryan and Non-Aryan people. For, a prevailing characteristic of the Aryan races is a speculativeness or theorising on the great end of man, his duties here and his hopes in eternity, with a disposition to asceticism, as the better means of obtaining the future rewards of a good life on earth. But great changes have been retarded by the circumstance that the mahomedan and the christian came amongst them as warriors, with all the license which are to be found in camps and the arrogance and contempt for strange things which youth engenders. And it is only since a few years that the voices of the christian missionaries, the meek followers of the lowly Jesus, have been heard proclaiming amongst the varied nations, and to each of them in their own tongue, the good tidings of great joy, which shall be to all people, and saying, "Glory to God in the highest, and on earth peace, good will toward men." But even in the short time during which the christians have been labouring, the effect on the hindoo mind has been immeasurable. The first reforming sect that arose amongst the hindoos in the 19th century, was a theist body, in Calcutta, who styled themselves the Vedo-samaj'h and then the Brahmo-samaj'h. And even in the case of hindoos who have had no English education and have never heard the voice of the missionary, such are receiving instruction from others of their own people who have been so taught; and the mass has been so leavened that the great tendency amongst youthful inquiring minds is to accept some form of theism,—either to acknowledge one of their own deities, whether Vishnu or Siva, as the Lord of all, or adopt an ideal Supreme Being of their own creation, whom they clothe with attributes, purer, more just, and more worthy of reverence than any god which the hindoo pantheon possesses. Buddhism was not finally swept away from the peninsula till about the 14th century of the christian era. For ten centuries it had been the prevailing religion of India but when the unwritten Tartar faith became corrupt and feeble, brahmanism was revived, mixed with the worship of a Siva and a Vishnu and every form of absurd fetichism gathered from local idolatries and superstitions. It is this mixture of several creeds which is now styled hindooism and its followers hindoos. It is found amongst the people in every variety of belief, from the mildest demon worship and recognition of numerous forms of gods, avatara or incarnations and their idols, to a distinct theism: from the grossest ignorance and superstition to the most refined speculativeness; performed and associated with bloody and most inhuman rites, and, again, followed with the greatest tenderness for animal life. In Europe, the hindoo religion is a term which is always employed in a collective sense, to designate faiths and worships of an almost endlessly diversified description. An early division of the hindoo system and one conformable to the genius of polytheism, just as at present, is said to have separated the practical and popular belief from the speculative and philosophical doctrines. And, whilst the common people addressed their hopes and fears to stocks and stones and multiplied by their credulity and superstition the grotesque objects of their veneration, some few of deeper thought and wider contemplation plunged into the mysteries of man and nature and assiduously endeavoured to obtain just notions of the cause, the character and the consequence of existence. Similarly with buddhism, for eighteen heresies are deplored in the Mahawanso, within two centuries of Sakya's death, and distinct sects, each rejoicing in the name of buddhists, are now to be traced amongst the remnants of his worshippers in the East and South of Asia. In its migrations to other countries since its violent dispersion by the brahmans about the eighth century, buddhism has assumed and exhibited itself in a variety of shapes. At the present day, its doctrines as cherished among the Jaina of Guzerat and Rajputana, differ widely from its mysteries, as administered by the Lama of Thibet, and both are equally distinct, from the metaphysical doctrines propounded by the monks of Nepal: or the philosophy taught in Burmah: its abstractions in Japan, and its observances have undergone a still more striking alteration from their vicinity to the Sintoo sect, and in China, they have been similarly modified in their contact with the rationalism of Lao-tsen and the social demonology of the Confucians. But in each and all, the distinction is rather in degree than in essence, and the general concurrence is unbroken in all the grand essentials of the system.

Of the three great religious systems of the Aryans that of the Hellenic and Latin races seems to have originated in the East, but to

have become modified by new geographical conditions, the proximity of the sea, and the struggle for existence. The other two, the religions of Zoroaster and Sakya Muni have traces of sharp antagonism and protracted conflict. But the Dyaus of the Veda, the sky, seems to be the Zeus and Jupiter the Diespeter of classical antiquity ; Ushas is Eos and Aurora, Surya is Helios ; the Harit, horses of the sun, are the charites or Graces : solar phenomena are traced out as the foundation of legends like those of Apollo and Daphne, Kephalos and Procris, Herakles and Deianeira. The religion of the portion of the Aryans who spoke the Zend, and whose caste and creed are embodied in the Zendavesta, is a change from polytheism to a belief in one superior being and is a solemn protest against the whole worship of the powers of nature involved in the Vedas. The deva of the Vedic hymns, Indra and others, are converted into devils and every follower of Zoroaster is compelled to renounce them, and with this change, came a deeper sense of sin, a clearer vision of the mystery of evil in the heart of man and in the world. But this merged into a dualistic creed, of belief in powers almost equally omnipotent, Ormuzd the good and Ahriman the evil, Light and Darkness, and the thoughts of the devout were directed to attain the purity which belonged to a servant of the former. Many Biblical critics believe that the Hebrews had no belief in Satan, nor in angels nor in immortality, till these were received from Persia, and that the Sadducees were purely conservatives, believers in the faith of Abraham and Moses. And parallelism between the religions of Zoroaster and of Israel are noticed by Siege and Haug, the belief in a mighty Lord, supremely wise and good : in a spirit of evil, tempting and accusing ; in myriad angels who form the armies and do the pleasure of the great King ; in a tree of life and a tree of knowledge ; and a serpent, the enemy of man, the iconoclastic hatred of the common forms of polytheism, the hope of a common Deliverer, the belief in a paradise for the souls of the good and righteous.

When the next great religion began its course, the system of the Vedas had become perverted into a revolting polytheism with caste as an intolerable tyranny. The doctrine of metempsychosis had assumed a prominent position in all speculations as to the 'before' and "after" of this earthly state from which there was no ready emancipation, and thinking minds were taught to look on life with all its sensations and energies, as an illusion.

Out of this, buddism grew. Sak'hya muni discountenanced the philosophic views of the bramins, but did not deny the authority of the Vedas. M. St. Hilaire says next to the story of the gospels there is no story of self-denial, so marvellous as that of the king's son who laid aside the greatness to which he had been born, and when he had found, as he believed, the secret of emancipation from the misery of existence gave himself to a life of suffering, hardship and mendicancy to extend it to the poorest and the meanest. He says Je n' hesite pas a ajouter que sauf le Christ, tout seul, il n'est point parmi les fondateurs de religion, de figure plus pure ni plus touchante que celle du Boudha.

M. St. Hilaire, M. Eugene Burnouf and Professor Max Müller, identify the nirvana of Buddha with absolute annihilation, the pure not being, in which there is no absorption into the higher life of the uncreated essence, no consciousness of peace and freedom from evil, but the loss of being and consciousness at once. This doctrine is shadowed forth in the despair of Job and Jeremiah ; in the deep melancholy of Ecclesiastes ; in the Choruses of Sophocles, the Apologia of Plato and in the soliloquy of Hamlet, yet this has no where led to suicide, as the path to Nirvana, but to fasting, prayer, alms-giving, and self-sacrifice. But it was offered to people who held to the belief of a natural immortality and metempschycosis, to whom death brought no sure deliverance, but might lead to ills greater than in this world, new forms of human or brute life more miserable than what they had passed through. The life of self-sacrifice of its founder, his voluntary acceptance of poverty and his proclamation of a universal brother-hood made war on the caste system. But brahmanism again rose triumphant and drove buddhism into other lands, and the region of Sakya Muni's birth and labours became a place of pilgrimage to people from distant countries.

Many nations are included in the term Semitic, Phænicians, Carthaginians, Syrians, Assyrians, whose religions present forms of worship, as gross and sensuous as those of Greece or India. Until the return of the Jews from Babylon, the people generally were prone to fall into a worship of gods many and lords many, like the nations around them, which the few thinking minds amongst them could not prevent. Their entire history, shows that the people fell into the lower forms of thought and speech, their very worship of Jehovah became polytheistic even fetiche, in its nature, and it was in protest against this that their law-givers, prophets, and psalmists spoke and when Mahomed in the seventh century of the christian era,

appeared with a monotheism, the most rigorous and exclusive that the world had witnessed, he was one of a semitic race who were still polytheists and fetish worshippers. The Jews belief had, as a basis, not monotheism, the belief in a deity, numerically one, but in a living God the Father and the King of men. But when Mahomed proclaimed that the Lord was One, he did so as reviving the faith of Abraham, who derived his knowledge through a special revelation of God.

The little prevalence of idolatry in Hindoostan as compared with Bengal, is noticeable. Large towns have their temples and gods. But each village, as in Bengal has not its tutelary Siva and Shusti. From Allahabad to Mynporee a hindoo traveller did not meet with one single instance of that indispensable of a Bengal village, a little round stone painted with vermillion and placed beneath an aged banyan or peepul tree, which acts as a guardian deity of a rural community. In one single street of Calcutta there are more images of 'Krishna and emblems of Siva, than perhaps in the whole length of the Doab. A buddhist philosophy seems to have been since B. C. 1500 *i. e.*, 850 years before Sakya Muni gave it fresh vigour, Sakya Sinha, is the household name of Gautama Buddha, it means the Scythian lion, Gautama Buddha is another appellation. The epoch of Sakya, the fifth Buddha or Gautama, is determined by concurrent testimony of the Ceylonese, Siamese, Pegu, Burmese and Chinese eras, which are all founded on the birth or death of the Buddha legislator, and though all differing more or less, concur in placing him between the limits of 544 and 638 years before Christ. The Raj Guru of Assam, a pandit well versed in Buddha literature, fixes the Nirwan or emancipation of Sakya Muni in 520 B. C. According to Mr. Csoma de Koros, the name of Kanishka occurs in a Tibetan work as a celebrated king who reigned in Northern India, at Kapila, which is supposed to be in Rohilcund or near Hurdwar. His reign dates about 400 years after Sakya (about the end of the second century) when the followers of the Buddha religion had become divided into eighteen sects (the Sakya tribes, or Sacæ) under four principal divisions, of which the names both Sanscrit and Tibetan are on record.—*Prin. Ind. Ant. Vol.* i, *p.* 39; *Perry's Bird's Eye View, p.* 53; *Csoma's Analysis of the Dulva, Res. As. Soc. Bengal, vol.* xx, *p.* 90; *Fo-kwe-ki, chap.* xvi. *p.* 101; *Fra Orazio, in Nouv. Jour. Asiat., t.* xiv., *p.* 408, ii; *Jour. des Savantes, Mai,* 1831, *p.* 263; *Bhilsa Topes, by Major Cunningham, pp.* 1 *to* 67; *Tennant's Ceylon, p.* 327; *Review of E. H. Plumptree of Max. Muller's Science of Religion in Contemporary Review for Jan.* 1868; *Tr. of Hind. Vol.* i, *p.* 375; *Adam's Roman Antiquities, 8th Ed., pp.* 228 *to* 234; *Boudha et sa religion, p.* 5. See Ajatasatra, Ajataswara, Aryan, Asoka, Budd'ha, Hindoo, India, Inscriptions, Karli, Mahomedans, Pali, Pradotya, Prad'hanika, Pyadasi, Sakhya, St'hupa, Tope.

SAKI. An alcoholic liquor in use in Japan. At an entertainment there, a pair of chop sticks was placed at each corner of every table, in the centre was an earthen pot filled with saki, surrounded with four acorn cups, four large coarse China cups with clumsy spoons of the same material and four tea cups of tea. Cups of tea were first handed round, these were followed by very small cups of saki, which had the taste of French liqueur.—*American Expedition to Japan, p.* 218. See Japan.

SAKI, HIND. The astringent bark of a Panjab tree.

SAKI, HIND. The man who gives charas prepared to the drinkers.

SAKI, see Indra.

SAKI, HIND. Euonymus fimbriata.

SAKIAM, see India.

SAKITAI, or Saka-dwipa. From between the parallels of lat. 30° and 50° N., and from long. 75° to 95° E., the highlands of Central Asia, alike removed from the fires of the equator and the cold of the arctic circle, migrated the Sakæ or Scythic races which passed into Europe and within the Indus. The Takshak, the Gete, the Kamari, the Katthi and the Hun came from Sakitai or Saka-dwipa, and from the Dasht-i-Kipchak crossed the Jaxartes or jihoon and crossed the Paropamisan range into the plains of Hindusthan. See Sakæ, Sakatai.

SAKITSCHIWAN, see Juniper.

SAKKA TUNGHA, TEL. Cyperus hexastychius, *Rottl.*

SAKKARI, TAM. Sugar.

SAKKER, in lat. 27° 42', long. 68° 51' N. a town in Sindh, on the right side of the Indus. The Dak bungalo is 419 feet above the sea.—*Schl*, *Rob.* See Sakar, Sukker.

SAKKYE, see Kedah, Quedah.

SAKMUNIA, GUZ., HIND. Convolvulus scammonia. Scammony.

SAKPHA, TIBET. Tetrao hodgsoniæ, also Sacfa hodgsonii, *Blyth.*

SAKRA, a name of Indra.

SAKRANT, also Sankrant, also Makar-Sankrant, a hindoo festival, held on the day that the sun enters the sign of Makar at the winter solstice. On this night, in ancient India, a horse was sacrificed to the sun or Bal-nath the god Bal. Hindoos now bathe in the sea, rub their bodies with sesamum seeds and entertain friends. See Sun.

SAKSANDARI, Singh. Aristolochia indica, *Linn.*, *Roxb.*

SAKTA, a sect of hindoos, who worship the female principle according to the ritual of the Tantra. Of these there are two divisions, the Dakshina chari or right hand ritualists, and the Vama chari or left hand ritualists. The worship of the right hand division is public, and is addressed to the goddesses, in the forms of Durga, Bhavani, Parvati, Lakshmi, Maha Lakshmi and others. The left hand ritualists worship, in preference, the Tantrica impersonations of Durga, as Devi, Kali, Syama, &c., or a woman representing the sakti. Their worship is private and unavowed and is much talked about.—*Wilson's Hindoo Sects*; *Wilson's Gloss.* See Hindoo, Kerari, Sacti, Veda.

SAKTA BHAKHTA, worshippers of the female energy who make the universe to be developed by an inherent power in matter. They use feminine terms and symbols, and practice the magical rites of the At'harvana Veda, which has been termed the black Veda; and the whole is sometimes termed the Tantrica system.—*Taylor.* See Veda, At'harva veda, Tantrica.

SAKTI NATH. The lord of Sakti, or the divine energy under a female personification. In this sense Sakti is applicable to every goddess, but it is more especially the name of Bhavani, and her lord or husband in Siva.

SAKTI. In hinduism, the hindoo goddesses are uniformly represented as the subordinate powers of their respective lords: thus Lakshmi, the consort of Vishnu the preserver, is the goddess of abundance and prosperity; Bhavani, the wife of Siva or Mahadeva, is the general power of fecundity; and Saraswati, whose husband was the creator, Brahma, possesses the powers of imagination and invention, which may justly be termed creative. She is, therefore, adored as the patroness of the fine arts, especially of music and rhetoric; as the inventress of the Sanskrit language, of the Devanagri writing characters, and of the sciences which writing perpetuates: so that her attributes correspond with those of Minerva Musica of Greece or Italy, who invented the flute, and presided over literature. Some of the Sakti of the hindoo gods and their avatara are termed Brahmi, Maheswari, Vaishnavi, Varahi, Mahendri, Chamunda and Chandika, hideous goddesses, who attend upon Siva as Bhairava, the terrific destructive deity, who is propitiated by offerings of wine and flesh. The Sakti worshippers are almost unknown in the south of India.—*Coleman, p.* 125; *Hind. Theat.*, *Vol.* ii, *p.* 52. See Kancheliya.

SAKTI-PUJA, or Sakti-worship, a hindoo form of worshipping the Sakti.

SAKUNTALA, name of a Sanscrit book. See Sakontala.

SAKWALA, Sakwala-gala, see Myen-mo.

SAKWANTI, see Pandu dynasty.

SAKYA GAUTAMA, see Saky'ha muni.

SAL, also Sakhu, Hind. Vatica robusta.

SAL, Hind. A kind of sugar press in the Simla states.

SAL, Hind. A year.

SALA, Tel. Vatica robusta.

SALABAT JUNG, son of Nizam ul Mulk! his brother, Nassir Jung, in 1750, brought him into the Carnatic a prisoner, but in February 1751, on the death at Cuddapah of Muzaffar Jung, he was released and proclaimed Subah. He took Kurnool, and advanced to Hyderabad, where he pacified the French troops and then in May advanced to Aurungabad which he reached on the 18th June. In July he purchased a peace with the Mahrattas and proceeded against the Nirmul rajah whom he defeated, and after this he sent to the Marquis Dupleix a sunnud of Nabob of the Carnatic. In 1772-3-4, he was alter-ternately at war and at peace with the Mahratta peshwah, Balaji Baji Rao. But in 1755, he proceeded to Seringapatam and exacted 52 lacs of rupees as tribute. In 1756, he came to a rupture with the French under M. Bussy, dismissed and pursued them, and sought the aid of the British from Madras.—*Orme.*

SALAB MISRI, Hind. Salep, the root of Orchis mascula, Eulophia, and other plants.

SALACIA, a genus of unimportant plants of the natural order Hippocrateæ, the following East Indian species are known:

S. arnottiania, *Wight*, Malabar.
S. brunoniana, *W. & A.*, Pen. of India.
S. celastrifolia, *Wall.*
S. longifolia, *Wall.*, Khassya.
S. macrosperma, *W. I.*
S. milliflora, *Wight*, Mergui.
S. oblonga, *Wall.*, *Wight*, Pen. of India.
S. pomifera, *Wall.*, *Wight*, Pen. of India.
S. prinoides, *DC.*, Burmah.
S. reticulata, *Wight*, Ceylon.
S. roxburghii, *Wall.*, Khassya.
S. verrucosa, *Wight*, Mergui.

The East Indian species are often classed under the genus Johnia, the last named in compliment to Dr. John, a Danish missionary, who was one of the founders of the Botanic Garden at Tranquebar, and sent many new plants to Dr. Roxburgh. The whole are formed of species which have little beauty, but the fruit of both the species of Johnia is eatable.—*Roxb.*; *Voight.*

SALADIN, see Kufra, Salah-ad-Din.

SALADANG, see Sapi.

SALAGRAMA, Fossil Ammonites, supposed by some to be the ætiles or eagle stones of the ancients. The principal sorts are the Lakshmi Narayani, (which, according to Mr. Colebrooke, must be perforated in one place only, and have four spiral curves in the perforation, with marks resembling a cow's foot and a wreath of flowers, which is supposed to contain Lakshmi as Narayani,) the Vamuna, the Demodura, the Narsingha, &c., &c., some denote the gracious, and others the vindictive incarnations of Vishnu. The former are much valued. Mr. Ward states that the Lakshmi Narayana is sometimes sold for as much as two thousand rupees. In an account of the meeting of the Asiatic Society of Calcutta in October 1830, is a notice of a letter from Dr. Gerard of Soobathoo, who had discovered in a lofty position (15,000 feet) ofthe Himalaya range, an extensive fossil tract of shell formation, of which he describes four classes, and of the fourth thus writes : "Belemnites and Orthoceratites mineralized by the same material as the Ammonites (iron clay and pyrites.) Their abundance in the beds of mountain torrents, especially the Gundak, has been long known, as they form an indispensable article in the sacra of the Hindoo Thakoordwari, under the name of Salagrama." This fossil, deemed sacred by the hindoos, is essential in many rites and ceremonies of the brahmans ; it is used in propitiatory oblations to Vishnu, as well as in funeral and other ceremonies. The Salagrama is also considered as a type of Mahadeva, as some other holy, particularly conical stones also are. Mr. Colebrooke, likewise informs us (As. Res. vol. iii, p. 240,) that the Salagrama are found in a part of the Gunduk river, within the limits of Nepal. They are black, mostly round, and are commonly perforated in one or more places by worms, or, as the hindoos believe, by Vishnu, in the shape of a reptile. According to the number of perforations, and of spiral curves in each, the stone is supposed to contain Vishnu in various characters. For example, such a stone perforated in one place only, with four spiral curves in the perforation, and with marks resembling a cow's foot and a wreath of flowers, contains Lakshmi Narayana. The stones called Ban-ling, found in the Nermada, are, in like manner, considered as types of Siva, but they are not fossils, merely stones rounded by attrition. The Salagrama is found upon trial not to be calcareous ; it strikes fire with steel, but scarcely at all effervesces with acids. Sonnerat also describes the Salagrama as a petrified shell, of the species cornes d' ammon, very heavy, commonly black, but sometimes violet, oval, or round, a little flat, nearly resembling a touchstone, and hollow, with only one small aperture ; within, he says, it is almost concave, with spiral lines terminating towards the middle. Some are supposed to represent the gracious incarnations of Vishnu, and are then highly prized ; but when they border a little on the violet, they denote a vindictive avatara such as Narasinga, when no man of ordinary nerve dares keep them in his house. The possessor of a Salagrama preserves it in clean cloth : it is frequently perfumed and bathed ; and the water thereby acquiring virtue, is drank, and prized for its sin-expelling property. They are common water worn Ammonites, and though hindoos are averse to show them, Europeans who attend to such things can always meet in with them. Veneration for stones may be traced among almost all nations. The following instance from our scripture reminds one strongly of hindoo simplicity :—"And Jacob rose up early in the morning, and took the stone he had put for his pillow, and set it up for a pillar, and poured oil on the top of it."—Gen. chap. xxviii, v. 18. The Grihadeva or household deity rarely bears any specific designation : is sometimes represented by a water pot, a rude figure, a Salagrama, or a Tulasi plant.—*Cole. Myth. Hind.*, *p.* 176 ; *Moor's Pantheon*, *pp.* 309–10 ; *Wilson's Gloss*. See Hindoo, Saligram, Sri Sampradaya, Zonar.

SALAHIE, a beautiful village in the suburbs of Damascus, lying at the foot of the western mountains, about a mile from the limits of the city.—*Robinson's Travels, Vol.* ii, p. 116.

SALAH-UD-DIN, the leader of the armies of the khalifs, who encountered the crusaders and Richard Cœur de Lion of England, near Jerusalem. His tribe are still numerous in Kurdistan. Caliph Mamun, in A. D. 814, caused a degree of the earth's surface to be measured. This was done on the sandy plains of Mesopotamia, between Palmyra and the Euphrates, by which 56·66 miles were fixed as the equivalent of a degree of the earth's circumference. Caliph Mamun, son of Harun ur Rashid forced an entrance into the pyramids. Later, Salah-ud-din, the Saladin of Europeans, used their casings, at least, as stone quarries. Caliph Umar, was the second caliph in succession to Mahomed. His time was a period of great extension of mahomedanism. The battle of Kadesia was fought and won by his general Saad, and put an end to the Persian empire of the Parsi. He imposed the khiraj on Syria, and died and was buried at Jerusalem where his tomb still is.—*Bjornstjerna's British Empire in the East, p.* 97 ; *Bunsen, Vol.* ii, *p.* 150. See Acre.

SALAI, a river running near Naradoul in Midnapore.

SALAI, BENG., HIND., SANS. Boswellia glabra, B. serrata, B. thurifera. Salai-gond, Olibanum.

SALAI, TAM. An idol.

SALAJIT, HIND. Lignite.

SALAKA, JAV. Silver.

SALA-KUCHOO, BENG. Colocasia fornicata.

SALAM, ARAB., HEB. Peace; Salam-alaikum, Peace be unto you. O alaikus salam and unto you be peace. Salam bolo, say unto him peace. Touching the breast and forehead or lips and forehead : kissing of the lips is not known with men, only the cheeks and shoulders. The right cheek first, then the left and some times the cheeks alone are kissed, but generally the shoulders, also as Gen. 33, 4 : 14, 145 ; Luke 15, 20.

Kissing of the hands is common as in Math. 23, 7 ; Mark 12, 38, and rising to receive as in Job. 29, 8.

The not returning "Salam" is a sign on the part of the Bedouins that they were out to fight, and not to make friends ; but the dromedary riders, generally travel without much to rob. After the first salutation of peace, in conversation you say, "Is your illustrious disposition well," and the reply is "al hamd ul illah." Thanks be to God, or Ap ki mihrbani se, by your favour, and if assenting to a proposition, "Insha ul illah," if it please God. Salam Alaikum, is the Hebrew Shalom Alechem, Peace be to you, of Luke x, 5. Give my peace to So and So, on parting, where one says good bye, or God be with you. With peace, go in peace, Ex. iv, 18.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 340.

SALAMANDRA MAXIMA. The large salamander of Japan, lives in the valleys of Niphon between 34° and 46° N. lat. It resides in rivulets and lakes formed by the rains at a height of from 4,000 to 5,000 feet above the level of the sea, it grows to about three feet in length.

SALAMBHA, HIND. A kind of salt.

SALA-MISRI, TAM. Salep.

SALARAS, or Silajitu, TEL. Ophelia elegans, *R. W.*

SALAMLIK, also Salamji, TURK. The place of assembly in a house.

SAL AMMONIAC,

Urmena,	AR.	Sal Ammoniac,	LAT.
Nou-sha ; Tung-sha,	CHIN.	Sadar,	MALAY.
Peh-ting-sha	,,	Nowshadur,	PERS.
Sel Ammoniac,	FR.	Naschatur,	RUS.
Salmaik,	GER.	Nowsadur,	SANS.
Nowsagur ; Nowsadur,	GUZ. HIND.	Vayvagarra lunu,	SINGH.
Sale Ammoniaco,	IT.	Navacharum,	TAM.

Sal Ammoniac is a compound of ammonia and hydrochloric acid, a hydrochlorate of ammonia, although the older term, muriate of ammonia, is also used. The substance from which this salt was first obtained, was the soot of camel's dung ; by sublimation in Egypt, near the temple of Jupiter Ammon, whence its name. It is now manufactured largely in Europe, by combining hydrochloric acid either directly or indirectly with ammonia obtained from the decomposition of animal matter. In France, bones and other animal matters are distilled in large iron retorts, for the manufacture both of animal charcoal and of sal ammoniac. Coal soot was formerly used in Great Britain as a source of this salt ; but since the establishment of gas works, it has been chiefly derived from the liquor obtained during the preparation of coal gas. It is found native at Etna and Vesuvius, in some of the Tuscan lakes, in Persia, Bokhara, in Mongolia and Ile from lakes and the vicinity of extinct volcanoes. That in use in China was formerly obtained from Lanchau-fu and Ning-hia, in Kan-suh, but the country of the Tih or Sijung and Turfan formerly yielded it and the fissures in the volcanic mountain of Peh-ting in Turfan. It is met with in commerce as large cakes of a semi-circular form, translucent, and colourless, with a sharp, saline, cool taste, but no smell. It forms a considerable article of trade in Karnal, where the manufacture has been known for ages. It is important as a source of most of the compounds of ammonia, and is used at Lahore for the manufacture of solution of ammonia, for snake bites, to a considerable extent. It is extensively employed in the arts, in the preparation of aqua-regia, in soldering some of the metals, in tinning iron and copper, in the preparation of dyes, liquid ammonia, and in various chemical manufactures.—*O'Sh., Mat. Med.* ; *Smith's Mat. Med. of China* ; *Powell's Handbook, p.* 110 ; *Faulkner.* See Ammonia, Dyes.

SALAN, HIND. Panicum miliaceum, Pennisetum italicum.

SALANGAN, HIND. A bark used for fibre in Kangra.

SALANG ISLANDS, see Junk-Seylon.

SALANGORE, in lat. 3° 20′ N., long. 101° 12′ E., lies on the south side of the entrance of the river of the same name. This place was formerly frequented for tin and other articles of trade. Salangore is separated from Perak by a small river called the Runkup, a little north of the Birnam stream, in about lat. 30° 59′ N. Salangore, according to native authority, comprises three divisions. The Bugi occupy the coast.—*Newbold's*

British Settlements, Vol. ii, *p.* 27. See Kedah, Quedah, Semang.

SALARIAS ALTICUS. Near the rocks of the Ceylon coast, are multitudes of the Salarias alticus, a curious little fish which possesses the faculty of darting along the surface of the water and running up the wet stones and across the sand with the utmost ease and rapidity. Mr. Gosse has seen a species of Antennarium similarly running quickly to and fro on the surface of the great beds of floating sea weed in the gulf stream, progressing with the utmost facility by means of its pectorals and ventral fins, quite out of water. By aid of the pectoral and ventral fins and gill-cases, they move across the damp sand, ascend the roots of the mangroves, and climb up the smooth face of the rocks in search of flies ; adhering so securely as not to be detached by repeated assaults of the waves. These little creatures are so nimble, that it is almost impossible to lay hold of them, as they scramble to the edge, and plunge into the sea on the slightest attempt to molest them. They are from three to four inches in length, and of a dark brown colour, almost undistinguishable from the rocks they frequent.—*Gosse, pp.* 122-123 ; *Tennent's Sketches of the Nat. Hist. of Ceylon, p.* 332, *Vol.* ii, *p.* 493.

SALAR MUSSUOOD GAZEE or Rujub salar.

SA-LAT, BURM. Calpicarpum roxburghii, *G. Don.*

SALAT INDRA KESARI, see Inscriptions.

SALATAH, ARAB. A favourite dish made as follows. Take a cucumber, pare, slice and place it in a plate, sprinkling it over with salt. After a few minutes, season it abundantly with pepper, and put it in a bowl containing some pepper-corns, and about a pint of curds. When the dish is properly mixed, a live coal is placed upon the top of the compound to make it bind, as the Arabs say. It is considered a cooling dish, and is esteemed by the abstemious, as well as by the toper.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 198.

SA-LAT-NEE, BURM. Graptophyllum hortense, *Nees*, also G. lurido-sanguineum, G. hortense is also called in Burmese, Gnwæ-ban.

SALATURA, the So-lo-tu-lo of the Chinese pilgrim Hwen Thsang the birthplace of Panini the grammarian, has been identified with Lahore, near Ohind. Hwen Thsang visited it, he says it was 20 li, or 3⅓ miles, to the north-west of Ohind. In January 1848, at the village of Lahor, which is exactly four miles to the north-east of Ohind, General Cunningham procured several Greek and Indo-Scythian coins, from which it may be inferred, with some certainty, that the place is at least as old as the time of Panini himself, or about B. C. 350. He therefore, identifies Salatura with Lahore. The loss of the first syllable of the name is satisfactorily accounted for by the change of the palatal sibilant to the aspirate according to the well-known usage of the people of western India, by whom the Sindhu river was called Hendhu and Indus, and the people on its banks Hindus or Indians ; Salatura would, therefore have become Halatura and Alatur, which might easily have been corrupted to Lahor ; or, as General Court writes the name, to Lavor.—*Cunningham's Ancient Geog. of India, pp.* 5-8.

SALAUKER, HIND. Abelia triflora.

SALAVA MIRIALU, TEL. Cubebs, Piper cubeba.

SALAYER ISLAND, called by the Dutch, Boegerens, is about 36 miles long, of moderate height, well peopled and well cultivated. Its north point is in lat. 5° 47′ S.

SALBRA, HIND. Salvia officinalis.

SALEM, a revenue district or collectorate of the Madras Presidency formed out of the Barah-mahal, in the south of the peninsula of India, Salem town is situated in a valley, and 870 feet above the level of the sea. It is the chief town of the revenue district, to which it gives its name. The Salem collectorate has a population of 1,195,377, is part lowland, but it includes the Balaghat, of the same height as Mysore, and a rich plain of considerable elevation known as the Barahmahal. The Shevaroy hills are near the town of Salem and attain an elevation of 6,000 feet, Salem is celebrated for its steel. See India, Kerala, Silk, Steel.

SALE, IT. Salt.

SALE AMMONIACO, IT. Sal ammoniac.

SALEMANTA, or Challa munta, TEL. Fluggea leucopyrus, *Willd.* The same name is applied to F. virosa.

SALENDONG, a silk scarf of Singapore.

SALIMOTE, a silk scarf of Singapore, or sometimes embroidered with gold thread. The Salendong and Salemote with and without gold thread and silk are in use throughout the Archipelago from Sumatra to Timor. Timor is the most remote of the eastern islands, in which textile fabrics are manufactured, the countries beyond producing no other cloths than those of bark beaten out. The texture of the cotton cloths manufactured in Timor and the adjacent islands closely corresponds with those of the Batta of Sumatra and the Dyak of Borneo. The manufacture is evidently of great anti-

quity, and must have been introduced before that of Java of the present time, which is of hindoo origin. Cotton and dyes are grown in Timor. The silk threads introduced are made from raw-silk imported from China and the continent of Asia.—*Cat. Ex.*, 1862.

SALENDRA, MAHR. Hystrix leucura. —*Sykes.*

SALEP.

Salib misri,	AR., DUK.	Salep,	FR.
Salep misri,	HIND., PERS.	Sala misri.	TAM.

The tubers of the Orchis mascula, Eulophia and other plants receive this name in works on pharmacy. They are compressed, ovoid, rather transparent, and composed chiefly of bassorine, soluble gum, and a large proportion of amylaceous matter or starch. Royle states that one drachm of the powdered root requires 60 drachms of boiling water to affect its solution; two drachms afford a sufficient meal for an invalid; good salep carefully prepared is in truth one of the best articles of diet a convalescent can use. In India the salep of Cashmere is reckoned the best, and is obtained chiefly at the Hurdwar fair from the Cashmere merchants: from the peculiar shape of the tubera, it has gained immense, but most unmerited celebrity as an aphrodisiac remedy. The same circumstance has given the plant its name both in the Greek and Arabic language. At the Madras Exhibition of 1855, there were three samples of "Salep misree" contributed by Dr. Riddell from the Kunner Hills near Aurungabad—sold when green, and fresh dug up, at 2 pice per seer: and from Booldanah Hills in Berar—when fresh dug is sold by the Bhil at 12 seers for the Rupee. These were hard, and had a horny appearance, the two first were dirty green and the third of a yellowish white color. It is imported from the Persian Gulf, but is indigenous in some parts of the Western Presidency, though for want of cultivation, the tubers are scarcely worth the trouble of procuring. Native practitioners prescribe it in conjunction with mastich and some other ingredients, in such cases as require tonics: in England, it is supposed the chocolate makers grind it up with cocoa. Professor Royle states that the salep of Kashmir is obtained from a species of Eulophia, probably E. virens. The price of salep is about eight guineas per cwt. in the London market. A little is exported from Constantinople, excellent specimens from this quarter were shown in the Egyptian department of the Great Exhibition in 1851. It was formerly much used, but has latterly been much superseded by other articles. Major D. Williams' "(Journal of the Agri. and Hort. Soc. of India," Vol. iv, part I,) states that the Tacca plant abounds in certain parts of the province of Arracan, where the Muggrace prepare the farina for export to the China market. After removing the peel, the root is grated on a fish-skin, and the pulp having been strained through a coarse cloth, is washed three or four times in water, and then dried in the sun. Mr. Nuttall, (American Journal of Pharmacy, Vol. ix,p. 305,) says the Otaheite salep is obtained from a new species of Tacca, which he names the T. oceanica. Oriental salep, is probably obtained from Eulophia vera and E. campestris. European salep is obtained from Orchis mascula, *W.*; O. latifolia, O. morio, *W.*; O. militaris, *W.*; O. papilionacea, *W.*; O. coriophoira, *Pers*, and O. undulatifolia, *Pers.—Simmond's Commercial Products*; *O'Shaughnessy, p.* 653; *M. E. J. R.*; *Faulkner*; *Ains. Mat. Med., p.* 40; *Tomlinson.* See Eulophia; Orchis, Tacca.

SALEP-I-SHAITAN, PERS. Conium maculatum. Cicuta virosa.

SALEP MISRI, or Saleb Misri, AR., DUK., GUZ., HIND., PERS., TAM. Salep. Eulophia virens. Salep, from Raepore, called behchaudi, when pulverised, resembles arrow-root, and is made use of by natives on fast days, prepared in various ways. It is obtained from the glutinous matter which issues from the stems of a jungle plant, after being soaked in running water for some days. The Gonds prepare the behchandi. It can be had in any quantity in the Jubbulpore bazaar, but most of it comes from Mundla and Seonee. The specimens seem to consist of the dried sections of a farinaceous root containing bassorin, and allied in composition to salep.—*R. Br.*; *W. Ic.*

SALEP TACCA, ENG. Tacca pinnatifida, *Linn., Forsk.*

SALESI, a Koli tribe of Central India. The Raj, Salesi, Tonkri, Dhour and Dunggali Koli reside in the Attaveesy, and in the Wun, Dandory and Nassik districts, and worship the hindoo deities Khandoba, Bhairu and Bhawani. A few Raj Koli are settled in the Konkan and Jowair. They are the same people, an offshoot of the Mahadeo Koli, and said to have been expelled for some offence. They are farmers and labourers, but the Dhour are the lowest in civilization, are the greatest drunkards and eat the flesh of animals which have died a natural death. They are ruled by chiefs styled naik.

SALFETOTSSCHNOE, RUS. Diaper.

SALGAR, HIND. of Kangra, the armadillo.

SALGI, HIND. Dark green colour.

SAL-GIRAH, PERS., or Baras-ganth, HIND. The anniversary of a person's birth, on which a knot is added on a string kept for

the purpose. A girl's years are numbered by a silver loop or ring being added yearly to the gardani or silver neck ring.—*Herkl.*

SALHE, HIND. Boswellia glabra.

SALI, in Berar, silk weavers of sarhi and choli.

SALIBABOO ISLANDS, or Tulour, lying between Mindanao and Celebes, are three in number, of considerable size and moderately elevated. Kabrouang is the name of the most southerly, and has a peaked mountain on it. Its southern end is in lat. 3° 47′ N. and long. 127° 11′ E. Tolour or Karbalang is the larger and more northerly island, and lies from lat. 4° to 4° 28½′ N.

SALICACEÆ, *Lindl.* The willow tribe of plants, comprising 1 gen., 2 species, of Salix.

SALICARIA CINNAMOMEA. *Ruppell.* A curious little bird of Abyssinia, apparently congeneric with the Tribura luteoventris. —*Hodgson* ; *Mr. Blyth's Report.*

SALI CHETTU or Koriti chettu, TEL. Plecospermum spinosum, *Tric.*

SALICINE, a crystallizable, bitter principle, obtained from the leaves and young bark of the poplar, willow, aspen, &c. It forms small white silky needles, and in some respects, resembles the vegeta-alkalis, cinchona, and quina, having febrifuge properties ; but it differs from them in containing no nitrogen, and not forming salts with acids.—*Tomlinson.*

SALICOQUES, a family of crustaceæ :

Fam.—SALICOQUES.
Tribe.—ALPHIENS.

Alpheus brevirostris, *Edws.*, New Holland.
„ ventrosus, *Edws.*, Mauritius.
„ bidens, *Edws.*, Asiatic Seas.
„ chiragricus, *Edws.*, do. do.
„ villosus, *Edws.*, New Holland.
„ frontalis, *Edws.*, do.

SALICORNIA, of this genus, Wight gives, in Icones, Salicornia brachiata, fruticosa, herbacea, and Indica. See Chenopodiaceæ.

SALICORNIA ARABICA, *Wight.*

Ushnan,	ARAB.	Chook,	HIND.
Arabian glasswort,	ENG.	Ghasul,	PERS.
Chubuck-sowyeh,	HIND.		

Grows in the Sunderbuns and on the Coromandel Coast, and barilla is made from it. See Barilla.

SALICORNIA BRACHIATA, *Roxb.*

Koyala, TEL.

This perennial plant grows very abundantly in the delta of the Ganges and on the Coromandel Coast, on low wet grounds overflowed by the tides. It yields a barilla for soap and glass.—*W. Ic.*, *Roxb.*

SALICORNIA INDICA, *W. Roxb.*, *W. Ic.*

Jodu palung,	BENG.	Koyya pippali,	TEL.
Jidu palung,	„		

A very common plant on such salt grounds as are inundated by the spring tides. It is especially plentiful on the Malabar coast and is still burned there for barilla. But the probable value of this article as an Indian export has been much depreciated by the progress of chemical science in Europe, where the purest alkali is manufactured by decomposing common salt by sulphuric acid, and at the low rate of 10*l.* the ton of 30 maunds. The Salicornia, Salsola and Sueda genera, cover every patch of saline land in the Panjab. —*Eng. Cyc.* ; *Roxb.* ; *W. Ic.* ; *Voigt.*

SALIGRAM, fossil ammonites obtained from Northern India, held in high estimation by Hindoos. They are found in a part of the Gunduk river, within the limits of Nepaul. They are mostly roundish and commonly perforated in one or more places by worms, or, as the hindoos believe, by Vishnoo, in the shape of a reptile. Some are black, others are violet and oval. The possessor of a saligramu, preserves it in a clean cloth ; it is frequently perfumed and bathed, and the water thereby acquiring virtue is drank and prized for its sin-expelling property. It is always placed near persons when they are about to die. A garden or plantation is consecrated by the hindoos by marrying the Saligramma stone carried by one man, and represent the groom, to a branch of the tulsi tree carried by another to represent the bride. It is the usual marriage ceremony, somewhat modified after this consecration, the fruit can be eaten. Mr. Dunlop found two extensive lias ? beds at Takuli Shem, in Hundes, with numerous saligram, which are thence taken to Badrinath and Kailas.—*Colebrooke, in the Asiatic Researches, Vol.* vii, *p.* 241 ; *Major More, Hindoo Pantheon* ; *Wilson's Gloss.* See Hindoo, Salagrama.

SALIK, (lit. a traveller or pilgrim) a class of devotees.

SALI KAMPA, TEL. Stylosanthes mucronata, *Willd*, Arachis fruticosa, *Roxb.*, iii, 282.

SALIMBOW, see Kyan.

SALINDEE, a river near Budruck in Balasore.

SALINE SPRINGS are found in Sind and in the higher portion of the Punjab ; they usually contain common salt with some sulphate of soda and small quantities of other salts, when they are not simply brine. Traces of iodine are found near Kangra. Throughout Rajpootana and in some parts of the Punjab, the wells are abundantly impregnated with soda. Some of the springs in Kemaon contain mineral impregnations, but scarcely to an extent to be considered saline. Scarcely any strong saline ones are thermal. The few thermal salines are chiefly calcareous, and one or two silicious. See Salt, Kalar, Reh, Saltpetre.

SALISBURIA ADIANTIFOLIA, *Sm.*

Gingko biloba, *Linn.* | Gingko, JAP.

A tree of Japan, much cultivated in China, and found in many gardens in Europe. Fine old specimens may be seen at Kew and in the Apothecaries' Garden at Chelsea. In congenial climates it attains the size of the walnut. It is remarkable for the form of its leaves, which are wedge or fan-shaped, deeply cut in the centre or bilobed, and finely striated with veins, having some resemblance to the leaves of some species of Adiantum, whence it is commonly called Maiden-hair tree in England. The pulp of the fruit is austere tasted, but the large kernel is sweet, with some degree of bitterness when raw, but agreeable as a dessert when roasted like chestnuts. They are much eaten in China. Mr. Fortune met with large trees of the Salisburia adiantifolia, the largest and most striking tree in some parts of the country. It is commonly called the Maiden-hair tree from the resemblance its leaves bear to a fern of that name. The Chinese are fond of dwarfing it, and it is often seen in that state in their gardens. Its fruit is sold in the markets in all Chinese towns by the name of "Pa-Hwo," and is not unlike dried almonds, only whiter, fuller, and more round. The natives seem very fond of it, although it is rarely eaten by Europeans. —*Eng. Cyc.* ; *Fortune's Wandering, pp.* 129, 248 ; *Roxb.* ; *H. B. Voight, p.* 560.

SALITAH, HIND. A canvass sheet used to contain the articles composing a camel's load. In cold weather it is converted into a blanket.—*Burton's Scinde, Vol.* ii, *p.* 43

SALIVAHANA, was the son of a potter. He headed a successful popular movement and became the chief of a powerful monarchy in Maharashtra. He ruled at Munji-Paithan. The ruler whom Salivahana overthrew was Vikramaditya. He gave origin to a new era, which is still current in India. The era reckons from A. D. 78, the supposed date of his death. It numbers the solar years, as the era of Vikramaditya numbers the luni-solar years. Tod describes Salivahana as of the Takshak race, and states that the Salivahana era set aside that of the Tuar in the Dekhan Salivahana had three hundred wives from whom the Beis Rajputs are descended. See Era, Jalus, Vikramaditya.

SALIVERI. TAM. Cress seed.

SALIX, the Willow, of which there are 15 species in India,—5 in the peninsula, 1 in Bengal, 2 from Oude, and the rest in the Himalaya. The earliest mention of the willow tree is in the Pentateuch, where the Israelites were directed at the institution of the feast of tabernacles to "take the boughs of goodly trees, branches of palm trees, and the boughs of thick trees, and willows of the brook, an to rejoice before the Lord their God seve days." At a later period, the Psalmist de cribes the captives as thus lamenting—"B the rivers of Babylon, there we sat dowı yea, we wept, when we remembered Zioı We hanged our harps upon the willows in th midst thereof. For there they that carrie us away captive required of us a song ; an they that wasted us required of us mirth. The willow is not commonly found beloı 8,000 feet elevation on the Sikkim mountain where it grows on the inner Himalaya onl and some kinds ascend to 16,000 feet : lik the poplars, the willows are valuable for thei timbers, for economic purposes. Of this genu Wight, in Icones, gives S. ichnostachya, an tetrasperma, Dr. O'Shaughnessy carefull examined Salix tetrasperma, the only willo found in lower Bengal, but could not detec in it any trace of salicine. Salix babylonic and S. ægyptiaca, (Khilaf bhalki, ARAB. Beds mooshk, PERS.) occur in gardens in Uppe India. Salix lindleyana, or dwarf willow occurs at 12,000 to 13,000 feet on the Hima laya—S. chita and rotundifolia in Kunawur The willows of Japan, are,

Salix japonica, *Thby.*	Salix vulpina, *Anders.*
„ alba, *L.*	„ acutifolia, *W.*
„ subfragilis, *Anders.*	„ Sieboldiana, *Blume.*
„ purpurea, *L.*	„ integra, *Thbg.*
„ padifolia, *L.*	„ Babylonica, *L.*
„ viridula, *Anders.*	

Salix arboreus, S. elegans. *Wall.* S. fragilis *L.*, and S. viminalis, *L.*, called beis, bitsu, bed, bida beli, yir, bada and bashal, grow at heights in the Punjab Himalaya from 6,000 and some of them in Ladak to 11,000 feet and the twigs and leaves of many of them are used for fodder. The wood is not valued. S. flabellaris, *Ands.* S. hastata, L. S. oxycarpa, *Ands.* bisa, bushan, jangal beli, ber, mathi, bak shel, shun, bhail and beli, are found at various elevations in the Punjab Himalaya and Ladak from 6,000 to 15,000 feet and the leaves, &c., of several are used as fodder. In Spiti baskets appear to be made from the twigs. One of the substances known as manna, the bed-khist, used as a laxative, is said to be a product on a species of willow of Khorasan : Dr. J. L. Stewart had not met with it, but Dr. Irvine states that it is said to be produced on a dark-barked cultivated willow in Turkistan. In the N. W. Himalaya, the twigs of a species of willow, the bis of those regions, and a plant of Kaghan, are used for basket work.—*Cleghorn's Punjab Report* ; *Royle* ; *O'Shaughnessy, p.* 606 ; *St. John's Forest Trees of Britain, Dr. Hooker, Himalayan Journal, Vol* ii, *p.* 240 ; *Dr. J. L. Stewart* ; *Dr. Honig., Thirty-five years in the East, Vol.* i, *pp.* 165-339.

SALIX ÆGYPTIACA. *Linn.*

Bed-i-musk,	PERS.	Khagawala,	PUSHT.

Cultivated at Lahore for the distillation, from the palms, of an aromatic water, which is much used in the hot season.

SALIX ALBA, *L.*?

Beshan,	UPPER CHENAB.	Chamma,	LADAK.
Yur, Chung,	,,	Kalchang, Walchang,	,,
Changma,	CHENAB, LADAK.	Chung,	KUNAWAR, PANJ.
Bis,	JHELUM.	Shan, Madanu, ,,	,,
Vwir,	KAGHAN.	Kharwal,	TRANS-INDUS.
Chamma,	LADAK.		

Dr. J. L. Stewart believes that there is considerable doubt as to this species, but it or an allied one appears to be common in Kashmir, Pangi, Lahoul, and Ladak, &c., occasionally in the last, from 5,000 up to 14,500 feet, and it seems to occur Trans-Indus. It is generally planted, but is probably in many places wild also. It reaches 8 and 9 feet in girth when well protected. Moorcroft mentions one of 16 feet, but the largest trees are very often hollow. It is planted round almost every village and along the water-courses of the Chenab. The slender branches and leaves serve as food for sheep and goats. In Kashmir the willow is used largely for basket-making ; in Tibet many of the houses are made of willow wattle and dab. Twig bridges of willow are mentioned in Spiti, Zanskar, and Ladak, where Parrotia is not found. In Kashmir, willow twigs are employed as tooth-sticks. There also, and still more on the Chenab and in Ladak, the trees are severely and systematically lopped, the young shoots and bark of the larger, removed by hand, being used as fodder. Willow timber is not much used in Lahoul, but in Tibet the whole plough except the point which is iron is generally made of willow. In Affghanistan willow wood is generally used for building, as insects do not attack it. On the Chenab, pails, &c., are rudely cut from single blocks of the willow and according to Moorcroft, combs, to remove the fine goat's hair from the animals back, are made of this in Ladak. The wood is most useful in Thibet and Spiti, and employed for boarding. The small twigs are used for basket work, and the leaves are highly valued in winter for food for sheep.—*Dr. Irvine* ; *Aitcheson* ; *quoted by Dr. J. L. Stewart* ; *Moorcroft's Travels, Vol. p.*

SALIX BABYLONICA, *Linn.*

Bada, Baint'h,	Beas.	Sail-i-majnoon,	HIND.
Baida, Budda,	,,	Majnun,	,,
Mo-Ma-Kha,	BURM.	Bed-i-majnun,	PERS.
Bidai,	Chenab.	Laila,	,,
Weeping Willow,	ENG.	Kutira,	,,
Bisa, Giur,	Kangra.	Wala,	TRANS-INDUS.
Pani-Jumma,	HIND.	Chung,	PANJ.
Bed,	,,	Willa,	PUSHTU.
Khilaf-i-Balki,	,,	Khar-Willa,	,,
Bet-Majnun,	,,		

A small tree of Greece, Asia Minor, common on the sides of all the rivers and canals, as well as in the gardens of the Chinese ; is cultivated in Nepaul, gardens at Ajmir and Calcutta, common in gardens in northern India, as, also, S. Ægyptiaca, while the polyandrous S. tetrasperma, *Roxb.*, is found in the Kheree pass, along the foot of the mountains and in other parts of India as Ajmir, Bengal and the peninsula. This and S. tetrasperma are abundant at Peshawur and in the Hazara district. The weeping willow tree is very common planted in the plains throughout the Punjab, being frequently of the graceful "weeping" type ; it also grows to 5,500 feet in the hills including Kashmir. Near Chumba Dr. Stewart saw trees of 12 feet girth. It grows rapidly, and is easily raised in moist places by cuttings, up to stakes of considerable size which are often planted to consolidate the banks of water-cuts, &c. Its branches and twigs are largely used for baskets, wattles, weirs, &c. Good cricket-bats have been made from it. The leaves are reckoned tonic ; contain a neutral principle, called salicine, and tannic acid ; some consider it nearly equal to cinchona, it is also said to be anthelmintic. Colonel Lake writing from Jhullander, says wood soft, smooth and white ; the large wood is used for cricket bats, the small twigs for kiltas, baskets and rope bridges.—*Trousseau* ; *Dr. Irvine's Medical Topography, p.* 210 ; *Royle's Ill., Him. Bot., p.* 343 ; *Dr. J. L. Stewart* ; *Powell's Hand-Book, Vol.* i, *p.* 385.

SALIX CAPREA, *Linn.*

Bed-i-mushk,	PERS.	Khagawala,	PUSHTU.
Khilaf-i-balki,	,,		

Cultivated at several places in the Punjab plains. The large yellowish catkins of flowers appear in February, and are collected and sold at about 6 or 8 rupees per maund to perfumers who distil a scented water from them. This, mixed with water is drunk as a sharbat, which has a rather pleasant though somewhat medicinal taste.—*Dr. J. L. Stewart* ; *Powell's Handbook.*

SALIX TETRASPERMA, *Roxb.*

Bheh,	ASSAM.	Safeda,	HIND.
Pani-juma,	BENG.	Bhainsa,	,,
Mo-ma-kha,	BURM.	Bis, Bida,	Jhelum, Ravi.
Bed, Badha,	HIND.	Gud-byns,	Kamaon.
Laila, Laili,	,,	Bhumtas,	Jhallandar.

In the Panjab this is less common than S. babylonica, but is planted in the plains, and is occasionally seen in the outer hills to 4,000 feet. Madden (?) mentions that it grows to 5,000 or 6,000 feet in Kumaon and on the banks of the hill streams of Kumaon ; is common at Rangamally in the Terai, in the Kheree pass, and along the foot of the mountains which

is a singular fact, as the genus is characteristic of cold and arctic latitudes, and no species is found below 8,000 feet elevation on the Sikkim mountains, where it grows on the inner Himalaya only, some kinds ascending to 16,000 feet. It grows in Bengal and the peninsula of India, likewise in British Burmah. Its wood is small but tough and elastic, but is not used in Burmah. A cubic foot weighs lbs. 37. In a full grown tree on good soil the average length of the trunk to the first branch is 10 feet, and average girth measured at 6 feet from the ground is 3 feet. It is readily raised by cuttings and grows rapidly to a considerable size. Dr. Stewart had seen trees of 6 feet girth. The names of these plants laila and majnun, are alluding to the well-known eastern love story. *Mr. Thompson*; *Drs. Brandis, Hooker, Him. Jour., Vol.* i, *p.* 400; *Dr. Royle's Ill., Bot. Him., p.* 343; *Voigt*; *Dr. J. L. Stewart, Cal. Cat Ex. of* 1862.

SALJARA MUNGALA VADU, Tel. A barber.

SALKH, Arab. Scarification, practised by the Arabs of Hejaz, as a proof of manliness.

SALLA, Hind. Abies Smithiana.

SALLA, Sarl, Hind. In the Himalaya beyond the Punjab, Pinus longifolia, long-leaved pine.

SALLA, Tel. Butter milk.

SALLA-BUDATA, Tel. Hibiscus hirtus, *L. W. and A.* Hibiscus phœniceus, *Roxb.*

SALLA-UDA, Tel. Panicum helopus, *Trin.* P. hirsutus, *Roxb.*

SALLAWATTY, see Pitt Strait.

SALLE, Hind. Picea Webbiana.—*Hooker.*

SALLUR, Hind. Abies Webbiana, *Hook.*

SALM, Ar. He did save, hence salam, salutation of peace: Islam, saving; Muslim (sing), Mussulmin (pl.) saved. See Salam.

SALMALIA MALABARICA, *Sch. and End.*

Bombax malabarica, *DC.*	Bombax ceiba, *Burm.*
„ heptaphyllum *Roxb.*	„ gossampinus rubra, *Ham.*
„ pentaphyllum.	

Rakto Shimool,	Beng.	Mul-elavu,	Maleal.
Lai,	Burm.	Salmali,	Sans.
Let-pan,	„	Shalmali,	„
Mull-elavu,	Can.	Katoo-imbool-gas	Singh.
Saur,	Duk.	Elavam maram,	Tam.
Red cotton tree,	Eng.	Pula maram,	„
Cotton tree,	„	Konda buruga,	Tel.
Red silk cotton tree,	„	Pinna buruga,	„
Semal, sembal,	Hind.	Buraga,	„
Rakta-sembal,	„		

This is a large tree, with flowers of a beautiful red colour, common in the warmer parts of Ceylon and from one end of India to the other, particularly along the foot of the Himalaya mountains, and it is one of the most abundant of the forest trees of Tenasserim: about Nelambur and the Wynaad, it is used for building. The wood is light, soft, spon[gy] and very inferior, but used by moochies in th[eir] work, and it stands well under water. The t[ree] grows rapidly, and is occasionally found to 40 feet in girth. The tree is someti[mes] called S. pentapyllum, when the lobes of [the] leaves are 5, instead of 7, but there is no [dif]ference in species, for the trees frequen[tly] carry both kinds of leaf. When very lar[ge] their appearance is magnificent, the th[ick] stem spreads out towards the base, at int[er]vals into buttress-like projections, strength[en]ing and supporting the main stem. In [the] spring season, the tree is covered with hu[ge] magnolia-shaped scarlet blossoms: the sil[ky] down that envelopes the seed, is used to st[uff] mattresses and pillows, and has occasiona[lly] been made into cloth, the young trees a[nd] branches have short flat thorns. The you[ng] flower buds are cooked and eaten in so[me] places. In the Jhallandar it grows very t[all] and straight, the length of the trunk, [to] first branch is 30 feet, and girth 12 feet, a[nd] it attains its full size in 60 years, its whi[te] light, brittle wood, though not strong, is the[re] used for boxes, scabbards and doors, a[nd] water conduits; white ants readily atta[ck] the wood. Leaves used as fodder: its gum is the mooche-ras of the bazaar, the roots of young trees produce the safed musli, which is used to make a cooling beverage.—*Dr. Cleghorn and Mr. McIvor in M. E. J. R.*; *Dr. Mason, Voigt*; *Thwaites Enum. Plant, Zeylonensis, Powell's Hand-book, Econ. Prod., Punjab, Barnes' Kangra Settlement Report, para.* 157; *Roorkee Proceeding Papers on Gwalior Timber, p.* 35.

SALMAN, see Karund.

SALMANASSAR, king of the Assyrians, in the year 719 B. C., seized upon Samaria and transported the inhabitants into the most remote village of Media. In 676, B. C., Assaharaddon dispersed the remnant of the kingdoms of Syria and Israel over Persia, Media, and the distant provinces of the East, in B. C. 606, began the captivity of Babylon, when Nebuchadnezzar carried away the greater part of the Jewish nation, and among them, the princes, priests, and even prophets into his own dominions, which at that time extended as far as Media.–*Huc's Christianity, Vol.* i, *p.* 2. See Jews.

SAL MARTIS, Lat. Iron.

SALMIAK, Ger. Sal ammoniac, Hydrochlorate of ammonia.

SALMON, Eng., Span.

Saumon,	Fr., Scotch.	Salamone,	It.
Lachs,	Ger.	Lemga,	Rus.
Sermone,	It.		

The salmon of Northern Seas does not inhabit any of the seas south of Asia,

though several of the fishes S. and E. of Asia have a resemblance to the salmon. It is one of the most remarkable facts in the zoology of Asia, that no trout or salmon inhabits any of the rivers that débouche into the Indian Ocean (the so-called Himalayan trout is a species of carp). This widely distributed natural order of fish (Salmonidæ) is, however, found in the Oxus, and in all the rivers of Central Asia that flow north and west, and the Salmo orientalis, *M'Clelland*, ("Calcutta Jour. Nat. Hist." iii, p. 283), was caught by Mr. Griffith (Journals, p. 403) in the Bamian river (north of the Hindoo Koosh) which flows into the Oxus, and whose waters are separated by one narrow mountain ridge from those of the feeders of the Indus. The central Himalaya rivers often rise in Tibet from lakes full of fish, but have none (at least during the rains) in that rapid part of their course from 10,000 to 14,000 feet elevation: below that, fish abound, but, it is believed, invariably of different species from those found at the sources of the same rivers. The nature of the tropical ocean into which all the Himalaya rivers débouche, is no doubt the proximate cause of the absence of Salmoninæ. Sir John Richardson (Fishes of China Seas, &c., "in Brit. Ass. Rep. &c.") says that no species of the order has been found in the Chinese and eastern Asiatic seas. Chanos argenteus is a salmon like fish of the Malabar pond in which Hyder's fish have been specially protected, but the number of predatory fish is so great that that piece of water can scarcely be used for multiplying the latter, for the purpose of distribution. One perch-like fish in particular is unusually numerous, and the protection which has habitually been extended to this one pond, seems to have benefitted the wrong fish, the red perch rather than Hyder's salmon-like fish. Hu-minu, or flower fish, is a name given at random by the nations to several fish, simply because they are considered delicate eating. It is a sight to see a silvery salmon-like fish of 20 pounds or thereabouts face the line with a spring that clears boats and standing men and upraised nets.—*Mr. Thomas Hooker, Him. Jour.*, ii, 182; *Drs. McClelland, Richardson.*

SALMO ORIENTALIS, *Pallas.* According to Adams, p. 187, occurs in the Gulf of Pe-che-li. The Hippoglossus olivaceus is the Japanese halibut; fish are abundantly cured (without salt) in Tibet; they are caught in the Yaru and great lakes of Ramchoo, Dobtah, and Yarbru, and are chiefly carp, and allied fish, which attain a large size.—*Adams.*

SALNA, also Salun, HIND. Curry, Salnay, pl. curries.

SALOD, HIND. Aralia cachomirica.

SALOHA, HIND. Pueraria tuberosa.

SALON, Mantchu tribes on the upper Sagalin.

SALOO, a cloth of Banda, it is dyed with al-root, with a mixture of castor oil, in the proportion of one pâo to every piece of cloth, each piece of cloth being eight yards. Besides castor oil, 'Russee,' a kind of earth, is also mixed, and goats' dung and alum. The cloth is first rubbed for ten days in the castor oil, 'Russee,' and goats' dung, and then dried in the sun. After ten days it is well washed and dried, and then steeped in the oil for five days; afterwards washed and dried in the sun, and after a third application of soap and water the cloth is ready for sale. The cost of dyeing different kinds of cloth is as follows;

Nynsook cloth sells at 1 anna per yard; mulmul at ¾ anna per yard; and that used for the pugree or turban at ½ anna per yard.

It is not easy to ascertain the extent and value of the quantity of saloo cloth annually manufactured. It is exported to other parts of India, and its use is general, and not limited to particular castes. The wholesale market value is about 1 rupee, 6 annas, 6 pice, per piece according to the quality of the cloth dyed.—*Cal. Cat. Ex.* 1862.

SALOTAR. A work is extant on veterinary medicine; it is said to be by Salotar who is said to have been the tutor of Susruta. It was translated from Sanscrit in the year 1381. But professor Max. Müller states that Salotar is not known as the author of such a work and he adds that Salotariya is a name of Panini, and that the teacher of Susruta is said to have been Divodasa.—*Müller's Lectures, p.* 142.

SALOTAR also Salastri, HIND. A veterinary surgeon.

SALO also Toplenoe, RUS. Tallow.

SALOPA, URIA. Caryota urens, *Linn.*

SALORA, URIA. A tree of Ganjam and Gumsur, extreme height 22 feet, circumference 1 foot, and height from the ground to the intersection of the first branch, 5 feet. A common tree, only used for firewood. The leaves are eaten.—*Captain Macdonald.*

SALO WORWANNOE, also Worwan, RUS. Blubber.

SALPAN, BENG. Desmodium gangeticum.

SALPETER, DUT. Saltpetre.

SALPETER SAURE, GER. Nitric acid.

SALPETRE, FR. Nitre.

SALPIGLOSSIS. This genus of showy plants, one of the Scrofularineæ, requires much care in their cultivation, the situation in which they are grown should be sheltered and partially shaded, for if exposed to the sun they become withered and die suddenly, the colours are purple, red, white, and variegated.

When grown in pots, they should be frequently shifted into other pots, only a little larger than the previous ones, so as to make the plants bushy, the soil should be loam mixed with sand.—*Riddell.*

SAL PRUNELLA, a term applied to nitrate of potash, fused and cast into balls resembling prunes or plums, and sometimes coloured to resemble them.—*Tomlinson.*

SALPUR. The Jit prince of Salpur is supposed to have been the predecessor of the Yadu Bhatti races.—*Tod's Rajasthan, Vol.* ii, *p.* 212.

SALSA, BENG. Shrubby ichnocarpus, Ichnocarpus frutescens.

SALSAFY. Tragopogon porrifolius.

SALSAPARIGLIA, IT. Sarsaparilla.

SALSEPAREILLE, FR. Sarsaparilla.

SALSETTE. The island that the British call Salsette, is named Sashiti or Shasta, by natives, a name supposed to be derived from She-aste, meaning, in Mahratta, eighty-six, it having formerly contained, it is said, that number of villages. It is much the largest of the many islands near the island of Bombay, and the islets of Dravee and Versova, are just off the shore of Salsette. Salsette and Bassein were taken by the British on the 28th December 1774, and Salsette, Bassein and the revenues of Baroach were ceded by Raghobah on the 6th March 1775. Dr. Buist writing in the Bombay Times of January 1847, mentioned that a party, while crossing from the promontory in Salsette called the 'Neat's Tongue,' to near Sewree, about sunset, heard long distinct sounds like the protracted booming of a distant bell, the dying cadence of an Æolian harp, the note of a pitchpipe or pitch-fork, or any other long-drawn-out musical note, it was perceived to arise from the surface of the water all round the vessel and the boatmen at once intimated that the sounds were produced by fish, abounding in the muddy creeks and shoals around Bombay and Salsette ; and that they were perfectly well known and very often heard. Accordingly on inclining the ear towards the surface of the water ; or, better still, by placing it close to the planks of the vessel, the notes appeared loud and distinct, and followed each other in constant succession. The boatmen next day produced specimens of the fish—a creature closely resembling in size and shape the fresh-water perch of the north of Europe—and spoke of them as plentiful and perfectly well known. It is supposed that the fish are confined to particular localities—shallows, estuaries, and muddy creeks. The Bombay Times of Feb. 13, 1849, contained a communication from Vizagapatam, relative to "musical sounds like the prolonged notes on the harp" having been heard to proceed from under water at that station. Bassein and Salsette were obtained from Raghoba peshwa, by treaty in 1775.—*Dr. Buist in Bombay Times ; Tennent's Sketches of the Natural History of Ceylon, p.* 383.

SALSOLA, *Sp.*

Gahro-lanee,	SIND.	Kharu lanee,	SIND.
Kontee-lanee,	,,		

A genus of plants belonging to the natural order Chenopodiaceæ, named from 'salsus,' salt, in consequence of many of the species yielding kelp and barilla. The species are chiefly found on the sea-shore in temperate parts of the world, and also in hot parts of the world where the soil is saline, or where there is salt water in the vicinity. Various species of Salsolaceæ, abound in the more saline dry parts of the Doabs of the western Punjab. The Salsola kali of Europe and the colder parts of Asia is mostly found on sandy shores, or arid deserts ; an annual bushy plant, with stiff thorny channelled leaves. The dried plant, when reduced to ashes, yields 25 to 30 per cent. of carbonate of soda.—*O'Shaughnessy, p.* 526.

SALSOLA GRIFFITHII, Syn. of Caroxylon Griffithii, *Moq.*

SALSOLA INDICA, *Willde.*

Ella-kura,	TEL.	Oomari-keeray,	TAM.
Ila-kura,	,,		

This, with species of Salicorneæ, and other of the Chenopodiaceæ, are natives of the salt marshes and grounds near the sea, flowering the greater part of the year. The green leaves are universally eaten by all classes of natives who live near the sea, and are reckoned very wholesome. The leaves of this plant alone saved many thousand lives during the famine in India, of 1791-92-93. It is a small procumbent weed, with linear shaped leaves, is used as greens, and is a very pleasant vegetable. This is occasionally used as a vegetable and being naturally salt, has given rise to the Teling saying, "the carping husband (finding fault without cause) says to his wife, there is no salt in the Ilakura. It grows in Malabar, where barilla is made from it.—*Roxb, Vol.* ii, *p.* 63 ; *O'Shaughnessy, p.* 525 ; *Jaffrey.* See Vegetables of Southern India, Barilla.

SALSOLA NUDIFLORA, *Willde.*

Ravakada,	TEL.	Reyyi-kada,	TEL.

This is a native of salt barren lands near the sea, and flowers during the greater part of the year. The stems are perennial, many spreading, close upon the ground, and often striking root, ramous, extremities of the branches ascending. The plant is only used for fuel, but Roxburgh believes it would doubtless yield excellent soda.—*O'Shaughnessy, p.* 225 ; *Voigt.*

SALSOLA SODA, see Barilla.
SALSOLA SPINESCENS, *Wight.*
SALT.

Malh,	AR.	Namak,	HIND.
Uyah,	BALI, JAV.	Sale,	IT.
Shih-yen,	CHIN.	Sal,	LAT. PORT. SP.
Kwan-ming-yen,	„	Meet, Mit,	MAHR.
Jung-yen,	„	Gharam, Garam,	MALAY?
Tsing-yen,	„	Nun,	PERS.
Zout,	DUT.	Sol,	RUS.
Common Salt,	ENG.	Lavana,	SANS.
Muriate of Soda,	„	Lunu,	SINGH.
Chloride of Sodium	„	Uppu,	TAM., TEL.
Sel,	FR.	Tuz,	TURK.
Salz,	GER.		

Two kinds are distinguished, rock and sea-salt. When found native in immense masses, which only require to be dug and reduced to powder, it is termed rock salt; and when obtained by the evaporation of sea-water, common or sea-salt. Sea-salt is extensively manufactured on account of the Indian Government at many places along the coast: the process is not everywhere exactly the same, but generally the sea-water being raised by means of pakottas is run into shallow beds or pans and evaporated: additional water being added as the evaporation goes on. The salt is raked to the side and conveyed to platforms or raised places where the salt is heaped in quantities of ten or more garce. In some places, a proportion of the salt water is obtained from wells dug near salt creaks; in others the salt water is dammed up in the mouths of rivers, where it is partially evaporated for sometime before being run into the pans. In Bengal the sea water is generally evaporated by boiling. At the Madras Exhibition of 1855, there were fourteen specimens of common salt exhibited. That from one locality, was salt which had formed on an extensive plain to the south after the evaporation of the water driven on by the south winds, it was very white, the crystals remarkably perfect and of a large size. The salt of the Ganjam coast is particularly fine. At Nowpada the crystals are large and pure, and so hard do they become when stored, that, according to the officers of the salt department, sparks of fire are elicited from the old heaps, when they are broken up for sale with a crowbar.

In the Madras Presidency, salt is manufactured on account of government, and sold for internal consumption at two rupees per maund, or over one halfpenny per lb. The duty on imported foreign salt is now regulated by Act No. 13 of 1871 of the Imperial Council, as under—

Salt imported from any place within or without British India,

(a) into British Burmah ....Rs. 0-8-0 per maund.
(b) into Lower Provinces of Bengal, 3-4-0 „
(c) into any other part of British India..............................1-13-0 „

In the Bombay Presidency the manufacture of salt is carried on by individuals, but subject to an excise duty of 1 rupee 13 annas (3*s.* 7½*d.*) per maund. Facilities are also afforded for the export of salt to Malabar, Travancore, Cochin, and South Canara. Salt is, also, extracted from the saline soils of several parts of India and used as a condiment. The natives of the Bellary, Kurnool and Cuddapah districts of the peninsula, and those of Ghazipoor in the villages of Tuttalapore, Ratouly, Sahory, Chilar and Becompoor all, in this way, obtain a useful condiment. A brine spring exists at Dyhunda, North Berar, from which salt is manufactured. There are also salt springs near Prome, in Pegu, from which salt is made. In Bellary salt is manufactured from saline earth in the same way as saltpetre is procured; only in the salt manufacture the water is not boiled. It is extensively consumed in the district, though the people prefer sea salt, the greater cost of which is however a bar to its use.

The supply of salt in Bengal is provided partly by manufacture, conducted on account of the government. The manufacture is carried on, not by hired labour on the part of the government, but by a system of pecuniary advances; the parties receiving them, being bound to deliver, at a fixed price, all the salt manufacture. Probably 100,000 labourers (called molunghee) are engaged in the manufacture in the Sunderbuns. Partly also by importation, and in one instance, as, formerly with Mr. Prinsep's salt works at Narrianpore, partly by private manufacture, under a system of excise. The duty is levied at the time of the clearance of the salt from the bonded warehouse. On the imported salt, the duty is three and a quarter rupees per maund of 82 lbs., or nearly one penny per lb. The same rate of duty is levied as excise on salt manufactured by private individuals; and the government salt may be purchased at all times in quantities of not less than 50 maunds, at a fixed price, which is composed of the cost price, with the addition of three and a quarter rupees per maund, or a little above 1*d.* per lb. The salt agencies are located along the head of the Bay of Bengal, viz., at Hidglee, Tumlook, Chittagong, Arracan, Cuttack, Ballasore, Khoredah. The average cost price of production is about rupees 80 per 100 maunds, or a trifle below one farthing per lb., thus making the government selling price over a penny a lb. The supply of salt is no longer a monopoly; its manufacture and sale have not been relinquished by government, but individuals participate in its provision, both by importation and manufacture, under a combined system of customs and excise.

The system of fixed prices and open ware-houses, commenced in 1836-37, when the previous system of fixed quantities and periodical sales was abolished, as recommended by the Select Committee of the House of Commons in 1836.

During the seven years commencing with 1837-38 and ending with 1843-44 the duty on salt was Rs. 3-4 per maund. The annual average quantity of salt sold and imported during that period was 4,627,030 maunds of 82 lbs. In November, 1844, the duty was reduced to Rs. 3 per maund, and the annual average sale increased to 4,966,917. In April, 1847, the duty was further reduced to Rs. 2-12 per maund, and the annual sale amounted to 5,452,900. In April, 1849, the duty was again subjected to reduction, when it was fixed for 5 years at its present rate of Rs. 2-8 per maund.

Thus in the five periods above adverted to, the reduction effected in the salt tax amounted to nearly 25 per cent. But in December 1859, the duty was again raised to 3 rupees; and in March 1861, to the original figure of rupees 3–4–0.

The supply of salt to the North-West Provinces is furnished partly from the lower provinces of Bengal, partly from the Sambhur Salt Lake, in Rajpootana, and partly from the rock-salt, of the Salt Range.

Punjaub. The excise duty on salt at the Punjaub salt mines has been fixed at three rupees per maund.

English salt, it is said, may be laid down at Calcutta at 44s. per ton, or about Rs. 80 per 100 maunds. But according to the Calcutta Review,—Rs. 65 per 100 maunds is the lowest possible rate at which the transaction could be effected. But salt from the Persian Gulf and other Arab States is laid down at Calcutta at Rs. 40 per 100 maunds. It is therefore the high cost of producing Bengal salt (Rs 80 per 100 maunds) which alone enables English salt to keep a footing in the Calcutta market.

In Bengal, salt is obtained by boiling the sea-water. In Bombay, and Madras, the process is that of solar evaporation. In the Punjaub, it is extracted in a pure state from the salt mines. The Sambhur salt lake, in Rajpootana, overflows during the rains, and when the waters subside, a deep incrustation of salt is deposited on its shores for several miles round.

In 1847, salt purchased at Calcutta at 1d. per lb., the Government price, was sold at Benares (400 miles from Calcutta, where it comes into competition with the salt from Rajpootana) at 12 lbs. the rupee, or 2d. per lb.; and, moreover, it is stated to be then considerably adulterated. The consumptio[n] of salt, in India has been calculated so hig[h] as 24 to 25lbs. Sepoys on foreign service ge[t] 12drs. a day or 17lbs.: on boardship they ge[t] 1oz. a day or 22¾lbs. Mr. W. H. Bayley in hi[s] memo. on salt assumes 18lbs. or nearly 2 Rs weight per diem; which, allowing for children may be reduced to 15lbs. The individual con[-]sumption of salt in India is, however, usuall[y] estimated at 12 lbs. per head per annum; an[d] assuming the wages of an agricultural laboure[r] at three rupees per mensem, it would, at Cal[-]cutta, absorb the income of five days' labou[r] to provide the quantity required for a year. The salt duty thus operates as a tax of abou[t] 1½ per cent. upon the labourer's wages, if h[e] have none but himself to provide for. If he have a wife or children, the per-centage will of course be increased by the amount o[f] their consumption. It is to be observed, however, on the other side, that the wife and children would generally contribute some-thing to the common fund by the earnings o[f] their labour, and thus again reduce the per-centage.

At Benares in 1847 the purchase of the same quantity of salt (12 lbs.) would absorb ten days' earnings, thus constituting a charge of 3 per cent. on the labourer's income. The dif-ference in price is occasioned by the cost of conveyance, profits of trade, wastage, &c., the ordinary charges of commerce.

The pressure of the salt-tax on the labourer is severe, although it is the only way in which he contributes to the pecuniary necessities of the State; in all other respects he is not necessarily subject to taxation.

In the Madras and Bombay territories, the duty on salt is only about one-third of that which prevails in Bengal.

A comparison of the amount of salt produced with the numbers of the population consuming it, will show that the estimate which assigns 12 lbs. as the ordinary annual consumption of an individual, is nearly in correspondence with fact. The quantity of salt sold wholesale and retail or imported was, in 1846–47, as under :—

Bengal	6,166,258	Madras	4,587,720
N. W. Provinces	2,670,943	Bombay	2,573,625

15,998,546 Maunds of 82 lbs. or 1,311,880,772 lbs.

If the entire population of British India be assumed at one-hundred millions, the above-mentioned quantity of salt would afford to each individual about 12 lbs. the facts collected by statistical research thus corroborating an estimate founded on observation of the habits of the people.

The following table exhibits the quantity of salt imported into Calcutta from all

countries, and also from England, for the seven years 1844-5 to 1850-51.

—		Imported from all countries.	From England.
		Maunds.	Maunds.
1844-45		970,595	791
1845-46		1,581,968	505,616
1846-47		1,466,744	352,835
1847-48		1,616,084	752,998
1848-49	includes salt made in ex-	1,626,706	459,803
1849-50	cised golehs.	2,126,848	624,673
1850-51	(the first six months of)	1,455,007	672,092

Statement exhibiting the Net Revenue derived from Salt from all sources, viz., Govt. Sales, Excise on Private Manufacture, and Customs Duty, from the year 1839-40.

Year.	Bengal.	N. W. Provinces.	Madras.	Bombay.	TOTAL.
	Rupees.	Rupees.	Rupees.	Rupees.	Rupees.
1839—40	1,61,94,198	26,90,511	33,82,437	12,72,209	2,35,39,330
1840—41	1,63,80,084	24,43,614	30,21,805	14,58,218	2,33,03,721
1841—42	1,57,50,907	26,81,822	33,61,806	13,42,601	2,31,37,196
1842—43	1,64,33,412	26,06,731	32,10,959	15,25,339	2,63,76,441
1843—44	1,55,78,010	35,86,467	37,36,644	16,99,579	2,45,99,700
1844—45	1,60,42,730	47,82,645	37,81,369	18,47,502	2,74,54,246
1845—46	1,49,09,021	37,75,196	40,34,020	21,01,109	2,48,19,346
1846—47	1,62,79,725	52,47,071	39,84,188	17,77,565	2,72,88,549
1847—48	1,65,83,668	48,26,209	41,94,855	23,45,006	2,79,49,738
1848—49	1,41,44,321	45,65,642	37,69,440	21,06,855	2,45,86,258
1849—50	1,61,07,384	53,79,810	38,33,312	21,57,591	2,74,78,097†

Mr. G. Campbell gives the following as the annual consumption of taxed salt in India.

	Salt consuming population.	Rate of Duty.	Consumption. Average quantity of Maunds per annum.	Quantity per head per annum.
		Rs. A.		Seers.
Bengal.......	41,848,941	2 8	65,05,604	$6\frac{1}{4}$
Madras.......	31,798,287	0 12	51,01,276	$6\frac{2}{5}$
Bombay......	19,815,630	0 12	32,04,427	$6\frac{2}{3}$
Panjab........	13,000,000	2 0	9,54,801	$2\frac{4}{5}$
North West Provinces.	33,071,885	2 0 & 2 8	22,48,234	$2\frac{2}{3}$
Total..	139,534,743		180,14,342	

According to this statement, in Bengal, Madras, and Bombay, 14,811,367 maunds or about 541,873 tons of taxed salt is consumed annually by a population of 93,462,858 souls, giving an average consumption of about 6⅔ seers or about 13 lbs. per head per annum. Salt Lakes exist in the Megam pattoo district in Ceylon, and its government derive a revenue of about £42,000 annually, from the salt monopoly.

In the official years 1860-61 to 1869-70 the revenue of British India derived from salt was,

1860-61	£3,805,124	1865-66	£5,342,149
61-62	4,563,081	66-67	5,345,910
62-63	5,244,150	67-68	5,726,093
63-64	5,035,696	68-69	5,588,240
64-65	5,523,584	69-70	5,888,707

Lencha, Tib., means common salt, of which in Tibetan commerce, three sorts are known;

1. *Sercha*—White and best.
2. *Chàma*—Reddish and good.
3. *Pencha*—Yellowish and bad, contains soda or magnesia and earthy matter.

All the salt consumed in eastern Tibet is the produce of lakes or mines situated to the north of the Yaroo river, or comes from "Lache," a district lying between Digarchi and Ladak, which is traversed by the Yaroo. The best information procurable is to the effect that all the salt of Tibet is the produce of lakes; still there are people who assert that it is also dug out of the ground. Possibly this is confined to the vicinity of the lakes or to their dried margins. All travellers in Tibet are agreed that the salt-producing districts are the most rugged and inaccessible that can be imagined, in the vicinity of the deposits the ruggedness is great. It is quite true that only men and sheep can reach the salt deposits. It is also true that the elevation of the deposits prevents their being worked, except for the warmer half of the year, April to November. Thousands of sheep are employed in carrying the salt from the deposits to places accessible to yaks. These latter animals carry it all over Tibet in loads up to 160 lbs. Sheep in open places will carry 20 to 24 lbs.

One of the most extensive manufactures on India's shores is that of sea salt, and, simple as the process seems, it is far from devoid of ingenuity or interest. Amongst the numerous islands which fringe the Malabar Coast, there are countless narrows, creeks and inlets, left dry at low tide, the expanse of mud then exposed being often enormous. Off the shores of Sewree the tide at springs retires nearly two miles: and this is nothing at all out of the way in the neighbourhood. When saltpans are proposed to be established, the first thing is to construct a mud embankment,—a foundation for it being selected where the water is never more than four or five feet deep. The crest of the embankment is made

to surmount this by two or three feet—the base of it is generally from two to three times its height. Openings are purposely left at intervals in the principal embankment, and from these, at right angles to the main line of the wall, other embankments are run inland, parallel to each other, leaving a current between large enough to admit of a line of salt boats running up. Immediately behind the embankments the salt-pans are laid down. These consist of rectangular compartments, from twenty to thirty feet across, and commonly twice as long as they are broad, and from a foot to a foot and a half in depth. They are separated from each other by little mud walls, about three feet across at bottom, and two at top, more or less, according as little channels for filling the pans are meant to be run along them or not. Two, three, or four lines of pans, according to the extent of the back water, are carried along the rear of each embankment—care being taken to leave an area of land capable of being flooded by the sea betwixt the pans and the mainland, three or four times the size of the pans themselves. So soon as the monsoon is fairly over, all the fresh water that has accumulated in the pans or back water is run off, and in November or December the sea is admitted to the back water through a sluice in the embankment. The pans are now carefully cleaned out, their floors and walls being made smooth and nice. In about a month after it has been admitted to the back water, the sea water, now getting reduced in quantity, and encreased in saltness by evaporation, is let into the pans. The first charge requires about six weeks to evaporate: subsequent charges are dried up in half the time of the first, thus diminishing as the season becomes hotter, and the brine more strong. The strength of the brine is judged of by its becoming red: in fact, by a curious creature, of the volvax kind, makes its appearance just as the salt is ready to crystallise,—often tinting the salt itself of a fine pinkish hue: it is the same as to be found in a fossil state in the Punjaub rock-salt, and which often tinges the waters of our seashores as if stained with blood. When very nearly dry, the salt, which has now accumulated to the thickness of an inch or two, is raked off, the upper portion of which is beautifully white, and almost quite pure, being, first taken,—the lower portion, often crystallised in pieces of half an inch cube, is taken up next,—it is slightly mixed with clay, and is that generally in use. The white and bluish salt are now piled up separately in conical heaps, about sixteen feet in diameter, and ten feet high, which are preserved with a thick thatching of grass during the monsoon. The white salt is as pure as any in the worl —the black salt is mixed with about one o two per cent. of clay. Both are in a grea measure free of the magnesian salts and sul phates which contaminate the pan-made salt of Europe;—everything more soluble tha muriate of soda remaining behind in solution is washed away by the rains. Salt-pans ar much less efficient when new than afterward and they continue to improve as the groun becomes impregnated for ten or fifteen year When the first crystallisation is unsatifactory as it often is, a second charge of brine is le on before the salt from the first is removed The evaporation in the back water goes on of course, as rapidly as in the pans themselves and by this contrivance, which requires n care or preparation, an amount of evaporating surface three or four times that of the pans i secured: the pans themselves only requir trouble or attention, the back water requir none. The pans are drawn from three to fou times every year: as the rains approach, the are abandoned for the season. The sea i seldom let in more than once or twice int the back water: were the whole availabl surface kept covered, double the amount of salt at present manufactured might be made The supply, however, is so close on the heel of the demand, and the profits are so very low, that there is no reason why production should be extended. Such is the convenience of the shores of the Peninsula for the manufacture, and so easily and so cheaply can the process of storing and carrying away be managed, that attempts made to bring salt from Sind, where it is to be had in unlimited quantity ready made, have proved unremunerative. The idea, therefore, of importing salt from England into India is about as chemerical as any that ever entered the human imagination; while the abuse heaped on the quality of the salt used in India is as undeserved as may be. The upper salt is scarcely surpassed in purity by the finest the Cheshire mines send forth: while the black salt contains as much of the pure muriate of soda as does the common pan-made salt at home. The matter which contaminates the former is conspicuous, and looks very dirty, but then it is perfectly harmless; the subtle contaminants of the latter are eminently mischievous, though invisible. An English adult is supposed to consume at an average of from fifteen to twenty pounds of salt annually, so that he would in this way swallow some three ounces of mud a year: in India, numbers of people eat pounds' weight of clay by choice.

In the Madras Presidency salt is manufactured all round the coast line from Mangalore to Ganjam. Salt pans are situated close to

the creeks or inlets from the sea. The manufacturing season commences about January and closes with the partial rains in July and August. The first process is to repair the pans. The earth is rammed down to a hard smooth level and water is baled or let in from the creeks into a reservoir where it is allowed to be condensed for about one month whence it is let off into the smaller beds. In some localities the process of storing water in the reservoirs is avoided and the water taken from brine wells. In the hot season the brine in wells is so strong that it requires admixture of the ordinary sea water. The brine let into the pans, which are generally 2 to 4 inches deep, evaporates in about 5 days, but as crystals are not well-formed within that time, the process of letting brine into the pans is again repeated, sometimes as often as 3 or 4 times, and salt is scraped up after final evaporation. In certain localities the brine is allowed to remain in the pans nearly a foot thick for 40 days, and the salt when formed scraped. A pan is about half a cawny or two-thirds of an acre, three-quarters of the space is occupied by the reservoir and side beds, where the water is allowed to be condensed. The other quarter is formed into generally a dozen beds, where the brine is finally allowed to evaporate and deposit salt.

The persons who make salt have a kind of hereditary right and are paid by Government at rates varying from 6 to 26 rupees a garce, or 120 maunds of 82 lbs. each, which is from 1*d.* to 5*d.* nearly per maund in English money. The actual cost is from 4 to 6 rupees a garce. Salt is stored in heaps of 10 or 20 garce each, either where it is manufactured, or at some distance from it and sold by Government at 2 rupees a maund or a little over 2 farthings per lb. The minimum quantity sold by the Madras Government is 1 maund of 82 lbs.

In the manufacture of the earth-salt in the Bellary district of the Madras Presidency, mounds are erected generally not far from the lines of drainage of the country at any convenient spot where the soil is saline and water can be easily obtained. Patches of the most saline earth occur in various places, and their qualities tested in a simple manner by application to the tongue. The earth is dug up and heaped in a mound ten or twelve feet high ; at different levels of the mound funnels are excavated and lined with beaten earth, and the loose earth being placed in these is gradually exhausted by repeated washings. The water having been sufficiently changed with salts in its passage through the the different funnels is run on to a level floor of rammed earth surrounded by a low rim. Under the influence of a Bellary sun, evaporation is effected in a few days and a residue of salt is left. This is piled in heaps for any moisture (bittern) to drain off, and when dry, it is sold to the villagers for domestic consumption. The wholesale price is about 30 measures for a rupee, it is retailed at about eight cash per seer, which is half the price of sea salt. It is not usually sold in cantonment, as it is never used by the population of sepoys, camp followers and other people not belonging to that part of the country, its use seems to be entirely confined to the villagers.

One specimen which was brought by a man who engaged largely in the manufacture, as a fair specimen of the salt produced in his district was chemically examined.

When air-dried, it still contained 3 per cent. of moisture ; it was of slight alkaline reaction, clean but of white effloresced appearance without any regular crystals. Exsiccated, it had the following composition per cent.

Sodium chloride.	...44·50	Calcium carbonate.	0·70
Sodium sulphate	...49·30	Insoluble (sand, clay, &c.)	0·45
Magnesium sulphate.	4·93		
Magnesium nitrate...	0·24		
Magnesium carbonate	0·35	Total...	100·47

A person consuming daily the moderate amount of a quarter of an ounce of this salt would take along with the real salt a quantity of sodium and magnesium sulphates (anhydrous) equal to 121 grains of Glauber's salt and 12 grains of Epsom salt. Difference of taste would not warn people against this. Magnesium chloride and nitrate, and the presence of these in the mother liquor adherent to crystals of salt would give a decided unpleasant flavour. This is not, however, the case with sodium sulphate, its taste is not very disagreeable, and in this sample it seemed to be entirely concealed by that of the chloride, a slightly bitter after-taste arose from the magnesium salts present. The brackishness imparted by this salt to many of the wells sunk in the black cotton soil is different in character from that arising in consequence of previous sewage contamination. A peculiarity of the saline deposits diffused through the black cotton soil of the Ceded Districts is their tendency to accumulate in the lines of drainage, not only about dry water-courses at the low level of valleys but also near to the lower drainage system of the country. In some parts of the Ceded Districts, wells near to rivers give, as a rule brackish water, quite contrarily to what one would expect. The reason of this is probably to be found in the very partial washing which the soil undergoes from the scanty rainfall. The salts are washed from the soil of the higher tracts of country, but, by the time, the sub-soil drainage water has percolated to the lower parts of the valleys,

it is much nearer to the surface and the cessation of rain with the force of evaporation causes the salts to stop on their journey towards the sea.

Cuttack salt is produced by solar evaporation : it is of two kinds, viz., Pungah salt, obtained by boiling to a residuum highly concentrated brine ; and Kurkutch, or gravel salt, produced by the aid of solar evaporation only, from sea-water. The water is introduced into small beds prepared with a smooth bottom of clay, tightly depressed in the ground, and surrounded by a slight ridge of earth. A few hours exposure in the burning sun of March and the two following months, is sufficient to evaporate the water in these beds, which deposits the salt it held in solution. A fresh supply is then let in, and the process of total or only partial evaporation is continued, till the bottom of the beds is covered with a layer of this salt, more or less thick, which is then scraped up and is the salt of the sample. Both these kinds of salt are produced all along the sea board of the Cuttack province, from February to June, and under what is practically a government monopoly. The season's manufacture of 1860-61 amounted to 50,000 tons of the one, and 44,000 tons of the other. The production is considered handsomely to remunerate the petty contractors, who engage with government for its supply at 10 annas and 4 annas per maund for each kind respectively, which is equivalent to 35*s.* 4*d.* per ton for the one, and 14*s.* 5*d.* per ton for the other, in English money and measure. To the Pungah must be added about 50 per per cent. to the Kurkutch about 25 per cent. for expenses of superintendence, &c. To the more extended manufacture of the white salt, the present insalubrity of the manufacturing localities and the consequent difficulty of procuring labour as well as the insufficiency of the fuel supply, are obstacles. The coarser kind may be manufactured ad infinitum, but is nowhere appreciated so much as in the district, as, not being cooked like the Pungah, it is more acceptable to the scrupulous caste prejudices of the Uryah people. The bulk of both kinds is exported to Calcutta. The local retail price at Cuttack in the shops of the bazaar for Kurkutch is 6*s.* 3*d.* per maund of 100 English lbs. Pungah is sold at the government depôts at 8*s.* 3*d.* per maund.

The common salt made at Ramree, is used with food by the inhabitants and is sold at 1 rupee per maund. The annual production, is 100,000 maunds, but could be extended to 500,000 if necessary. The salt not required for consumption in the province is exported from Chittagong. The salt is manufactured by boiling the sea-water after it has been allowed to stand for some days on land prepared to receive it.

The Raee Namak of Lucknow is an impure chloride of sodium. Formerly the greater part of the salt consumed by natives of Oudh was made in this province now it comes from other provinces, and this is the only kind made at present in Oudh.

Salt is also obtained from salt mines in the Shahpore district. Crystals of common salt are found in salt-pits at Futtehpore.

Mr. Plowden's report contains the discussions which took place before the salt monopoly was instituted by the British Government in 1805 and the Statistical Reporter for May 1810, shows the changes that have been made in the Monopoly price. No Native Government ever monopolized the sale of salt and when the British did so the people complained bitterly.

Rock salt is always obtainable from the Indian druggists, who retail it as a medicine.

Common salt is produced by evaporation from brine pits in the Gurgaon district, and together with the produce of the "Sambhar" and other salt lakes of the Jaipur territory, forms an important article of export eastward. The great manufacturing district of the N. W. of India for evaporated alimentary salt is Gurgaon ; where it is obtained by exposing the brine or salt impregnated water in shallow pans or pools to the heat of the sun. The neighbouring foreign territory of Jaipur also produces salt, especially the lake of Sambhar, the salt of which is celebrated. These salt works supply the north-eastern parts of the Punjab, both internally and for export, just as the rock salt of the salt range mines supply the upper Punjab. Some of the salt villages are within the Gurgaon district, but those producing the best salt are in the pergunnah of Jhajjar, the territory recently taken from the nawab of Jhajjar.

The alimentary salt, used at Lahaul, is obtained from Changthan in Tibet. This salt, called in Tibet, "sa," comes from Changthan. A large quantity is imported into Ladak for consumption in this province, and for the maharaja of Kashmir's army throughout the Jammu and Kashmir territories.

All the Punjab proper, down to the southern Derajat is supplied from the mines of the salt range where vast beds of pure rock salt are either worked in open quarries or by galleries and shafts cut in the salt rock itself. Salt mines of the Trans-Indus in the southern Khuttuk hills are situated near the villages of Buhadoorkheyl, Kurruck and Lutumur. There is also a separate mine at Malgeen, a place lying east of Kohat. The headmen of these villages receive a fixed percentage on the

collections at the mines to obtain their good will. The Sikhs never managed these mines at all. They farmed them out to some local chief, and left him to collect what he could. Under British rule, the control and working of the mines is in the hands of government officers ; the salt is excavated and sold at the mine at a fixed duty of two, three and four annas per maund of 80 lbs., covering all expenses. There are five salt mines worked by government in the Salt Range ; one at Kalabagh, across the Indus, and several in the Kohat district, and the supply from these sources may be said to be inexhaustible. An excise duty of 3 rupees per maund of 80 lbs. is now charged upon all salt sold, the rate having been increased from 2 rupees about the year 1855 ; and the revenue derived from this source amounted to upwards of £280,000. The salt mines are also the means of supplying the traders of the Punjab with a kind of paper currency. By payment of the regulated price at any of the Punjab treasuries, a warrant for the delivery of so much salt at the mines may be obtained ; these documents are transferable, and pass from hand to hand like banknotes.

The Friend of India has stated that the natives of North India have shewn a decided preference for imported English salt over that which is manufactured in Bengal and that the Bengal government has been anxious to retire from the monopoly of manufacture and leave it to private enterprise.

In China, at Kia-i-Chau in the province of Shansi, salt was formerly made as in India in shallow earth pans by evaporation by the heat of the sun, and this is still practised at Chehking and almost every other province on the sea shore. As in British India, salt manufacture in China is a monopoly and smuggling is extensive. It is used there medicinally, as an external application.

Leech, in his report on the passes of the Hindoo Cush, mentions that iron-smiths are regarded by the Kaffir as natural bondsmen, and are occasionally brought for sale to the musulman people of the valleys ; also, that the oath of peace of the Kaffir consists in licking a piece of salt. This is also the oath of the Kasia on the eastern frontier of Bengal. Salt is regarded amongst the mahomedans in several parts of Asia, as a social bond, and a servant will say that he has eaten the government salt, and must obey.

Ezra, iv, 14, says 'We have maintenance from the king's palace,' or, as it is in the margin of some Bibles, 'We eat the king's salt.' There is here a very remarkable coincidence with hindoo manners : multitudes of poor brahmins are fed from the houses of the rich ; and it is very common for a servant to say, I eat Sahab's salt. A faithless servant is called namak haram, from namak, salt, and haram, faithless. It is supposed this allusion intimates, as an Eastern compliment, that what salt is to food, that a master is to his servant. Malihin, ARAB., means on terms of salt. Salt among hindoos is considered the essence and preserver of the seas ; it was therefore used in their offerings to the gods. The old idea in Europe was, that salt is a body composed of various elements, into which it cannot be resolved by human means, hence, it became the type of an indissoluble tie between individuals. Homer calls salt sacred and divine, and whoever ate it with a stranger was supposed to become his friend. By the Greek authors, as by the Arabs, hospitality and salt are words expressing a kindred idea. The Bedouins of El Hejaz, have peculiar notions of the salt-law.—*Arts and Manufactures* ; *Local Exhibition Committee* ; *Report of the Madras Central Committee for the Exhibition of* 1851 ; *Rhode, MSS* ; *Cat. Mad. Ex. of* 1857 ; *Report of Board of Customs, Salt and Opium: Calcutta,* 1819, *also Calcutta Review,* 1847 ; *Bengal Hurkaru, May* 10 *and* 30, 1860 ; *Cal. Cat. Ex.* 1862 ; *Powell's Hand-book* ; *Econ. Prod. Punjab, p.* 117 ; *Burton's pilgrimage to Meccah, Vol.* ii, *pp.* 334–35 ; *Poole, Statistics of Commerce* ; *Awlwyn on Salt Trade* ; *Madras Revenue Board's Proceedings,* 11*th January* 1860, *No.* 150 ; *Dr. Nicholson.*

SALT, BLACK.

Kala namak, HIND. | Sonchal namak, HIND.

To make this medicinal substance, take 1 maund of Sambar or Dindwa salt ; ½ seer of the fruit of Terminalia belerica ; ½ seer of the fruit of Terminalia chebula ; ½ seer of Aonla or Emblica officinalis ; ½ seer of Black sajji or impure carbonate of soda : all these are put into an earthen pot over a fire and kept there till scorched ; when about 35 out of 41 seers remain, the pot is taken off and the black salt is made. About two maunds of wood are used. The price is Rs. 3 per maund. It is used as medicine in India and China. In China it seems to contain a little sulphuret of iron and is given in enlargements of the spleen and liver.—*Smith Mat. Med.* ; *Powell, Hand-book Econ. Pro. Punjab, pp.* 9 *and* 98.

SALT LAKES, see Iran, Lakes, Hooghly, Fars, Sambhar.

SALT RANGE. This range of mountains in the Panjab extends from the eastern base of the Suliman Mountains to the river Jhelum, lat. 32° 30′—33° 20′. The Salt Range runs transversely between the Jhelum and the Indus, and the Baloti Range, and Shaikh

Budin hills, which may be considered as a portion or continuation of the range Trans-Indus, lie in the vicinity of the Salt Range; having those hills on the south, the Peshawur hills on the north, and the end of the Sulaiman Range with the Waziri hills on the west. From this place onwards down the western frontier, the geological features of the branches of the Sulaiman range were represented at the Lahore Exhibition by several fossils from the Lagari, Mazari and Lower Hills belonging to the Sulaiman system. The rocks in the part of the range between lat. 32° 30' and 33° 20' are, magnesian limestone, new red sandstone, fossiliferous sandstone, red clay and sandstone, containing coal and mineral sulphur, rock salt, gypsum, brown and red iron ore and alum slate. The lower beds contain no organic remains but the upper abound in them. The iron ore is a red or brown hæmatite, so rich that in many places the needle of the compass becomes quite useless even at a considerable distance from the rocks, owing to their being highly magnetic, from the quantity of iron which they contain. The sandstone abounds with the exuviæ of enormous animals, either Saurians or Sauroid fishes. The Hills at Kala Bagh contain great quantities of aluminous slate, from which alum is obtained at various manufactories in that town. The slate, well sprinkled with water, is laid in alternate strata with wood, until the pile reaches a height of 25 to 30 feet; it is then lighted and the combustion continued for about twelve hours, in which time the colour of the slate is converted from greyish black to dark red. This change of colour indicating that the process has been carried to a sufficient extent, the mass is thrown into a tank holding as much water as it is computed the alum is competent to saturate. After three days the water, which becomes of a dark red colour, is drawn off, mixed with a due proportion of potash and boiled down. The residuum on cooling becoming a solid mass of alum. Mr. Powell mentions that the principal beds of salt occur in the red marls and sandstones of the Devonian group, on the southern side of the Salt Range. They are from 150 to 200 feet in thickness, but masses of salt are also found interspersed among the marls and detached from the main beds. There are three principal varieties of salt, viz., red, white and crystal salt. The red is preferred for merchandise, as it does not break up so readily as the others. The white variety not unfrequently passes into a grey or greenish and purplish colour. The Bahadur Khail Trans-Indus mine, yields black salt, and this is shipped at Esa Khail for export, having specific uses of its own. The Salt Range mines are of two kinds; one where the sal rock is approached by galleries and excava tions, the other where, as at Kalabagh, or th Trans-Indus mines, the salt is at the surfac of the rocks and is quarried rather than mined At the Kalabagh mines, the mineral exist close to the surface and crops out behind th terraced houses of Kalabagh, forming a wal which overhangs the town.

Elphinstone, describing the town and mine of Kalabagh, says, as he passed beneath, h perceived windows and balconies at a grea height crowded with women and children The road beyond was cut out of the soli salt at the foot of cliffs of that mineral, i some places more than 100 feet high abov the river. The salt is hard, clear and almos pure. It would be like crystal were it not i some parts streaked and tinged with red. I some places salt springs issue from the foot o the rocks and leave the ground covered wit a crust of the most brilliant whiteness. Al the earth, particularly near the town, i almost blood-red, and this with the strang and beautiful spectacle of the salt rocks, an the Indus flowing in a deep and clear strean through lofty mountains past this extraordi nary town, presented such a scene of wonde as is rarely witnessed." The mines or rathe quarries which were described by Elphin stone, are now closed, and the salt is ex tracted instead, at Mari, on the opposite sid of the river. The out-turn of salts in maund and revenue, derived from the Kheura mine alone for the four years 1861–1864, is a follows, about Rs. 2¾ the maund.

1861, Mds.	9,16,105, at Rs.	2-2, value Rs.	19,46,724
1862,	7,50,490,	2-2,	18,93,413
1863,	7,35,136,	3	22,05,408
1864,	1,92,122,	3	26,76,368

In the tertiary formations of the Sal Range, gold is found in minute scales, an has doubtless been derived from plutonic an metamorphic rocks, the disintegration o which has furnished the material of whicl the strata of the series are composed and i the beds of numerous nullahs which flow through the "meiocene" formations, th sand is washed for gold. Gold seems to b obtained in the largest quantity towards th Indus, north of the Salt Range. The gol washing of the Salt Range are nearly all i the Jhelum district. The Salt Range of moun tains, seems to be the Mons Oromenus of Pliny and the Sanskrit Raumaka. In the year 1850 158 cradles were at work, and they wer taxed from Rs. 2 to 5 per "troon;" th total tax amounted to Rs. 525. In th streams where gold-sand is washed, grains o platinum are occasionally found in smal quantities; the gold seekers call the meta

"safed sona," and reject it as useless; platinum has also been found in the Tavi river of Jammu territory, and in the Kabul river at Naushera. Salt Range coal from Pind Dadun Khan costs at Multan, rupees 100 per hundred maund, and is not first-rate, and, according to Mr. Oldham, the supply is likely to be very limited. Sea-borne coal costs on the Sind Railway rupees 105, and would probably cost on the Punjab Railways rupees 140 per hundred maunds.—*Calcutta Review, February* 1868, *p.* 296; *Powell's Hand-book.*

SALTPETRE.

Ubkir,	AR.	Shora,	HIND., PERS.
Malh-i-Barut,	,,	Nitro,	PORT. IT., SP.
Saa-shi,	CAN.	Nitrum,	LAT.
Maag-siau,	CHIN.	Potassæ nitras,	,,
Yen-siau,	,,	Sal-petræ,	,,
Ho-siau,	,,	Sandawa,	MALAY.
Ti-shwang,	,,	Mesiumentah ?	MALEAL.
Salpeter,	DUT., GER.	Senitra,	RUS.
Nitrate of potash,	ENG.	Yavakshra,	SANS.
Prismatic nitre,	,,	Wedi-Lunu,	SINGH.
Nitre,	ENG., FR.	Salitre,	SP.
Saria-khar,	GUZ.	Pottil-uppu,	TAM., TEL.

The saltpetre of commerce is obtained from the East Indies, chiefly from Oudh, Bengal and Nellore. In those districts it generally occurs as a white incrustation on the soil, being also mixed with it to a considerable depth. The earth is scraped and boiled with water. The solution is then concentrated by the heat of the sun and the water afterwards evaporated by artificial heat. From this the salt appears in impure crystals which are exported to Britain in coarse bags of sacking. In this state the salt is known as "rough saltpetre." The empty bags are soaked and boiled to extract the salt they may have imbibed and then sold to the makers of coarse wrapping paper. Its ordinary price is £38 to £40 the ton, but during the mutinies in Northern India, in 1857 and 1858, it rose to £59. It is refined by boiling and cooling, the pure crystals forming in the cold solid solution leaving the impurities still dissolved.

Madras.—At the Madras Exhibtion of 1855, eight good samples were exhibited, the jury considered that exhibited by Mr. Ouchterlony to be the best, and awarded to him a 2nd class Medal—the next and almost equally good, being that of Mr. J. Rundall, Razole, Rajahmundry—to whom the jury awarded honorable mention. The specimens of commercial saltpetre examined in Madras have, generally speaking, been very pure, and especially free from "sulphates." Saltpetre of Southern India, is made at Moganore and Errode, also of a very fine quality at Ellore. The native name of the town is Oopoo Ellore, shewing that it has long been famous for this mineral; it sells at 1 rupee the maund, very good, but they produce a twice boiled saltpetre at 2 rupees which is very superior.

Burmah.—Saltpetre is found in some of the caves of Tenasserim and is imported from Rangoon.

Sumatra.—Marsden, in his Sumatra Researches, referring to the saltpetre caverns in the country of Caltown near the land of the Davi river, states that these caves are filled with nests of innumerable birds of the swallow kind which abound the more the further one advanced into the cave and that it was their dung forming the soil (in many places from four to six and even from fifteen to twenty feet deep) which affords the nitre. A cubic foot of this earth produced on boiling 7 pounds 14 ounces of saltpetre, and a further experiment gave one-ninth more.

Bellary.—The soil of the Bellary district is very favourable for the manufacture of saltpetre. In the process, the earth is put into pits and mixed with saline water. The solution is afterwards drawn off into earthen pots, boiled, and afterwards poured into shallow vessels to crystallise.

Panjab.—Saltpetre is made in most of the plain districts of the Panjab, particularly in Multan, Dera Ghazi Khan, Jhang, and Gugara, where it effloresces spontaneously about old ruins, and is collected and purified by boiling and re-crystallization. It forms a considerable article of export both inland, beyond the frontier, and also to the seaports. A company for the manufacture of saltpetre has recently been established at Multan. Saltpetre is found naturally in the soil, in many parts of the Punjab, efflorescing near old buildings. It is not to be confused, however, with the white efflorescence often observed on the "Reh," or barren uncultivated lands, and which is usually a sulphate of soda.

Bengal.—Bengal supplies to the European market, the largest portion of this salt.

Cuttack nitre is known locally as Kehai jabkhai. A black kind is obtained by a process, of solution and filtration of the salt which is found effloresced on old mud walls. A white kind is the same salt more carefully prepared for the most part in the hill tracts from a similar efflorescence found in the cold months on the base of cow-house walls, and there generated, it is to be supposed, by the oxidation of the ammonia thrown off from the urine of the cattle. Neither kind is manufactured extensively enough for commercial purposes; still the local manufacture furnishes a good deal of the saltpetre, if not the bulk of it, used in

native gunpowder for shooting and for fire-works.

Shahabad.—Saltpetre and salt are produced abundantly in some parts of Shahabad, but crude saltpetre is prepared at from 6 to 7 rupees per local maund, by the Nooneah workmen : this, in its crude state, would be 15*l.* to 18*l.* per ton, while the salt produced with the saltpetre is of a coarse kind, and only sold to the poorest of the community, under the name of Kharree namak. It can, however, easily be purified by boiling, and then is a good and pure salt.

China.—Saltpetre is manufactured in China, from the natural efflorescence of the soil, but it is largely imported.

Palestine.—Near Shaara, distant about an hour and a half from Missema, the houses have large heaps of saline earth, containing saltpetre. It is thrown into large wooden vessels perforated with small holes on one side near the bottom. Water is then poured in, which drains through the holes into a lower vessel, from which it is taken and poured into large copper kettles ; after boiling for twenty-four hours, it is left in the open air, the sides of the kettles, then become covered with crystals.—***Quarterly Review, July*** 1868 ; ***Rhode MSS.*** ; ***Cat. M. E. of*** 1857 ; ***Cat. Ex.***, 1862 ; ***Burckhardt***, 114 ; ***Robinson's Travels, Vol.*** ii, ***p.*** 135 ; ***Marsden's Sumatra*** ; ***Mason's Tenasserim.*** See Nitrate of Potash,

SALUER, Malay. Trowsers of silk, or cotton, or silk and cotton mixed.

SALUNG, Siam. A money of account, the fourth of the tical, and worth about 7½*d.*—***Simmond's Dict.***

SALUNI, Hind. Rumex vesicarius.

SALUN-KE-KATORAY, Hind. Curry cups.

SALUP, Malay. A weight used in Sumatra, of 2 lbs. avoirdupois,—***Simmond's Dict.***

SALUTATIONS, Genesis, xxxiii, 4, says, "And Esau ran to meet him, and embraced him, and fell on his neck." A hindoo, when he meets a friend after absence, throws his arms round him, and his head across his shoulders, twice over the right shoulder, and once over the left ; and uses other ceremonies, according to the rank of the parties. Salutation is alluded to in Matthew, v, 47, and xxiii, 7, 12, 28. The usual way of kissing the knee, is to place the finger tips on it and then raise them to the mouth. It is an action denoting great humility, and the condescending superior who is not an immediate master returns the compliment in the same way. In salutation, the Persians say, "Afiyat bashad"—"may it be health to you ?" or "Nosh-i-jan"—"may it be a drink of life." The Arabs say, "Hania," "may it be good to you," the person addressed bows and returns, "may Allah be your preserver." Amongst mahomedans in India the ordinary salutation at meeting is salam alaikum, peace be unto you, and the return is alaik-us-salam, but a servant will exclaim dowlat-ziada, may your wealth increase ; umr daraz, may your life be prolonged, umr o dowlat-ziada, may your years and your dignity increase. A person of high rank as in Europe, first addresses a visitor by asking Khariat ? are you well, to which the reply will be, is your highness well. The salutations in India amongst mahomedans often assume the form of a blessing or prayer, as may your life be long ; may you live a century and a quarter.—***Burton's Pilgrimage to Meccah, Vol.*** i, ***p.*** 292 ; ***Burton's Scinde, Vol.*** ii, ***pp.*** 20 ***and*** 21.

SALTS, a general term in technical chemistry for saline substances. The principal substances classed under the head of salts, are common rock salt, preparations of evaporated salts, saltpetre or nitrate of potash, alum, "sajji" or barilla, "naushadar" or Sal ammoniac, borax or "sohaga." "Kalar," is an efflorescent sulphate of soda, so prevalent in some parts of Northern India, as to destroy cultivation : the sulphate has not yet been utilized, but many efforts have been made to discover the cheapest method of neutralizing its evil effects on the soil. Nipah salt is made from the ashes of the Nipah palm. It is in extensive use among natives of the interior of the Malay peninsula.

SALVADORACEÆ, *Lindl.* An order of plants, comprised in one genus and five species from Arabia, Persia, the peninsula of India and Cochin-China.

SALVADORA INDICA, *Royle* ; *Roxb.*

S. Wightiana, *Herb.*; *Hook.*

S. Persica, *Roxb. F. Ind.* not *L.*

Tooth brush tree.		Miswak,	Pers.
Jal,	Hind.	Sadui-jhar,	Sindh.
Irak,	Pers.	Peda vara goki,	Tel.
Leaves.		Fruit.	
Rasuna,	Hind.	Peel ; Pinjood,	Hind.

Grows towards the sea coast in the north part of the island of Ceylon, and near the sea, in both the Concans ; is found in the Panjab ; on the banks of the Jumna, and from Delhi to Saharunpore. The leaves resemble the lanceolate senna, and are also purgative ; the fruit is said to be eatable. It is not known whether the root bark possesses acrid properties. The twigs of this tree are used as tooth-brushes. Wood useless even for burning.—***O'Shaughnessy, p.*** 527 ; ***Dr. Honigberger, p.*** 339 ; ***Thirty-five years in the East*** ; ***Wight, Icones*** ; ***Thwaites*** ; ***Dr. Stewart.***

SALVADORA OLEOIDES, *Dne.*

Van ; Vani,	Panjab.	Jal ; Jhal,	Panjab.
Mithi-van,	„	Plewane,	Trans-Indus.

Fruit.	Dried Fruit.
Pilu ; Peelu ; Pil.	Khokar ; Tak, TR. IND.

This tree is very abundant in the Panjab and as far east as the Jumna fringing the sandy tract as the jhao, the Tamarix dioica, does the river. Wood close-grained, much used for fuel. It is common in the Multan division, where its wood is used for rafters and as knee timbers for boats. In some arid parts of the Panjab, it forms the only vegetation, it occurs in Sindh, and trees are met with of 11 to 14 feet in girth. It flowers in April, and when its sweetish fruit ripens at the beginning of the hot weather it is largely eaten by the people who go in numbers to gather it. A gall occurs on this tree used in dyeing, and the root is ground and applied as a blister.—*Drs. J. L. Stewart and H. Cleghorn* ; *Colonel Lake.*

SALVADORA PERSICA, *Linn.*; *W. Ic.*

Rivinia paniculata, *Forsk.* | Cissus arborea, *Forsk.*

Khardal, Chardal, AR.	Kubur, HIND of Sindh.
Chardul, ,,	Khari-jhar, ,, ,,
Mustard tree of Scripture.	Peeloo, MAHR.
Chardul of the Talmud.	Khardalo, SYRIAC.
Persian salvadora, ENG.	Ughai, TAM.
Sinapis, GR.	Chinna vara gogu, TEL.
Kharjal, Kurjal, HIND.	Ghunia, ,,
Pilu, ,,	

Fruit.
Khari-piro, SINDH.

This, supposed to be the mustard tree of Scripture, grows in Arabia, the Persian gulf, is very common in Ajmir and Marwar; is not a common tree on the Bombay side of India, except at mahomedan durgahs and places of worship; but it grows wild on the coast in the Hubshee's country of Janjirah, and in the southern Maratha country, though it seldom reaches any size. In Sind it is more common, and grows considerably larger. It thrives well in every soil, and is in flower and fruit all the year round. The bright green of the leaves is very refreshing to the eye, as the tree grows in very barren places; it is generally semi recumbent on the ground, and affords little shade. The leaves and bark are very acrid, smelling very strongly of cresses; the freshly pounded bark of the roots is an active epispastic. Trunk generally crooked, from eight to ten feet high to the branches, and one foot in diameter. A decoction of the bark of the stem is said to be tonic, and the red berries eatable. Dr. Gibson was inclined to think that the wood of this tree is well worthy of an extended trial, as it seems rather strong and of compact grain.—*Drs. Irvine, Medical Topography of Ajmir* ; *Roxb.*; *Fl. Ind.*, *Gibson*, *Royle*, *O'Shaughnessy*, *pp.* 245, 526 ; *Simmond.*

SALVADORA WIGHTIANA, *Planch.*

S. indica, *Wight, Illust.*
S. persica, *Roxb. Fl. Ind.*, (not S. persica, *Linn.*)

A Ceylon tree near the seacoast, towards the north of the island.—*Thw. Enum. pl. Zey. p.* 190.

SALVIA, a genus of plants, of the natural order Lamiaceæ, section C. Monardeæ, *Benth.*; there are many species :

africana, *L.*, N. India.	napifolia, *Jacq.* Asia Minor.
amarissima.	nubicola, *Wall.* N. India.
aurea, *L.*	odorata, *Wilde.* Baghdad.
bracteata, *Russ.* Aleppo.	officinalis, *L.* S. Europe.
clandestina, *L.* Europe, Africa, W. Asia.	plebeia, *R. Br.* Australia, China, N. India.
coccinea, *L.* America.	pratensis, *L.* S. Europe.
cretica, *L.* Candia.	sclarea, *L.* Europe.
hispanica, *L.* America.	spinosa, *Linn.* Syria.
horminum, *L.* S. Europe, W. Asia.	splendens, *Sello.* S. America.
indica, *Linn.* Persia.	syriaca, *L.* W. Asia.
interrupta, *Schousb.* Morocco.	verbenacea, *L.* Europe.
lanata, *Roxb.* N. India.	verticillata, *L.* Europe, W. Asia.
lusitanica, *Jacq.* Spain, Portugal.	viridis, *Forsk.* Levant.
lyrata, *Linn.* America.	

The species correspond very closely in their properties; one, the S. amarissima is excessively bitter.—*Drs. O'Shaughnessy, p.* 488 ; *Voigt.*

SALVIA BENGALENSIS, *Rottler.*

Meriandra bengalensis, *Bentham.*

Murtoo, BENG.	Valaiti Kafur ka pat, DUK.
Saya elley, TAM.	

A straggling shrub with a trunk often as thick as a man's arm; common in Bengal and Coromandel, much stronger than the officinal sage. It is cultivated in European gardens at Ajmir: the hindoos think this a very impure plant.—*O'Sh., p.* 488.

SALVIA COCCINEA. This is well worthy of cultivation; may all be grown from seed in any good garden soil at the commencement, or after the rains.—*Riddell.*

SALVIA HÆMATODES, *W.*

Behen, ARAB.	Bloody-veined sage, ENG.
Lal-behman, BENG.	

SALVIA MOORCROFTIANA.

Kanocha, HIND.

A plant of Kaghan; growing plentifully in the valley of Cashmere; its seeds are officinal, both at Cashmere and Lahore.—*Dr. Honig, Thirty-five years in the East, p.* 339.

SALVIA OFFICINALIS, *W.*

Garden Sage, ENG.	Sefa kas? TAM.
Salbia, HIND.	

A slightly aromatic, shrubby, but dwarfish plant, of somewhat bitter and very hot, aromatic, and slightly astringent flavour. These qualities are retained on drying. It affords on distillation with water a large quantity of essential oil, containing 26 per cent. of camphor. Sage is used for stuffings and flavouring various dishes: culture difficult to

manage, but some of the Indian varieties might be more useful.—*O'Shaughnessy, p.* 487 ; *Jaffrey.*

SALVINIACEÆ, *Bartl.* An order of plants comprising 1 Gen., 4 Sp.

SALVINIA CUCULLATA. This curious little floating plant, related to the ferns, of the genus Salvinia is often seen on the surface of old tanks and stagnate waters in Tenasserim.—*Mason.* See Ferns.

SALVI PUNUKARUDU, TAM. Bleaching.

SAL-VOLATILE, LAT. Liquor Ammonia.

SALWA, TEL. Aquila fulvesceus, *Gray.*

SALWA, URYA. Shorea robusta, *Roxb.*

SALWA, the ancient name of a part of Rajasthan or Rajputana.

SALWEEN, or Saluen river rises north of Yunnan province, in China ; about lat. 27° 10', long. 98° 57' S., and disembogues into the gulf of Martaban, by two mouths, formed by Pelewgewen Island. Length, 430 miles. It receives the Attaran or Weingo, 110 ; Thoung-yin Myit, 225 ; Meloun, 90 miles. It enters the British dominions about lat. 18° 40'. The Saluen, where it borders and then flows through Yun-nan, receives from the Chinese the name of Lu-Kiang or Nu-Kiang. A few days' journey from Saddya, the frontier town of Assam, there is a station called Bonga where a Roman Catholic Bishop has his solitary home. Here is the meeting-place of the frontiers of India, Burmah, China and Thibet. Taking our stand at this spot, and looking south, we have five great rivers, all destined to play a great part in the future trade of Europe and in the regeneration of the people who swarm on their banks. To the west is the Brahmaputra, which bears the tea of Assam to its destination: To the extreme east is the Yang-tse-Kiang, the great river of China, and flowing directly south and almost parallel at distances of about 200 miles from each other are, in order from the Yang-tse-kiang, the great Mekon or Cambodia river, the Salween and the Irrawaddy. On the delta of the first the French have planted themselves, and already their steamers have sailed up towards China and Burmah till stopped by the rapids. The Salween presents the singular phenomenon of having no delta, but a hundred miles above its mouth, where Moulmein receives a busy trade, rapids impede navigation. The Irrawaddy has often been sailed up 500 miles as far as Ava, and Dr. Williams as well as others has gone higher to Bamo. Thence navigation is impeded over the 350 miles which yet remain to Mantshi, which is not far from Bonga, the place which British half-subjects, the barbarous Singpho, make it impossible to reach from any quarter but China. Rising in Eastern Tibet close to where the Yang-tse enters China, the Salween flows through the province of Yunnan, enters Burmah where it passes right through the tributary Shan States, and further gladdening the independent Karen it forms the boundary between the British province of Martaban and the Siamese Shan races. Nature evidently intended this noble river as the highway into China, the road to be taken to Esmok. Into these independent Karen States bodies of timber merchants with large quantities of specie passed every year, but they had been so often attacked and even murdered by dacoits that in 1863 they were accompanied by a military escort. More important than the Karen are the industrious Shan, who are virtually independent. The valley of the Salween is British territory only in its lower portion. The right bank of that river is a wilderness of mountains drained by various streams, the most important of which is the Yonzaleen ; but lower down, and especially below the Thoungyen river on the east bank, there are large alluvial plains which are drained by the Gyne and the Attaran rivers. Salween though a large river is not navigable owing to its rapids. The Gyne, which flows in a somewhat similar direction passes through a more open country, and there are numerous villages on its banks : it is navigable for 180 miles for small boats. A glance at the map of South-eastern Asia shows two great rivers, which at first sight, appear to be natural highways, leading from the bay of Bengal and the China Sea, far north into Central Asia. They are the Mekon, or great river of Cambodia and the Salween. But though they appear as if destined by nature, to be highways for commerce, they are barred to uninterrupted navigation, by rapids and falls. The lower course of the first named river is held by the French. As the timber trade of Moulmein with Karen-nee and the countries beyond is very valuable, it is important to extend protection thereto, and to obtain a better knowledge of the Salween river, than we now possess. The rapids lie about 100 miles above Maulmein. Large amount of specie are sent annually up the Salween to purchase timber in the states, of Karennee. There is no doubt, but that should the Salween be found navigable for steamers to any considerable distance, say three or four hundred miles above the rapids, the result would be very advantageous to commerce. See India, Rivers, Bore.

SALWEN. See India, Karen, Shan.

SALWEN, BURM. Elæocarpus, *species.*

SALYA, a rajah of Madra sold his sister

Madri, to be the second wife of raja Pandu. His country was probably on the southern slopes of the Himalaya, or in Butan, and the customs of the people were barbarous. He was present at the battle of Kurukshetra, was the generalissimo of the Kaurava on the last day of the war, and was then slain, by Yudhishthara. During a dispute in the midst of the battle, Karna, when advancing to meet Arjuna angrily twitted Salya with the customs of his country, where wives, mothers, sisters, daughters, brothers and uncles all commune together in a medley.—*Wheeler, Hist. of India, pp.* 64 *to* 328.

SALYAN, see Iran.

SALYARA, HIND. Celosia argentea.

SALYODANAM, SANS. Fine rice.

SALZ, GER. Salt.

SALZSAURE, also Chlorwasser, salzsaure, Muriatic acid.

SAM, HIND. Pinus excelsa.

SAM, also Sama, and Sham or Shama, and Syama, are names of Krishna, one of the hindoo deities. With the people on the line of the Indus river, the letters 'S' and 'H' and 'Z' are permutable. Hind becomes Sind; Zalim Sing becomes Halim Hing. The difficulties however as to the letter 'H,' are not greater than in the Italian, where the initial 'H' is quiescent before a vowel and modifies the sounds of consonants. Colonel Tod says S and H are permutable letters in the Bhakka, and he supposes that Sam or Sham, the god of the Yamuna, may be the Ham or Hammon of Egypt. He also thinks it not unlikely that the Chaora, the tribe of the first dynasty of Anhulwarra, is a mere corruption of Saura; as the ch and s are perpetually interchanging The Mahrattas cannot pronounce the ch; with them Cheeto is Seeto, &c.

SAMA. Ambu of the Ravi, Glochidion velutinum, *W. Ic.*, also Nardus stricta, and Oplismenus frumentaceus.

SAMA. The name of one of the Vedas. These are generally considered as four in number, the Rig, the Yajur the Sama and the Atharva Veda, but the last of these evidently belongs to a much later age than the rest. The hymns of the Rich or Rig Veda are repeated entirely in a disjointed form in the Sama Veda; and, also, with little alterations in the Atharva, while the Yajur contains principally forms of prayer. A Veda, in its strict sense, is simply a Sanhita, or collection of hymns. These hymns form the mantra or ritual, and are the true Veda. The Rig, the Sama, and the Yajur are the three universally received. The Atharva, is of more doubtful authenticity. See Arians, Inscriptions, Vedas.

SAMADA, GUZ., HIND. Corundum, emery. See Corundum.

SAMADERA INDICA, *Gærtn.*

S. pentapetala, *Auct.*, *Gærtn.*
Niota pentapetala, *Poir, D.C.*
N. tetrapetala, (not *Lam.*,) *Wall.*
N. lamarckiana, *Blume.*
Vittmannia elliptica, *Rheede, Vahl.*

Karin gota, MALEAL. | Samadara-gass, SINGH.

A large tree of Ceylon, the south of India, and common in the Concans and on the Malabar Coast. Its fruit and root are used medicinally; its bark is the Niepa bark of commerce. It occurs in the south of the island of Ceylon, but is not common. The bark, root, and fruit of the plant are intensely bitter like other plants of the quassia family and is used as a medicine by the Singhalese.—*Eng. Cyc*; *Useful Plants*; *Thw. Enum. pl. Zeyl.*, *Vol.* i, *p.* 70.

SAMADERA LUCIDA, *Gærtn.*

Niota lucida.

Ka thay, BURM. | Samadera, HIND.

The low grounds near the sea coast of Tenasserim are ornamented with this species; it is a handsome shrub and bears a rather curious flower; its leaves are most intensely bitter, it is cultivated in the gardens about Batavia.—*Mason, Tenasserim*; *Dr. Wallich, Pl. As. Rar.*, *t.* 168.

SAMADERA. SINGH. Vitmannia trifolia.

SAMADH, or burying alive, was practised in Rajpootana, up till 1868. The Political Agent of Serohi furnished a list of instances in the course of six years that had come to his knowledge, chiefly in the neighbourhood of Motagaon, a border village. The practice was also carried on in the adjoining state of Marwar. Out of nine cases of Samadh reported, eight of the victims were lepers, the others having been sacrificed, no doubt at their own desire, on account of old age and poverty. The Rao of Serohi issued a proclamation forbidding the practice under the penalty of ten years' imprisonment, but there are very great difficulties in the way of carrying out such orders. In many of the cases the persons who dig the pit and cover up the unfortunate wretch, are themselves lepers, and to them death itself would be welcome, and we presume the Rao would hardly care to introduce any of them into his prisons. It would be well if some sort of lazaretto were erected in Serohi, or any other state where the practice is supposed to be carried on. The cases of leprosy are not very numerous, and the additional expense to the state would be but trifling.—*Friend of India, May* 1868.

SAMADH, SANS. The spiritual throne of the founder of a hindoo sect, the gaddi, or

pillow at the seat of the original site of the sect.—*Wilson*. See Khaki, Mat'h.

SAMADHI, silent abstraction and contemplation of the Supreme Being.

SAMADHIKA, a sect who preceded Sakya Muni, who placed the attainment of everlasting bliss, on the continued practice of Samadhi, or of deep and devout abstraction.

SAMADRU, see Krishna.

SAMAGH, also Tolh, also Samagh-Arabi, and Samagh B'us Shirin, AR. Gum arabic.

SAMAGH HAMAMA? HIND., also Oshak, PERS. Gum Ammoniac.

SAMAGH UL ASWAD, AR. Tragacanth.

SAMAG-UL-KATIRA, also Kasira, AR. Gum tragacanth. Tragacanth.

SAMAGH UL MAHRUS, HIND. Asafœtida.

SAMAH, a plain. See India.

SAMAK, a bark of Singapore, sells at £0 8*s*. 4*d*. per picul of 133⅓ lbs.

SAMAK, HIND. Rhus parviflora.

SAMAKA, HIND. Syn. of Cucurbita citrullus, *Linn*.

SAMALU, TEL. Panicum miliaceum.

SAMALARI, see Kelat.

SAMALU, HIND. Vitex trifolia, also Vitex negundo.

SAMAN, see Buddha, Caste, Kabul, Shaman.

SAMANA, see Inscriptions.

SAMANAROS, the designation, in Ceylon, of the buddhist priests who have attained the first rank of ordination. This name preserved to the present day as the designation of the buddhist priesthood in Siam and Ceylon, is identical with the Samaneans or Buddhists of Bahar, described by Megasthenes, who, B. C. 300, was an ambassador from Seleucus to their king; and whose last work, on the state of India at that period, is quoted by Strabo and Pliny. The same designation for the priesthood, Samana, is applied equally by Clemens Alexandrinus in the second century, and by Porphyry in the fourth.—*Tennent's Christianity in Ceylon*, *p*. 216.

SAMANDAR PHAL, HIND. Barringtonia acutangula, *Gærtn*.

SAMANGARHA or Simroun, a dynasty of rajas who reigned from A. D. 844 to A. D. 1323, in the Tarai, south of Nepal.

SAMANGKA. Its population according to districts is:—

	Men.	Boys.	Women	Girls.	Total.
Samangka......	2,337	3,736	2,507	3,426	12,006
Telok Betong....	3,423	4,829	3.824	4,616	16,690
Sekampong.....	1,576	2,723	1,910	2,631	8,840
Maringie.......	326	544	421	509	1,800
Seputi..........	3,137	3,756	4,373	2,852	14,118
Tulong Bawang.	5,132	9,145	7,976	7,197	29,450
Total..	15,931	24,733	21,011	21,229	82,905

—*Mr. Logan, Jour. of the Ind. Arch.*

SAMANGKA, MALAY. Cucurbita citrullus, *Linn*.

SAMANI, see Khalif.

SAMANTA DATTA, see Inscriptions.

SAMANYATO-DRISHTUNG, SANS, from Samanyă, equal, and drishta, seen.

SAMAON, see Tattooing.

SAMAPATTI, SANS. In buddhism, silent abstraction and contemplation of the Supreme Being.

SAMAR. Amber is frequently gathered in considerable lumps in the vicinity of Samar and the other islands of the Bissaya group of the Eastern Archipelago as well as mother of pearl, tortoise-shell, and red and black coral, of the latter kind, shafts are obtained as thick as the finger and six or eight feet long.—*Walton's State*, *pp*. 38–9. See India, Negros or Buglos Islands, Papuans.

SAMAR, ARAB. Fruit.

SAMAR, see Kelat.

SAMARAK, or Samarugh, HIND., the mushroom Agaricus campestris.

SAMARANG RESIDENCY and town in Java, has 1,020,275 of population, exclusive of the military, viz.,

Europeans..	5,162	Other Eastern races...	1,982
Natives....1,001,252			
Chinese......	11,441		
Arabs........	438	Total...	1,020,275

Near Samarang, is the head quarters of the army of Netherland India. It is strongly fortified. Samarang anchorage is exposed in the western monsoon: the town is built on both sides of a small river.—*Bickmore*, *p*. 56.

SAMARCAND, the capital of the ancient Sogdiana. Shammir Yerash, the son of Yashir, the successor of the Balkees of the Christian era, was one of the greatest warriors who ever held the throne of Yemen. He carried his victorious arms into Irak, Persia, and the neighbouring countries, attacked and nearly destroyed the ancient capital of Sogdiana, which thenceforth took the name of Samarkand; Shammir's son restored it. Remains of Himyaritic inscriptions were long found there, and one mentioned by Aboo'l Feda began thus, "in the name of God, this building was erected by Shammir Yerash, in honour of the Lord the Sun." Shammir afterwards perished with his army in the deserts of Thibet, in an invasion of China. To revenge the death of his grand-father, Tobba ul Akran, who occupied the throne of Yemen for about fifty years, from A. D. 90 to A. D. 140, marched and rebuilt Samarcand; carried war into China, where he founded a city which Thaalebi called El Beet, where he left a colony of 30,000 Arabs, who continued a distinct people when Hemedoun wrote in A. D. 553. Samarcand is 500 miles from

Herat, and Herat is 750 miles from the Indus, is in the midst of the beautiful valley of Soghd, it was till lately the seat of the king of Bokhara in the winter time. It was known in the time of Alexander the Great by the name of Marakanda Regio Sogdianarium ; and contains the sepulchre of Timur whose residence it was. It is still the seat of oriental literature, and called "The Ornament of the Face of the Earth." It has a mud wall, and forty thousand inhabitants ; a beautiful palace, and many houses of marble, many mosques and colleges. It was formerly inhabited by Chinese, who manufactured paper of silk, and it once had the name of Bokhara-Ishien, but received its present name from the conqueror Samar, after Christ 643. Oologh Beg erected there an observatory. There are two thousand Jews there. Near it is a little town called Sheeraz, and it is probable that the poet Hafiz alluded to the Sheeraz, near Samarcand, when he says, If that Turkish girl of Sheeraz would give me her heart, I would give for one mole of her cheek, Samarcand and Bokhara. Timur marched from Samarcand in A. D. 1397, into India, but returned the following year and proceeded against Syria, Egypt and Constantinople. On Timur's death, in 1404, Sultan Kali took possession of it. Bokhara and Samarkand are the centres of mahomedan theology. There are no mahomedans so strict as the inhabitants of Bokhara, but it is the most shameless sink of iniquity in the East. See Iran, Kara-kul, Kelat, Kesh, Zingarri.—*Dr. Wolff's Bokhara, Vol.* ii, *pp.* 4–6.

SAMARIA, a district in Palestine.

SAMARITANS, have been inhabitants of Nablus, the ancient Shechem, near Jerusalem, since the time of Nehemiah. Samaritan history is detailed in II. Kings, xvii ; Ezra, iv, 2, 3. It had been attached by Sargun B. C. 745, 746, was besieged and taken B. C. 719, and the people carried away to Assyria and Medea. According to the Samaritan traditions, it was on the rock surface of Mount Gerizin that Abraham prepared to sacrifice his son Isaac. This was the Bethel of Jacob, and even to this day, the Samaritan priest, takes off his shoes as he nears the spot, because it is holy ground. Samaritans are Christians since our Saviour planted it amongst them, John, iv, 5–42. In the rites of the Yom-kippoor, or day of atonement, of the Samaritans, as witnessed at Nablus in 1861, they make in their responses, avowals of their belief in Jehovah and in Moses, and are accompanied by constant sudden prostrations, and by frequently rubbing down the whole face and beard with the right hand, a gesture frequently used by mahomedans, when any sacred name or form of words is said, and seems to be an attempt actually to catch the grace of the words, residing in the breath of the speaker himself, and communicate it to his beard and countenance.

SAMAROGH, HIND. Agaricus campestris, Morchella esculenta.

SAMARPANA, see Rudra sampradayi.

SAMARSI, see Mewar, Korum-devi, Sanjogata.

SAMATATA, the Gangetic delta.

SAMATA, or Samatta, or Balurakkisa, TEL. Fourcroya cantala, *Haw.*

SAMATRAPU TEN-KAIA, TEL. Sea-cocoanut of Seychelles, Lodoicea seychellarum.

SAMAUKA, HIND. Cucurbita citrullus.

SAMA VEDA. Amongst the hindoos there are eighteen Vidya of true knowledge, and some branches of knowledge, falsely so called. The first four are the Vedas, which are entitled, in one compound word, Rigyajushsamat'harva, or, in separate words, Rich, Yajush, Saman, and At'harvan. The Rig-veda consists of five sections ; the Yajurveda, of eighty-six ; the Samaveda, of a thousand ; and the At'harvaveda, of nine ; with eleven hundred sac'ha, or branches, in various divisions and sub-divisions. The Vedas, in truth, are infinite ; but were reduced, by Vyasa, to this number and order : the principal part of them is that which explains the duties of man in a methodical arrangement ; and in the fourth is a system of divine ordinances. From these are reduced the four Upa-veda, (Upa-veda, Upanga, Uppuran, infer a work deduced, respectively, from its principal : up, like our sub, implies inferiority,) namely, Ayush, Gandharva, Dhanush, and St'hapatya. The first of which, or Ayur-veda, was delivered to mankind by Brahma, Indra, Dhanwantari, and five other deities ; and comprises the theory of disorders and medicines, with the practical methods of curing diseases. The second, on music, was invented and explained by Bharata : it is chiefly useful in raising the mind by devotion to the felicity of the Divine Nature. The third Upaveda was composed by Viswamitra, treats on the fabrication and use of arms, and implements handled in war by the Cshatriya tribe. Viswacarma revealed the fourth, in various treatises on sixty-four mechanical arts, for the improvement of such as exercise them. Six Anga, or bodies of learning, are also derived from the same source, their subjects chiefly are—1, of the pronunciation of vocal sounds ; 2, detail of religious acts and ceremonies ; 3, grammar ; 4, prosody ; 5, astronomy ; 6, on the signification of difficult words and phrases in the Vedas. Lastly, there are four Upanga, called Purana, Nyaya, Mimansa and Dhar-

ma sastra : Eighteen Purana (that of Brahma, and the rest,) were composed by Vyasa, for the instruction and entertainment of mankind in general. Nyaya is a collection of treatises, in two parts, on metaphysics, logic, philosophy, &c. Mimansa is somewhat similar, divided into two parts ; the latter, called Uttara, abounding in questions on the Divine Nature, and other sublime speculations, was composed by Vyasa, in four chapters and sixteen sections. It may be considered as the brain and spring of all the Anga ; it exposes the heretical opinions of sophists ; and, in a manner suited to the comprehension of adepts, it treats on the true nature of Ganesa, Bhascara or the Sun, Nilakanta, Lakshmi, and other forms of one Divine Being. The body of law, called Smriti, consists of eighteen books, &c. &c., delivered for the instruction of the human species, by Menu, and other sacred personages. As to ethics, the Vedas contain all that relates to the duties of kings ; the Purans what belong to the relation of husband and wife ; and the duties of friendship and society (which complete the triple division) are taught succinctly in both. This double division of the Anga and Upanga may be considered as denoting the double benefit arising from them in theory and practice. The Bharata and Ramayana, which are both epic poems, comprise the most valuable part of ancient history. Sanc'hya is two-fold that with Iswara, and that without Iswara, called Patanjala, and Kapita : the latter, in six chapters, on the production of all things by the union of Pracriti, or Nature, and Purusha, or the first male, &c. &c. These books contain infinite contradictions. The Mimansa is in two parts, the Nyaya in two, and the Sanc'hya in two ; and these six schools comprehend all the doctrines of the theists. Lastly appears a work written by Budha. Amongst the hindoos there are six atheistical systems of philosophy, entitled Yogachara, Saudhanta, Vaibhashica, Madhyamica, Digambara, and Charvac ; all full of indeterminate phrases, errors in sense, confusion between distinct qualities, incomprehensible notions, opinions not duly weighed, tenets destructive of natural equality containing a jumble of atheism and ethics ; distributed, like other orthodox books, into a number of sections, which omit what ought to be expressed, and express what ought to be omitted ; abounding in false propositions, idle propositions, and impertinent propositions. The Vedas consist of three Canda, or general heads, namely, Carma, Juyana, Upasasna ; or Works, Faith, and Worship. To the first of which, the author of the Vidyadeisa, or view of learning, a rare Sanskrit book, wisely gives the preference ; as Menu himself prefers universal benevolence to the ceremonies of religion.—*Wilford's As. Res., Vol.* iii, *p.* 302. See India, Inscriptions, Vedas.

SAMAVUSTHANA, see Hindoo.

SAMAWAH, see Mesopotamia.

SAMBA, Hind. Berberis lycium, *Royle.*

SAMBAL, Jav. Cooked vegetables mixed with capsicum.

SAMBAR, Hind. Desmodium argenteum.

SAMBARA, Sans. Rusa equina, *Cuv.*; *Ham. Smith.* See Samber.

SAMBAH, amongst the Malay, means obeisance, homage, &c., and is used for the ordinary word "to speak" by inferiors to a king ; Salaam is the simple Arabic salutation, "peace," subjects or inferiors addressing a king are said to "Sambah" not to chakap or kata or other words in commmon use.—*Jour. Ind. Arch., Vol.* v, *No. XI.*

SAMBER, see Lakes, Sambhar.

SAMBER of India, Rusa hippelaphus, *Cuv.*

Cervus aristotelis, *Cuv.*	Cervus niger, *Blainville.*
equinus, "	jarai, *Hodgson.*
hippelaphus, "	heterocercus, "
leschenaultia, "	saumur, *Ogilby.*

The Samber stag, Eng.	Ma-ao of the Gonds.
Sambar, Hind., Mahr.	Kadavi, Kadaba, Can.
Jarai, Jerrao on the Him.	Kannadi, Tel.
Jerrow, "	Ghous or Gaoj of E. Bengal.
Maha, in parts of the Terai.	Bhalonji, (female), " "
Mera, Mahr. of the Ghats.	

These numerous synonyms will show that men of science as well as sportsmen have found it difficult to recognise the Samber stag, at its several sites in India, but Jerdon, after seeing them in the Himalaya, in Central and Southern India considers them to be all one species. It is a noble animal, from 14 to 15 hands in height, with antlers often a foot in circumference and four feet long; it is found on the banks of the Jumna and Ganges in their mountain courses ; a few stray along the sub-Himalayan valleys and have been shot and seen near Simla on the Cashmere ranges. See Cervus, Deer, Mammalia, Rusa.

SAMBHA, see Sevaji, Mahratta Governments in India.

SAMBHAR or Sambhur, a salt lake in Rajputana where salt is made. Sambhar-lun, salt from Sambhar lake. The name of the extensive salt lake was probably anterior to Ajmir, and yielded an epithet to the princes of this race, who were styled Sambu Rao.

SAMBHOSA, Hind. A fried cake, salted.

SAMBHU, see Siva, Inscriptions.

SAMBHUR, see Haravati or Harauti.

SAMBILANGS or Nine Islands, small bluff islands, covered with trees, extend 7 or 8 miles southward of Pulo Dinding. See Nicobar Islands.

SAMBLA, SANS. Flacourtia sepiaria.—*Roxb.*; *W. & A.*, *Rh.*

SAMBLI, HIND. A kind of tobacco.

SAMBOO DEER, *Bennett*, Rusa equina, R. aristotelis.—*Cuv.*; *Ham.*; *Smith*; *Gray.* See Samber.

SAMBOOL, TAM. Ashes.

SAMBRAÆ, or Sambracæ, or Sambastæ, an ancient people at the junction of the Panjab rivers, probably the same as the Yandheya, or Johiya Rajputs.

SAMBRANI, MALEAL. Benjamin.

SAMBRANI CHETTU, TEL. Herpestis monniera, *Kth.* Gratiola monniera, *R.*, i, 141; *Rheede*, x, 14.

SAMBRANI MANU, TEL. Parkia biglandulosa, *W. & A.*, 865. Mimosa pedunculata, *R.* ii, 551.

SAMBRI RAO, see Haravati or Harauti.

SAMBU, see Jam.

SAMBUCUS ADNATA and S. ebulus (Dwarf elder) grow in the Himalaya as well as in Cashmere. The roots of the latter, it is said, have purgative properties, and, as also the berries, are used in dropsy.—*Dr. Honig.*, *Thirty-five years in the East*, *p.* 340.

SAMBUL, TAM. Ashes.

SAMBUL, HIND., PERS. Hyacinthus orientalis.

SAMBULPUR, the most easterly district of the Chhattisgarh division of the Central Provinces, has important ethnological relations. It lies between lat. 19° 10′ and 22° 35′ N., and 82° 40′ and 85° 5′ E. long. Its extreme length from north to south is about 250 miles, and its extreme breadth from east to west 165 miles. The khalsa, or government, portion of the district, is computed to comprise 2,500 square miles. The greater part of this country is an undulating plain, with rugged ranges of hills rising in every direction. The principal of these ranges is the Bara Pahar in the Dakhantir, which is in fact a succession of ranges covering an area of some 350 square miles. A very large proportion of the district is occupied by crystalline metamorphic rocks. A small portion of the north-west corner of the district is composed of the same series of sand-stone, lime-stone and shale, which cover such a large area in the Raipur and Bilaspur districts. In the river Mahanadi, near Padmapur, there are large masses of lime-stone rock, almost as pure in appearance as marble. Gold dust is procured in the Mahanadi and in its affluent, the Eb, but the process of collecting it is scarcely remunerative. Diamonds used to be found also in the Mahanadi, near the Hirakhuda or Diamond Isle, also at the spot where the Eb joins. During the period of native rule, some fifteen or twenty villages were granted rent-free to a class called Jhira, in consideration of their undertaking the search for diamonds. When the country lapsed in 1850 these villages were resumed; and though an attempt was made to lease out the right to seek for diamonds, the farm only fetched some rupees 200 per annum for a short time, and even at that low rent it does not appear that the farmer made anything out of it, for he eventually gave it up. Under the native government it was the practice to give the jhira diamond-seekers a village rent-free, if they produced a good-sized diamond, land being of little or no value then. The smaller diamonds they used to secrete and sell. As far as can be learnt, the best stones ever found here were thin and flat, with flaws in them, but they were admirably suited for setting in native jewellery. The Sambulpur population amounts to 812,348, of whom 497,774 are engaged in agriculture—the Kolta, the Agharia, and Brahmin are the largest cultivators. The Kolta are a hindoo race; the Agharia claim to be rajputs: the brahmin are of two sections, the Uriya and Jharwa. The Uriya brahman are a lazy improvident sect and subsist chiefly by begging. The Jharwa brahmins are intelligent, careful and hard-working, cultivate the soil, engage in trade. The labourers are the Pab, Saoura, Ganda, Gond, Mali and Gaoli races. The Mahanti are clerks, the Bhulia, Mehra and Koshti are weavers. The Mahanadi rises in the Raipur district in a hilly range between Dhamtari and Bastar, and entering the Sambulpur district to the eastward of Seori-narain in the Bilaspur district, flows due east for some twenty-five miles, when it takes a south-easterly direction for some forty miles, passing Chandrapur and Padmapur, until it reaches the town of Sambalpur. From Sambalpur, its course is due south for some forty-five miles as far as Sonpur, where it suddenly changes to due east, following that direction until it empties itself into the sea beyond Cuttack. Its bed as far as Chandrapur is tolerably free from obstructions, but from Chandrapur to a little beyond Bod it is more or less full of them; its current is more or less hindered by boulders, jhau jungle and even trees. The other rivers deserving mention are the Eb, the Kelu and the Jhira—all tributaries of the Mahanadi. The Uriya brahmans came from Cuttack and Puri within comparatively recent times while the Jharwa settled here many hundred years ago. The Uriya consider themselves the more holy and will not eat with the Jharwa, but they are a lazy improvident set subsisting chiefly by begging. The Jharwa or jungle Brahmans, as their name denotes, are careful, hardworking, and

intelligent, they are not above cultivating the soil, engaging in trade, or turning their hand to anything useful and profitable. The Mahanti are the clerks of Orissa; they are immigrants from the districts to the east, and take occupation as clerks in government offices, school-masters, &c. They are an intelligent but somewhat effeminate race. The Rajput rajas and their descendants. The Bhulia are weavers of cotton-cloths, not celebrated for fineness of texture, but for brilliancy of colour and variety of pattern they can hardly be excelled among coarse native fabrics. Cotton-cloths are also made by the Mehra. The Koshti are weavers of tassa silk-cloth. Their manufacture is justly celebrated, the texture is very even, and the silk has a lustre which never fades, however long it may have been in wear. The Sunar or goldsmith, are apt imitators, and might improve. They manufacture all the ornaments worn by the women: these are very peculiar unlike those used in other parts of India. The prettiest ornaments made here are the "kanthu," or neck-laces of large gold-fluted beads, worn often by Brahman and Rajput sepoys of the Native army. The Kansar or workers in bell-metal and brass, make all sorts of vessels and utensils very neatly indeed. The Guria are sweet-meat sellers. Sansia are masons and stone-carvers. Their work is rough, but solid, and they soon pick up anything that is shown them. The Teli are oil-sellers—a numerous and well-to-do class. The mahomedans are chiefly merchants and government servants. The Panhari and Tamboli are betel-sellers. Kewat are fishermen and boat-men combined: they are a numerous and hardy race, and sometimes engage in small ventures of trade. Ghasi are grass-cutters and grooms, they will also perform the duties of sweepers. The aboriginal tribes of the khalsa are Gond, Pab, Saoura, Binjal or Binjawar, and Kol or Dhangar; the latter came from the Chota-Nagpur direction: they are as a class, hard-working, honest, and light-hearted, and when not engaged in cultivating either for them-selves or for others, they will take service of any kind. Road-making, palki-bearing, gardening, punkha-pulling, all come alike to them, and the women work equally hard with the men; they are fond of strong drink, but apparently only give way to it on festive occasions; at certain periods of the year women and men dance all linked together in a circle, pace round in a monotonous but perfectly regular measure, swaying at the same time their bodies backwards and forwards, occasionally almost touching the ground with their heads, they are all decked out in their best, the women ornamenting their hair fantastically with feathers and flowers. Ghes, is a chiefship attached to the Sambalpur district, situated some fifty miles west and a little south of the town of Sambalpur. The chief's family are Binjwar (or Binjal) and were much mixed up in the Surendra Sai rebellion.—*Central Province Gazetteer.*

SAMBUL UL TIB, HIND. Nardostachys jatamansi.

SAMBUR, or Samber, HIND., MAHR., Rusa hippelaphus. See Samber.

SAMDULUN, HIND. Elephantopus scaber, *Linn.*

SAMEAH-MANIK, see Kattyawar.

SAMGH-I-ARABI, PERS. Acacia arabica, *Willd.*; *Linn.*; *W. & A.*, its gum.

SAMI, SANS. Lord, God.

SAMI, SANS. Vachellia farnesiana, *W. & A.*

SAMIA, MOLUCCAS. Cæsalpinia sappan, *Linn.*; *Roxb.*; *W. & A.*

SAMIDAH, see Khuzistan or Arabistan.

SAMIEL, or Bad-i-Samoom, also Samoom, from the Arabic sam, a poison, a pestilential wind, which occurs in the desert tracts between Africa and India. The people say it does not come in continued long currents, but in gusts at different intervals, each blast lasting several minutes, and passing along with great rapidity but the accounts seem greatly exaggerated. No one they say stirs from their houses while this flame is sweeping over the face of the country. Previous to its approach, the atmosphere becomes thick and suffocating, and appearing particularly dense near the horizon, gives sufficient warning of the threatened mischief. Though hostile to human life, it is so far from being prejudicial to the vegetable creation, that a continuance of the Samiel tends to ripen the fruits. Porter enquired what became of the cattle during such a plague, and was told they seldom were touched by it. It seems strange that their lungs should be so perfectly insensible to what is said to be instant destruction to the health of man, but so it is said, and they are regularly driven down to water at the customary times of day, even when the blasts are at the severest. The people who attend them, are obliged to plaster their own faces, and other parts of the body usually exposed to the air, with a sort of muddy clay, which in general protects them from its most malignant effects. The periods of the wind's blowing are generally from noon till sunset; they cease almost entirely during the night; and the direction of the gust is always from the north-east. When it has passed over, a sulphuric and indeed loathsome smell, like putridity, remains for a long time. The poison which occasions this smell,

is said to be deadly; and if any unfortunate traveller, too far from shelter, meet the blast, he falls immediately; and, in a few minutes his flesh becomes almost black, while both it and his bones at once arrive at so extreme a state of corruption that the smallest movement of the body would separate the one from the other. When we listen to these accounts, we can easily understand how the Almighty, in whose hands are all the instruments of nature, to work even the most miraculous effects, might, by this natural agent of the Samiel, brought from afar, make it the brand of death by which the destroying angel wrought the destruction of the army of Sennacherib.—*Porter's Travels, Vol.* ii, pp. 229-30

SAMILZYE, see Khyber.

SAMISCH-LEDER, Ger. Chamois leather.

SAMI STONE or god stone, seems to be applied to two or three minerals: samada stone, or corundum: a variety of agalmatolite, or pagodalite: and potstone, or a variety of steatite in much demand in China and in some parts of India, for the manufacture of images and figures. It is much used, also, in putting a finishing polish on steel and other metals, and brightening sword blades, bridle bits, &c.—*Bl. A. Trans.*, 1845, *Vol.* xvi.

SAMI TREE, worshipped by hindoos at the festival of the Dasserah.

SAMKI, Rus. Socks.

SAMLA, Sans. Flacourtia sepiaria.

SAMMA, Hind. Schleichera trijuga.

SAMMA. There seem to have been two Samma dynasties, an earlier and a later, ruling in Sind. The earlier seem to have been the Sambus and Sambastæ of Alexander's Historians, the Abestani of Arrian and Sabarcæ of Quintus Curtius, whose capital was the Sindomalia, Sindimon or Sindomanna of authors. One Samma dynasty was a rajput race of Lunar origin, the opponents and successors of the Sumra. The Jharijah race in Cutch are of Samma extraction. After expelling the Sumra race from Sind, in A. D. 1351, the Samma retained power till they were, in their turn, expelled by the Arghun, A. D. 1521. The Samma were either of the buddhist or brahmanical faith. They form unquestionably a branch of the great stock of the Yadava Rajputs, and their pedigree is from Samba, the son of Krishna, who is himself known by the epithet of Syama, indicative of his dark complexion, and their first capital was Samma Naggur on the Indus, probably the modern Sihwan, then it was Samni, and finally was established in Thatta. The Samma seem to have become proselytes to mahomedanism, about A. D. 1391, since which event, their name, though it still comprises several large erratic and pastoral communities, is less known than that of their brethren or descendants, the Sameja, and the half-hindoo Jhareja of Cutch who do honour to their extraction by their martial qualities, however notoriously they may be deficient in other virtues.—*Elliot*, 497. See Yadu.

SAMMARA, see Mesopotamia.

SAM-MARAM, Tam. A wood of Tinnevelly, of a red colour, used for furniture of any description perhaps the Soymeda febrifuga ?)—*Colonel Frith.*

SAMMET, Ger. Velvet.

SAMMI, or Sammu, Hind. Bignonia suaveolens, *Roxb.*

SAMMI, or Swami stone, or Agalmatolite.

SAMMIONG, Lep. Arctomys hemachalanus, *Hodg.*

SAM-MOON, or Samoun Islands, or Three Gates, in the Canton River, a group of three small islets of about 3½ miles in extent.

SAMNOS, the Samnite custom of marriage so lauded by Montesquieu as the reward of youthful virtue, was akin in sentiment to that of the ancient Rajput, except that the fair Rajpootni made herself the sole judge of merit in her choice. It was a practice more calculated for republican than aristocratic society: "On assembloit tous les jeunes gens, et on les jugeoit; celui qui était déclaré le meilleur de tout prenoit pour sa femme la fille qu'il vouloit: l'amour, la beauté, la chasteté, la vertu, la naissance, les richesses même, tout cela était, pour ainsi dire, la dot de la vertu." It would be difficult, adds Montesquieu, to imagine a more noble recompense, or one less expensive to a petty state, or more influential on the conduct of both sexes.—*L'Esprit des Lois, chap.* xvi; *Livie*, vii; *Tod's Rajasthan, Vol.* i, *p.* 632.

SAMOAN ISLANDS, in Polynesia. The men of Manua are remarkably fine-looking, several among them being above six feet high, with Herculean proportions. The arm of one measured above the elbow fifteen and a half inches. At Tau and Manua they are generally tattooed from the loins to the knees, which has the effect of trowsers.—*Capt. Elphinstone, Erskine Islands of the Western Pacific, p.* 41.

SAMOEIDE, see India, Mongol.

SAMOJA, Hind. A middling quality of rice.

SAMOKA, also Turbuz, Hind. Cucurbita citrullus, *Linn.*

SAMOOM, often called Samiel. See Samiel.

SAMP, Hind. A serpent, a snake.

SAMPA JANNA, Tel. Fish roe.

SAMPAL, Sumbat, Malay. Cork.

SAMPAN, a river near Sohagpoor in Baitool.

SAMPAN, a Chinese boat, well-known

at Singapore, and in the rivers of Burmah, and remarkable for its swiftness both with sails and oars. These boats, when skilfully managed are exceedingly safe, and are sometimes employed on rather distant coasting voyages, from Singapore to Penang for example. The passenger Sampan is employed at Singapore chiefly in conveying passengers between the shore and the shipping Captain Sherrard Osborn says the Singapore sampan approaches in sharpness of outline and chances of drowning the sitters, to one of the above-bridge racing wherries on the Thames. Two Malay rowers, each pulling a single broad-bladed oar, could in these sampans beat our fleetest gig. The Chinese rowers instead of sitting down to their oars, always stand up, abaft their oars, and face forward. The form of the sampan and junk is of the model of a good broad-toed, broad-heeled, broad-soled slipper,—a good old-fashioned list slipper, in short.—*Osborn's Quedah, pp.* 4-5.

SAMPAN-CHOU or Boat Islet, a small island of moderate height in the Canton river, about 1½ mile N. E. of Lamkeet hill.

SAMPANDER, one of the three most famous saiva poets and devotees.

SAMPANGI MARAM, TAM. Michelia rheedii, M. nilagirica, *W. Ic.*

SAMPENGA CHETTU, or Champakamu, TEL. Michelia champaca.

SAMPRADAYA, a sect of the vaishnava hindoos.

SAMPAYA-PAULAY, TAM. A wood of Tinnevelly, of a light brown colour, specific gravity 0·792, used for building purposes.—*Colonel Frith.*

SAMPGA, CAN. Hocomlia montana.

SAMP KI KHUMB, HIND. Arum speciosum.

SAMP-MAR, HIND. Circaetus gallicus, *Gmel.*

SAMPNI, HIND. Colebrookia oppositifolia.

SAM-PO-HO, CHIN. The Indus river.

SAMPSUN, DUKH. Aristolochia indica, *Linn.*; *Roxb.*

SAMRAT UL ASAL, ARAB. Galls of Tamarix orientalis.

SAMRAT UL TURFA, ARAB. Galls of Tamarix indica.

SAMSHU, CHIN. A spirituous liquor prepared by fermentation and distillation, from rice.—*Simmond's Dict.*

SAMSTRAVADI, MALEAL. Barringtonia racemosa, *Roxb.*

SAMTA, see Vidya.

SAMUDAR, SANS. Ocean.

SAMUDRA, see Inscriptions.

SAMUDRA-CHEDDI, TAM. Argyreia speciosa, *Swt.*

SAMUDRA-DRATTA, a dynasty of 25 buddhist kings from Mithila who reigned in Magadha.

SAMUDRA GUPTA, see Inscriptions.

SAMUDRAPALA or Chandrapoda, Argyreia speciosa, *Swt.* Lettsomia nervosa, *R.*, i, 488; *Rheede*, xi, 61.

SAMUDRA PALLAM, MALEAL., TAM. Fruit of Barringtonia racemosa, *Roxb.*

SAMUDRA-PATRA, TEL. Argyreia speciosa, *Swt.*

SAMUDRAPU also Samstravadi, MALEAL. Barringtonia racemosa, *Roxb.*

SAMUDDRAPU, also Samudrapu Nundra-kaia, TEL. Cancer, Crab, Pagurus.

SAMUDRAPU NURUGU, TEL. Cuttle Fish-bone.

SAMUDRA-PU-TENKAIA, TEL. Lodoicea seychellarum; Double cocoanut; Cocos maldivica.

SAMUDRA SHOKA, also Gugali, HIND. Argyreia speciosa.

SAMUDRA-STOGAM, MALEAL. Argyreia speciosa.

SAMUGH B'IS SHARIN, PERS. Gum arabic.

SAMUKA, HIND. Oplismenus frumentaceus.

SAMU-KA-BIJ, HIND. Hibiscus cannabinus.

SAMULFAR, HIND. Arsenious acid. Arsenic.

SAMULKOTTA, a town in the Northern Circars, in lat. 17° 3′ 3″; long. 82° 13′ 7″, 8 miles inland from the Bay of Bengal. Mean height of the village is 84 feet above the sea-level.—*Cullen.*

SAMULU, TEL. See Save.

SAMUNDAR KHAG, HIND. Literally Sea foam, the dorsal plate of the sepia, or cuttle fish. It is used medicinally as an absorbent and ant-acid, and to rub down paintwork. It is now in Europe, only valued as a tooth-powder, and in the arts.

SAMUNDAR PHAL, HIND. Fruit of Barringtonia acutangula.

SAMUNDAR SOK, HIND. Salvia plebeia.

SA-MUNG-NEE, BURM. Lepidum sativum, *Linn.* Garden-cress.

SAMUTRA-CHEDDI, TAM. Samutra Patra, TEL. Argyreia speciosa.

SAMU RAMA, Semiramis. It is however supposed that the term Samarim, as used in India, did not relate to one person but to many; and it seems particularly to have been usurped by princes. The Cuthites settled about Cochin and Madura, in India; and the great kings of Calicut were styled the Samarim, and the titular prince of the vicinity of Cochin is still called Zamorin.—*An. Anc. Myth., Vol.* iii, *p.* 144.

SAMVARMA, the last ruler of the Bharata dynasty, who was driven westward by the Panchala. See Bharata.

SAMVAT or Sambat, a term especially applied to the era of Vikramaditya, commencing 57 years before the christian era. See Era, Inscriptions, Junagurh, Nepal, Pali, Vikramaditya.

SA-WAT, BURM. Anethum graveolens, Linn., *Dill.*

SAMYA, MAL. Cæsalpinia sappan, *Linn.* Sapan wood.

SAMYDA CANZIALA, *Buch.*, syn. of Casearia canziala, *Wall.*

SAMYDACEÆ, *Lindl.* An order of plants, comprising 1 genus and 6 species of Casearia.

SA MYEIK, BURM. Anethum sowa, *Roxb.*

SAN, AR., HIND., PERS. A year, the year of an era: San-i-jalus, the year of a king's reign.

SAN, BENG., HIND. Crotalaria juncea, also written Sun. This plant is often confused with the "sankokra," (called sanni in some parts), Hibiscus cannabinus, to which it is much superior in strength. The name is also applied to Cymbopogon iwarancusa.—*Powell's Hand-book, Vol.* i, *p.* 507.

SANA, SANS. Crotalaria juncea.

SANAA, one of the districts of Yemen, and includes the country round the city for half a day's journey north, south and east. The city of Sanaa is situated in a deep valley, surrounded by four mountains, about twenty or thirty miles in length and six or seven in breadth, and about four thousand feet above the level of the sea. It is called Uzal in Gen. x, 27, and exhibits a magnificent spectacle to the eye, has the loveliest of gardens, with pomegranates, grapes, and cherries. The houses are of stone, four stories high, with terraces to walk on in the cool of the day. A very ancient house in ruins, called Kaser Saum, the college of Shem, the son of Noah. The Imam or prince resides in a splendid palace, built of a Gothic style resembling a fortress. He has other palaces. Sanaa contains fifteen thousand Jews. In Yemen they amount to twenty thousand. Wolff conceived the total population of the Jews throughout the world amounted to ten millions. He baptized in Sanaa sixteen Jews, and left them all New Testaments.—*Dr. Wolff's Bokhara, Vol.* i, *pp.* 59–61.

SANAD, a grant, a diploma, a character, usually written sunnud.

SANAGA, (sing.) Sana-galu, (pl.) TEL. Cicer arietinum, *Linn.*

SANAGALU, or Senagalu, TEL. Cicer arietinum, *L.*

SANAIM, ARAB. Idol worshippers.

SANAKADI SAMPRADAYI, a sect of vaishnava hindoos, founded by Nimbaditya alias Bhaskura Acharya, a vaishnava ascetic. The objects of their worship are Krishna and Radha conjointly.—*Wilson, Hindoo Sects.*

SANAKE, HIND. of Beas. Vitex negundo, *Linn.*

SANA LAVANGA PATTA, TEL. Laurus cinnamomum.

SANAM, MALAY. Verdigris.

SANAM, HIND. Fraxinus floribunda, large ash.

SANA-PAT, BENG. Senna ; Cassia lanceolata, *Royle.*

SANAR, a caste in the southern Tamil countries who draw toddy from the cocoanut palms.—*Wils.* See Shanar.

SANA SELLA, TEL. Muslin.

SANAT ? Calico.

SANATORIA. In British India, this term is applied to designate military stations on the mountains or tablelands with climates suited to the health of British soldiers. A range of hill stations, or sanatoria, extend from Murree, in the Punjab, to Almorah, in the Kumaon district. There are Murree and Abbotabad, near Hazareh, in the Sind Sagor Doab, Dalhousie on the Chamba Hills, at the head of the Baree Doab ; Dharmsala, near Kangra ; Simla, with its adjacent stations of Dugshaee, Subathoo, and Kussowlee ; Mussoorie and Laudour, overlooking the valley of the Dhoon ; Almorah and Nynee Tal, in the province of Kumaon. In process of time, and with an influx of European settlers, many more such stations will be formed, and there are hundreds of eligible sites for their localities. In the Eastern Himalaya, in Sylhet, some sites are spoken of favourably. Mount Abu, is west of Rajputanah ; the Mahabaleshwar Hills, south-east of Bombay ; Ramandrug near Bellary. The Neilgherri and Pulney Hills in the south of the Peninsula, and Neuera Elia in Ceylon.

Chikuldah is situated on an undulating table-land near to, and somewhat higher than, the fort of Gawlighur, situated in about lat. 21° N., and long. 77° E. Gawilghur Fort is 2,300 feet above the plain, 3,600 feet above the level of the sea, this part of the Berar valley is 1,300 feet above the sea. Chikuldah is on the Vindhya, or as some call it the Gawilghur range of hills, and about 20 miles from the cantonment of Ellichpoor. The plateau of Chikuldah is not above three-quarers of a mile broad, and about a mile in length, but it has easy access to the surrounding table-land and valleys. A cool breeze prevails at the sanitorium during the hot months, and invalids bear testimony to the sudden relief they experience there from the heat usual at

Ellichpoor. During the hot months, ladies and children in particular derive much benefit from the place. The varied and extensive scenery commanded from this elevated spot is exhilarating to the mind by the grandeur of its precipitous ravines with their bluff fronts and bold projections. The more gentle scenery of a vast sylvan tract is seen trending away towards the north, covered with high grass and forest trees, in a series of undulating steppes, all connected one with another, and diminishing in altitude as they recede ; embosomed amidst which are innumerable verdant and secluded valleys. Good roads along the irregular plateau command fine views of the neighbouring most picturesque country, and give every facility for taking air and exercise, without the fatigue of wandering in the jungle or descending into the deep ravines near which the roads pass. As the slope of the mountain inclines towards the north, a more pleasing character presents itself in this direction, than towards the south, where the face of the mountain stands denuded as a bold, precipitous, and cliff-like barrier, admitting only at intervals, of winding pathways, up its craggy front steep and difficult of ascent. It was through some of these passes that the first mahomedans penetrated into the Deccan, led by Ala-ud-Din. Upon the south, the whole valley of Berar is seen to spread out beneath the gazer's feet. During the hot months, it is generally shrouded in a sullen-looking mist, that seems to hang oppressively over the valley, but when the air is clear and bright, as at other periods of the year, the extensive champaigne of Berar is seen across its entire breadth, and sometimes far beyond, the hill fort of Mahore being at times very distinctly visible. Ferns, maiden-hairs, air-plants, lichens, mosses and orchideous plants, indicate a milder and more humid atmosphere. Perhaps this inexplicable and most undefined adaptation of the laws of vegetation, is nowhere better exemplified than in the case of the clustering climbing rose, which in the plains is never seen to blow, running there luxuriously to stems and leaves, whilst on these heights, its tendrils bow down with the weight of its lovely mignon boutons. In such a climate, by a judicious adaptation of localities, several of the valuable productions of the East might be made to flourish. The only cereal grains cultivated are a small millet, called by the natives Koodaka (Paspalum scrobiculatum) and wheat, the former bearing very minute seeds, but affording a very agreeably tasted and nourishing diet, the latter looking very light, poor, and flinty. To see the beauty of these ravines and valleys they should be visited in the summer months, when stately forest trees, as well as lowly shrubs, are all bursting into flower, at once, mixing blossoms of every hue and tint in lovely contrast, with fresh green leaves, for nearly the whole forest sheds its foliage, and is then being renewed. In the cold months, the floral world reposes, little variety is then seen ; amongst its few gay flowers, are those of the downy Grislea, the sweetest of all being the Clematis gouriania, whose odour hangs on every hill, where it is seen entwining its leafy tendrils from bush to tree, in snowy wreaths. As the rains approach, the orchideous and polypodaceous tribes spring into life ; and after they have set in, the ravines become completely changed in character ; numberless creepers shoot forth, and scitamineous plants and lilies throw out a rank, and vigorous vegetation. Thus throughout the several changes of the seasons a completely new and altered character is given to vegetation, conferring the most pleasing variety to the aspect of these hills. Potatoes and peaches thrive well at Chikuldah, the former being planted at the beginning of the rains. For general gardening, however, there is a deficiency of water, but enough at all seasons for culinary purposes and for drinking, from some fine springs near the station, from November to the end of June, a total of eight months, the mean temperature was found to be 71°. The hottest months were April and May giving a mean of 83°. The coldest months were January and February, having a mean of 59°. Thus producing between the hottest and coldest months, a range of 24°. The coldest day observed, was the 9th February, at sun rise, being 47°. The hottest day noticed, was on the 27th April, at 2 P. M., being 96°. Between the extremes of heat and cold, there was therefore a range of 49°. The greatest monthly range was 14° in November. The greatest diurnal range was 22° in April and May, the least diurnal range was 4° in February and 5° in June. The wet bulb thermometer during the hot months, had an average depression of 10°. The thermometer averaged a general range of about 10° below the temperature of Ellichpore. The rains cease about the middle of September, heavy dews then occur until the cold weather begins, and also from February to the rains. At this period the moist atmosphere is bright and transparent, but becomes hazy as it gets less dense towards the hot weather.

Gawilghur fort, to which officers formerly used to resort as they do now to Chikuldah, is situated in a direct route fourteen miles from Ellichpoor, and is ascended by two ghats, the shorter ghat commences on the south

side at an old garden at the foot of the hill called Imloo Bagh, the ascent is steep and travellers can only ascend up the face of it, on foot. The longer ghaut more circuitous and from three to four miles in length passes round by the west and enters through the lower fort. By this road, elephants and guns can pass. The fort is said to be 2,300 feet above the plain, and 3,600 above the level of the sea, Chikuldah possesses advantages from its locality over Gawilghur; being better supplied with water, picturesque, and beautifully wooded. Gawilghur fort is quite in a dilapidated state, and the only interesting object now remaining is the old mosque completely in ruins, many of its twenty-one domes having fallen in, and the surrounding walls given way, a table over the gateway records that this building alone cost within a few pice, that of the whole fort. Although the temperature of the hills is exceedingly mild, yet the thermometer indicates higher than one would infer from personal feelings. The morning air throughout the whole season is delightfully elastic and invigorating, and walking exercise was the favourite amusement at that time of the day, with ladies, who seemed to suffer no inconvenience from remaining in the open air till 8 o'clock; a light gentle breeze continues to blow during the day; and the nights are really so cool, that generally speaking, a sheet is by no means an unpleasant covering in the month of May. April is considered the most unpleasant month, the atmosphere becoming occasionally close and sultry about noon, but towards the afternoon large clouds regularly form, which fall in gentle showers, restoring the temperature to its usual mildness. On the commencement of the rains, about the 8th or 10th of June, thick fogs set in which render the place gloomy and disagreeable, but after a heavy fall of rain they completely disappear, and the climate is then said to be very delightful. Hitherto, however, from the want of accommodation for the public followers, all have been obliged to quit the station at the beginning of this season. The average fall of rain during the monsoons is said to be about 36 inches. From September, the temperature is so equitable, cool, and bracing, that without any exaggeration, it may be styled a European spring. On the 26th January 1840 the thermometer suspended in the open air under a tree, stood at noon, at 62°. As a convalescent station and therapeutical agent in the treatment of disease, it has already been found of advantage. The people of Nagpore may take advantage of this station, which presents a change of air at a moderate distance, the supply of water for culinary purposes is very scanty for drinking; several natural springs occur in the ravines close to the bungalows. Nowhere is there the slightest appearance of a swamp or marsh, nor is there any epidemic disease peculiar to the hills, and their salubrity is established by the fact, that with the exception of two severe visitations of cholera, accompanied or rather proceeded by famine in the years 1834 and 1838, out of a population of upwards of 3,000 inhabitants, there had been only 40 deaths in a period of 40 years; they are extremely addicted to drunkenness. Gonds seldom assemble in villages of any size, but are dispersed in huts, three or four together, generally on the slope and along the northern exposure of the hills; they are singularly migratory, the inhabitants this year of a village in the western extremity may next year be found at the farthest opposite point of the range. Chikuldah is said to be quite equal to the Mahabaleshwar hills, and a person on horseback is able to ride wherever he pleases over the plains, which he cannot do on the Mahabaleshwar on account of the bushes. Supplies are procurable from all the villages en route, from the side of the Wurdah. Colonel Stevenson in 1803 brought his guns up via Dhamungaon and Amjurah, when the army under the command of General Wellesley took Gawilghur.

Kussowlee, in lat. 30° 56′ N. L. 77 East, 45 miles distant from Umballah, and 32 from Simla, is about 6,400 feet, above the sea: there is no table land, and the peaks are rather steep, and pretty densely clothed with fir trees: there is a plentiful supply of excellent spring water, 700 feet below the barracks; the meat and vegetables are plentiful. The climate may be pronounced to be temperate and agreeable, unless during the rainy season, when dense fogs make it gloomy and depressing. The barracks during the early years of occupation were very inferior, having flat mud roofs, and rooms only 10 feet high, with clay flooring; lately, however, the rooms have been raised to 15½ feet, the floors have been boarded and the roofs made to slope so that they do not leak.

Subathoo lies nine miles from Kussowlie on the road to Simla, at an elevation of only 4,000 feet; the hills are bare of wood, the climate differs from that of Kussowlie in being hotter in summer, and warmer in winter; it is altogether more dry and sheltered, and has an advantage in being seldom visited by fogs.

Dugshai, is distant 18 miles from Kalka, and is 8 miles east of Kussowlie, and 10 miles south of Subathoo; its height ranges from 5,000 to 6,000 feet; the hills have a bleak and barren look, being completely bare of trees, and covered only by a long coarse grass.

There is free exposure to the prevailing winds; water is abundant and good at the distance of a mile from the barracks which are new, substantial and excellent, both in point of accommodation and ventilation. The rations are good and occasionally varied, and six acres of ground are laid out as a soldier's garden. The climate is said to be unexceptionable, although the heat of the summer is sometimes oppressive, and the cold of winter rather piercing. In 1851, August was the most rainy month, and in January there were two feet of snow on the ground.

Simla is 77 miles from Umballah, in lat. 30·6 north, long. 77·11 east, the houses are scattered over an extent of about 7 miles, on a series of heights varying from 6,500 to 8,000 feet, which is the highest elevation; it is in most places densely wooded with fir and rhododendron, and there is much rank jungle which keeps the surface soil constantly damp; both here and at Kussowlee the heat of summer is somewhat tempered by the exhalations from, and the shelter of, so much rich foliage. The climate of the two stations is also very similar, and it has been compared with that of the Cape of Good Hope. The rains commence early in July, heavy dense clouds and fogs then load the air, and with this increase of humidity, disease becomes very prevalent. Water is scarce during the hot months, many persons take the precaution to boil and filter it; supplies are abundant enough, but in general high-priced. The fall of rain at the several stations, has been variously estimated at 60, 80 and 100 inches: at Kussowlee and Simla 70 inches may be estimated as a fair annual average. The deep ravines and water courses, which intersect all the hills, are dry during the greater part of the year; the heated air ascends from these confined gorges, bringing, in the rainy season, dense clouds of mist, which are doubtless excellent media for the transmission of the miasmal exhalations that are generated in such places by moist warmth acting upon an abundant vegetation. The following table exhibits the mean temperature of each month:

SANATORIA.

Stations.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Ht.	Rainfall.
Kussowlie	42·	47·4	58·5	64·4	77·2	73·9	70·5	70·6	72·1	66·2	...	...	64·00	About 70 inches. (Kussowlie, Subathoo, Dugshai, Simla)
Subathoo	...	...	...	77·	81·5	84·5	79·3	77·	...	...	...	...	40·00	
Dugshai	42·	47·	57·	64·	69·	71·	72·	68·	66·	62·	54·	53·	60·00	
Simla	40·	44·1	53·4	61·3	66·3	80·9	75·5	78·1	70·	67·9	52·3	46·1	80·00	
Nainee Tal......	42·1	46·5	56·	61·2	69·5	69·6	67·8	69·2	65·1	61·5	50·1	47·9	62·00	82·31
Landour.........	35·9	40·7	54·3	...	...	...	...	...	68·0	64·1	49·6	46·3	73·00	...
Murree...........	...	...	...	...	...	69·5	68·4	66·7	62·1	62·8	...	...	67·86	...
Darjeeling	40·9	41·7	51·8	55·3	61·9	62·5	63·7	64·3	63·2	55·8	50·4	44·8	80·08	125·20
Mahableshwar..	63·11	64·59	71·82	74·14	71·79	66·89	63·36	63·71	64·34	65·68	64·	63·04	47·00	239·80

The prevalence of diarrhœa and dysentery a these stations and the loss sustained had bee so considerable as to lead to a very genera belief that as sanatoria they had prove failures. In 1843-44, H. M.'s 9th Foot ha 350 admissions from bowel complaint, an 57 deaths; while in 1844-45, its second yea of residence, there were only 231 admission and 17 deaths. The 1st Bengal Fusilier stationed at Subathoo in 1845, also suffere much, but both regiments came to the hill in a very sickly state, the one having bee decimated by fever and dysentery in Affghar istan, the other by a similar epidemic a Kurnaul during two years. The same ma be said of H. M.'s 29th Foot, and the 2n Bengal Fusiliers, the former having been i

a sickly condition with a taint of scurvy for years before, and the latter having been very sickly in Sind. In 1847–48, the 29th had 33 deaths out of 382 cases of diseases of the stomach and bowels, and out of 25 deaths in the 2nd Fusiliers, 13 were from this class of diseases.

Since then regiments in a less unhealthy state were sent to the hills, and there has been very great improvement in the barrack accommodation as well as in the conservancy department. In 1850–51, H. M.'s 60th Rifles were stationed, the right wing at Kussowlie, the left at Subathoo, the average strength of the regiment was 1,002, and the deaths within the year only 14, of which, however, 13 were from bowel affections. At Kussowlie there were 220 cases, or 334 per cent of average strength, with 9 deaths, and at Subathoo 74 admissions, or only 214 per cent, with 4 deaths, showing what had hitherto been rare in the history of these two stations, that the balance of salubrity was in favour of Subathoo. The admissions from diarrhœa were 221 with two deaths, but many more men were attacked, although not admitted into hospital. There were 82 admissions from chronic dysentery, of which 16 with 2 deaths occurred in the last quarter of the year, and chiefly in men who had suffered from repeated attacks of diarrhœa. In 1851–52, the same regiment, with an average strength of 910⅔, had of total admissions 892; deaths 36, of which 27 were from bowel complaints, out of 252 admissions divided as follows; dysentery 35 cases and 9 deaths, diarrhœa 215 cases and 17 deaths against 221 cases with only 2 deaths in the previous year. On arrival at Jhullundur there were in hospital 57 cases of bowel complaints, and out of the 36 deaths, 9 occurred there, but all from disease contracted on the hills. It will be observed that the actual admissions were less, but the mortality which in the first year had been only 1·39 per cent. to strength, rose to 3·95 per cent., the disease from repeated relapses or from concealment of it, becoming much more intractable.

Dugshai.—In 1850-51, H. M.'s 22nd Regt. occupied Dugshai; average strength 1,049, deaths 27, of which 7 were from dysentery, and 1 from diarrhœa: the total admissions from this class of diseases were under 200, and the diarrhœa was peculiarly mild. In 1851–52, the second year of residence, the average strength is stated to be 1,045, and the deaths at head-quarters 20, of which 3 were from dysentery out of 47 admissions, nearly all preceded by frequent attacks of diarrhœa, and 3 from diarrhœa out of 199 admissions. During this year the regiment had fewer casualties, and fewer admissions into hospital than in any year since its arrival in India. In 1851, during the cold season, it marched to Rawal Pindee, and for months after it had been there, it continued in a high state of health and efficiency, and without any excess of bowel complaints among the admissions in to hospital.

At Simla few persons escape one or more attacks of diarrhœa in the course of the season. The attacks are not confined to persons in broken-down health, who have suffered from periodic fever, or other tropical diseases; residents in the prime of life and of sound constitution, have been very generally affected, and examples of its proving fatal are not rare. In one fatal case the diarrhœa was aggravated by the fatigue of a dawk journey, and proved fatal in Calcutta by terminating in malignant scorbutic dysentery; in another case, there was only the wasting painless form of disease, and death took place on the passage to England.

Of the various causes assigned, the first and most popular was the bad quality of the water: this, however, has been disproved. The water from the springs on the north side of Kussowlie is very pure, while that on the south side is only impregnated with a trace of lime, but to a less degree than is found at many healthy stations in the plains. At Simla, in the hot season, the supply of water is scanty, and not of the best quality, but that is the time when diarrhœa is least common. During the rains, the running streams are as pure as could be desired after the first few showers have washed out the water courses; besides, persons who were careful to use only boiled and filtered water did not escape the diarrhœa. Both at Simla and Kussowlie, the trees have gained the repute of producing the disease, by reason of their promoting damp exhalation, and preventing the free circulation of air. But Subathoo and Dugshai are bare of trees and yet experience no immunity from the prevailing endemic, shows. In places the trees require thinning, in order to admit light and air, and to keep down the thick jungle which, at Simla especially, is, I believe, a source of noxious influence: it may be added that the results of experience are in favor of selecting sites, like that of Dugshai, clear of trees and jungle which promote humidity and afford materials for decomposition. The best founded and most influential exciting causes are the cold moist atmosphere, and the great and sudden vicissitudes of temperature by which perspiration is checked, leading to internal congestion, languid and impeded circulation in the liver and functional derangement of that organ. But these ungenial influences of temperature and

moisture must have something superadded to them, to account satisfactorily for the inherent and peculiar liability of these localities to produce diarrhœa : the climate of Mussoorie is equally humid, but without the same tendency to diarrhœa, and this may be also said of Nainee Tal, Murree and Darjeeling, the last being remarkably cold and cloudy, and the air long supersaturated with moisture. Other mountain ranges all possess a similar immunity, such as the Neilgherries and Mahableshwar. There must, therefore, to account for its prevalence from year to year, be some cause other than the ordinary or essential climate agencies, some limited morbific influence of a specific nature, and this appears to be partly malarious, partly scorbutic. We know that primary cases of intermittent fever are by no means uncommon at Simla and the neighbouring stations, and we meet with occasional cases of the worst form of typhoid remittent. In the season of 1850, at Simla, two cases occurred of malignant typhoid remittent fever ; in one of these an officer on the general staff of the army, the disease proved fatal ; in the order, and A. D. C. on the staff of the Commander-in-Chief, recovery took place after a protracted and dangerous illness ; both these officers must have contracted the fever at Simla, or in its immediate neighbourhood, probably in crossing some low foul ravine. But notwithstanding these proofs of malaria, experience teaches us that in general it is not here powerful enough to excite periodic fever : it seems to ascend from the numerous deep ravines and water-courses which intersect these stations, but to be so diluted, or changed by the effect of elevation, cold and moisture, as to cause bowel complaints instead, and this is exactly what occurs in some mountain ranges in other parts of the world, where we observe bad remittent fevers at the level of the sea. Intermittents at the higher level, bowel complaints higher still, and at the highest ulcers which appear as the feeblest result of malarious poisoning in depressing the vital powers. The cognate character of these diseases were also remarked in China, and is noticed by Mr. Wilson in his "Medical Notes." In ships which lay at anchor at some distance from the shore, the miasma was received in a diluted form, and the seamen suffered from an inveterate species of ulcer obviously dependant on malarious taint in the blood. An opinion has been gaining ground among medical officers that the epidemic ophthalmia, which had of late years been the source of so much inefficiency and loss in European regiments had its origin in the presence of a scorbutic diathesis among the men.

Mussoorie or Masuri, adjoins Landour on the west and consists of a series of ridges about 5 miles in extent, remaining almost east and west with frequent peaks and with spurs or shoulders issuing irregularly down to the valley of Deyrah Dhoon on the south, and to the river Uglar or Uggulwar on the north with deep wooded gorges between.

Hazareebagh.—In times gone by, European soldiers were either located in hot and unhealthy situations, contracting the diseases peculiar to such positions, or else they were in the restricted Hill stations, with but limited space for exercise and evolutions and also not without tendencies to create, or to aggravate, particular diseases. H. M.'s 37th regiment had, during its service on the low grounds bordering the Ganges, become so inefficient from sickness that its immediate embarkation for England was urged by the medical authorities as the only remedy ; but the Commander-in-Chief determined to try the station of Hazareebagh ; and the result was that, after being some time stationed there, the 37th returned rapidly to health, strength, and efficiency, and left for England, at the commencement of this year, entirely reinstated. To the 37th succeeded H. M.'s 77th at Hazareebagh, in quite as sickly a condition as the former regiment, and with the same rapid results as regards a thorough and complete recovery ; and there can be no doubt that Hazareebagh, although considered to be in the plains of India, has many of the most valuable attributes of a hill sanatarium of the first class, whilst it presents few of the drawbacks of the mountain stations. Hazareebagh itself is about 2,000 feet above the sea level ; whilst there is a small sanatorium within easy distance of the station, at an elevation of 4,000 feet.

Lohooghat.—A sanatarium was established at Lohooghat, in the Almorah hills, a position unsurpassed in India for salubrity of climate and picturesque scenery, and known to be highly congenial to the European constitution.

Roorkee, a most healthy station, has been turned to larger account than it has hitherto been for the location of European troops. The problem which has hitherto interfered with efficient military occupation of the country has been how to keep the European troops in healthy stations, and yet available at the shortest notice in case of alarm or disturbance. When the mutiny broke out in 1857 many of the European regiments were stationed in the Hills. Nothing can overrate the value of such a distribution of the military resources as will, whilst locating British soldiers in healthy stations, keep them ready

on the slip to move and concentrate, or act in independent bodies, at the first whisper of necessity.

Mahendragiri mountain, in the Parla Kimidi district, is distant about 20 miles from the Sea coast, N. lat. 18-57, long. E. 84-24. From the eastern side of the mountain the approach is by a somewhat circuitous path which winds for several miles between the lower spurs of the range, then follow about six miles of very easy and gradual ascent until the path faces the steep side of the higher portion of the mountain, from this point to the summit a distance of perhaps 1½ or 2 miles the way is extremely toilsome. After surmounting this difficulty is a saddle of about 4 miles in length at an altitude ranging from 4,000 to 4,900 feet, varying in width and slope and, in parts, narrow but affording ample ground for numerous houses and gardens. The surface is covered with grass for a considerable space with here and there small woods, in which are to be found the wild raspberry and violet and the ferns and orchids common to the hill ranges of the Peninsula. In parts, however, the saddle is bare and rocky, springs of pure water are to be found in several places. In October the thermometer ranged from 58 to 73, and in November from 45 to 61. On the very highest point of the hill is a small stone pagoda formed of stones of such bulk that the mode of its construction is not easy to be conjectured. The height of the building, which is four-sided, may be about 22 feet; the basement occupies an area of about 13 feet square and is formed of four blocks of stone of about 10 feet in length by 3 feet in breadth and of the same thickness, three layers each consisting of four blocks surmount the basement, and on top of them is laid a single block 8 feet square by 4 feet thick, finished by a circular stone carved like a coronet and of about 5 feet in diameter. The entrance barely admits a man, and in the interior is the stone symbol held sacred by the Lingayet; close by this pagoda is a station of the Trigonometrical Survey, and from this point the coast may be traced from Ganjam on the north, to Calingapatam on the south. The view to the south-west ranges over the greater part of Parla Kimidi; behind the range or rather on its western side runs a deep valley, on the opposite side of which rise the numerous and extensive hill ranges occupied by the independent Saurah tribes; some of these hills are but little inferior in height to the Mahendragiri. To the north and north-east are distinctly traceable the Jarada, Jalantra, Bodarsingee, Soorungee and Chikati hill zemindaries and the talooks of Itchapore, Moherry and part of Poobaconda. The Mundasa zemindary extends from the east face of the range to the sea shore. Besides the small pagoda already described on the summit of the mountain, there are two others rather lower down of more elaborate carving and greater size, they differ in outline but both are of forms common in Orissa; three or four other similar structures are to be found in the neighbouring woods in various stages of ruin. The remains of an inscription in the Tamul character, were seen. There are inscriptions in Oriya, Tamul and Telugu and some other character resembling the Mahratta. The natives ascribe them to the Pandava. The ascent from the long valley on the western side of the hill is comparatively easy. There are numerous and extensive valleys of fertile soil suitable for the growth of coffee and a plateau where the chinchona tree would probably thrive. The valley which divides the Mahendragiri range from the hill tracts of the independent Sourah to the west extends from the Jarada zemindary completely into the Parla Kimidi country, a line of communication along this part of the Sourah border might be very easily secured by clearing a wide road trace along the western side of the valley for the entire distance.

Other hill stations and sanitaria, under the Madras Government are:—

Gallikonda in the Vizagapatam District,
The Pulney Hills in Madura,
The Shervaroy in Salem,
Ramandroog in Bellary,
Neilgherries in Coimbatore,

and, in some degree, Chindwarra in the Nagpore territory.

Gallikonda and Harris valley in Vizagapatam have not been found to answer. In 1859-60, a few temporary buildings for European soldiers and two officers were built at a cost of rupees 1,291. The expense of constructing a road of 14 miles to the range amounted to rupees 2,298, and was borne by the rajah of Vizianagrum, within whose zemindary the station is situated. A sanitarium on the higher range of the Gallikonda hills, called "Grant's range," was thought of.

Pulney Hills in Madura.—The settlement consisted of ten bungalows without any bazar or native village, and was occupied by the missionaries of the district during the hot weather. It is resorted to occasionally by the civil servants of the district as a relief, and by families from Trichinopoly. An annual expense of rupees 787 is incurred for the repair of an incomplete road of nine miles, which was commenced for the benefit and convenience of the hill villages. A few

constables are kept on the hills, but they also are required for general purposes and not specially for the sanitarium.

Shervaroy Hills in Salem have never been used by Government as a sanitarium, and no regular expenditure has been incurred there for the benefit of any class of invalids. The settlement is about 840 square miles in extent, and contains 32 tiled and terraced buildings, and 1,388 thatched houses. According to the census of 1856-57, there was a population on the hills of 79 Europeans and East Indians and 5,027 natives. The annual revenue derived from coffee and other cultivation amounted to rupees 7,705, including the cost of collection, rupees 498. The outlay, including repairs, on two roads, 7 and 18 miles in length, constructed from Salem and Mullapooram within the last five years, has been rupees 31,864, and an annual allowance of rupees 1,370 has been sanctioned for their maintenance. The government also granted a sum of rupees 3,500 towards the cost of a dwelling-house for the clergyman, maintained on the hills by the Additional Clergy Society aided by local subscriptions. A body of 15 native constables at a cost of rupees 1,350 per annum are stationed at Yercaud. There are no special or local funds for the support of the Police, nor are there any government buildings of any kind on the Shervaroy hills. A Deputy Collector in addition to his general duties in the plains, visits the hills in question once a fortnight, in the double capacity of District Moonsiff and Deputy Magistrate for the disposal of Civil and Criminal cases. The full monthly cost of this officer and of his establishment is rupees 700-4-0.

Ramandroog is a military sanitarium, 34 miles from the town of Bellary. It is not above a mile square ; is within the territory of the rajah of Soondoor, to whom belongs the revenue of the place, derived from the land, quit-rent and abkarry to the extent of rupees 757 per annum. Ramandroog is the convalescent depôt for the European Troops at Bellary and Hyderabad. It is also resorted to by officers and the few other European residents in the neighbourhood. The native population is poor and not numerous. Monthly average of invalids, 58 men, 4 women, 8 children. Persons unconnected with the invalids do not exceed 2 or 3. The military buildings at the depôt cost rupees 62,730, and the non-military government buildings about rupees 3,000. There are Barracks for 80 men, quarters for 2 Staff Serjeants and 8 married men, hospital for 16 patients, guard-room, Apothecary's quarters, reading room. The per-centage of deaths to recoveries is so small on the Droog out of the number of invalids sent there that the saving effected in this way must long since have repaid the small outlay which has been made on the station. During the hot season some 80 men are sent to it. In two years, only one death per annum occurred, and these cases were hopeless before they came up to the hills. The establishment maintained at Ramandroog in the Quarter Master General's Department are 2 tent lascars and 8 dooly bearers, costing annually rupees 777, but the same expense would have had to be incurred, if the invalids had been kept with their regiments on the plains. The monthly disbursements in the Pay Department are rupees 247-0-9, for an Assistant Surgeon, Assistant Apothecary, Serjeant Major with family allowances, Quarter Master Serjeant, Hospital Serjeant, Pay Serjeant, Head money, water for washing, temporary promotion according to the monthly strength of detachments, average for repair of roads, writer and stationery. The Commandant has been vested with the powers of a Joint Magistrate, and is allowed an establishment, costing rupees 44 a month. A European constable on rupees 420 a year, and a Police party of 15 men costing annually rupees 1,350 will be maintained at Ramandroog. The expense of the Post Office at this station is per mensem rupees 29. Ramandroog has been occupied since 1849. Forty miles of roads as approaches to it, have been constructed at a total cost of rupees 23,578. The expense of maintaining these approaches to rupees 780 per annum on the average for six years. Rupees 250 have been expended on the roads within the station, and an annual allowance of rupees 180 has been sanctioned for keeping them in repair. The annual collections at Ramandroog credited to the government are from the Regular Post Office, Postage Stamps, Cattle fines Magisterial fines, rupees 1,487-4-0.

Neilgherries in Coimbatore.—There are four stations on the Neilgherries, viz., Ootacamund, Wellington or Jackatalla, Coonoor and Kotagherry. Ootacamund is the Cusbah or principal station of the Neilgherry talook. It has no accommodation for troops or Invalids, but is largely resorted to, in common with Coonoor and Kotagherry, by officers, civilians, and the non-official classes. The Neilgherries which have been occupied since 1826, are in fact the only range on which European settlers are established in any numbers, and the revenue accruing to government, rupees 83,985, far more than meets all the Revenue and Magisterial charges connected with the stations. Wellington is almost exclusively a Military Station and Cantonment, and must of necessity be supported by the

government. The total cost of military buildings at Wellington, being mainly barracks for an European regiment, is rupees 15,29,955, and that of the eleven miles of road within the station rupees 91,002. The annual expense of keeping these roads in repair is Rupees 1,896—and that for repairing the roads leading to Wellington is rupees 2,800. The expenditure in the Pay and Quarter Master General's Departments are for an Assistant Apothecary, Hospital Serjeant with family allowances, Pay Serjeant with family allowances, Head money, Cleaning Arms, Writers and Stationery, Tindal and 21 Tent Lascars, 2 Maistries and 44 Bearers, 8 Elephants, 48 Camels, 32 Draught Bullocks, 1 Barrack Serjeant. Wellington, or, as it was then called Jackatalla, was formed in 1852. The military residents during the year 1864 numbered 1,008 men, 78 women and 70 children. Wellington is made an invalid depôt only. It has a range of marriage quarters, affording good accommodation for 150 men. The number of Invalid Soldiers and their families accommodated there within the last two years averages monthly 54 men, 10 women and 22 children. The cost of the Military Joint Magistrate's Establishment including contingencies is rupees 804 per annum. The revenue derived from quit-rent on building sites and compounds, and Assessment on the Coffee plantations at the four stations on the Neilgherries amounted in 1860-61 to rupees 6,699—and that of the whole Neilgherry talook, from the above as well as all other sources, to Rupees 83,985, including rupees 12,700 of Income Tax.

Quit-rent on building sites and compounds;

Ootacamund....	3,165	7	0
Coonoor........	642	15	10
Kotagherry......	275	2	11
Wellington......	261	2	9
Quit-rent, commutation and sales of land under Freehold Rules.........	135	9	2
Coffee and other plantations held by Europeans, East Indians, &c.	2,278	13	4
Sale proceeds of land without upset price....	7	0	0
Ryotwar Burgher cultivation.	8,919	7	4
Abkarry........	34,400	0	0
Moturfa........	1,775	13	10
Stamp..........	5,826	0	0
Extra..........	1,030	14	1
Forest..........	12,626	1	6
Income Tax.....	12,700	0	0

The revenue and magisterial charges for the same period amounted to rupees 27,347, inclusive of the pay and allowances of the Assistant Collector and of his establishment at Ootacamund. Forest charges are not included in the above, nor are those for the ecclesiastical and medical establishments, nor on account of the Ootacamund sub-court. The police force for Ootacamund and Wellington, consisting of two inspectors and three Europeans and seventy-five native constables cost annually rupees 11,266. The value of government buildings at the three civil stations exclusive of the European jail at Ootacamund, 30,771 ; Coonoor, 2,612 ; Kotagherry, 752, is rupees 34,135. About 183 miles of road have been made from time to time expressly for these stations and Wellington, but the exact amount of expenditure cannot now be ascertained. The Seeghoor and Coonoor ghauts leading up to the plateau, were originally made by the sappers and miners. In 1860–61, rupees 20,000 were expended in improving the Coonoor ghaut. The annual allowances for repairing the roads are :—

Ootacamund,	within the	station	3 600,	leading to it	6,800
Coonoor......	"	"	500,	"	1,150
Kotagherry..	"	"	0,	"	600

The sum of rupees 1,500 per annum is allowed to the Collector for keeping in good order the bridle paths and cross roads on the Neilgherries.

Chindwarah.—At the sanitarium of Chindwarra in the Nagpore territory there is a barrack for 50 men, and a hospital for two patients. The monthly average of invalids is 55 men, and an establishment, which would be maintained even if the invalids were with their regiments in the plains, is kept up in the Quarter Master General's Department at a monthly cost of rupees 366–9–10, for 4 Tent Lascars, 12 Dooly Bearers and 32 Camels.—*Capt. Bond, MSS.*; *Dr. Mackenzie, Universal Rev., No. 3, p.* 352; *Col. Sykes' Report of the British Association for the Advancement of Science*; *Ind. Ann. Med. Sci., p.* 312.

SANATTA, or Santa, HIND., of Rawalpindi and Salt Range, Dodonæa burmanniana.

SANAYASI, a religious mendicant of the hindoos, chiefly a worshipper of Siva.

SANBAL-I-HINDI, also Sanbal-ul-taib, AR., PERS. Jatamansi.

SAN BUTI, HIND. Cassia obovata.

SANCARA ACHARYA, see Sankara Acharya.

SANCHI, a small village situated on a low ridge of a sandstone hill, on the left bank of the Betwa, twenty miles to the north-east of Bhopal, and about 5½ miles S. W. of Bhilsa. It contains the remains of numerous buddhist topes. About the beginning of the christian era, it was the capital of a kingdom called Sanaka-nika, and is celebrated for the presence of a buddhist tope. The largest topes of the budd'hists, such as those of Sanchi, Satdhara, and Bhojpur, were consecrated to the Supreme Invisible Adi-Buddha. Of the memorial topes, little is at present known. It seems nearly certain, however, that the great Manikyala tope was of this kind ; an inscription was extracted from it, which begins with Gomaugasa, " of the abandoned body" and undoubtedly refers to

Sakya's abandonment of his body to a hungry lion. This tope, therefore, dates earlier than the period of Fa Hian's Indian pilgrimage in A. D. 100. The funeral topes were of course the most numerous, as they were built of all sizes and kinds of material, according to the rank of the deceased and the means of his fraternity. At Bhojpur, the topes occupy four distinct stages or platforms of the hill. The largest topes, six in number, occupy the uppermost stage, and were, it is believed, dedicated to Buddha ; that is, either to the celestial Buddha, Adinath, or to the relics of the mortal Buddha, Sakya. This view is borne out by the fact that the largest tope contained no deposit, and that the second and third-sized topes yielded crystal boxes, one of which, shaped like a tope, contained only a minute portion of human bone smaller than a pea. The gateways of the Sanchi Tope belong to the first half of the first century of our era. The Amravati sculptures are 300 years later than those at Sanchi, but the frescoes in the Ajunta caves are 300 years later than Amravati and belong to the time immediately preceding the decline of buddhism in India. Of the inscriptions at Sanchi, one is in Pali, of date, B. C. 40 ? but the Samvat 18 may not be of the era of Vicramaditya. The character used in inscriptions is between Allahabad, No. 2, or Kanouj Nagari and Delhi Lat, or old Pali. The buddhist religion is mentioned as also king Chandagutto, in Pali ; Chandragupta in Sanskrit. Very numerous inscriptions are upon the basement of a prodigious chaitya, or relic temple, of a hemispherical form, built without cement, whose circumference is 554 feet, and, fallen as it is, its height is still 112 feet. There are three gateways, each 40 feet high. Capt. Fell thought the date to be Samvat 18, or B. C. The splendid bas, reliefs represent the dedication of a chaitya. The emperor Chandagutto buys land for the buddhist temple, and pays for it in dinars ; and killing a brahmin is not so great a crime by five-fold as the taking away the land from the temple. It is to be observed of the figures making offerings to the chaitya that their appearance is exactly that of most modern hindoos : dressed in a dhotee round the loins and thighs, and naked from the waist upward, with a turband upon the head.

On the buddhist temple gateway at Sanchi, near Bhilsa, in Bhopal is an inscription in Sanscrit prose, of date, Samvat 403, or 1009 or 18 ? The same, Samvat 18, is mentioned in the inscription at Brahmeswara, but the character is of the tenth century. The character used in the inscription is evidently later than Allahabad, No 2. The buddhist religion is mentioned. The inscription is addressed to the sramana, or buddhist priests and salutation is offered to the eternal gods and goddesses. The great emperor Chandragupta is mentioned, called by his subjects Deva Raja Indra. Possibly Chandragupta 2nd, of the Bhitari column inscription. But, if so, he must have deserted the religion of his family. The inscription records a money contribution, the coin being called "Dinar," and a grant of land by the great emperor Chandragupta, for embellishing the chaitya and the support of five buddhist priests for ever, and it records the remarkable fact of the purchase of the ground by the emperor for the purpose at the legal rate. It is uncertain whether the Samvat in the inscription is that of Vikramditya ; it is much more likely to be a buddhist family era. It is said, "Whoso shall destroy the structure, his sin shall be as great, yea five times as great as that of the murder of a Brahman." So that the Brahman was at a discount of five hundred per cent. compared with the buddhist chaitya ! From the corruption indicated by the salutation to the eternal gods and goddesses and the alphabet used, the inscription is probably not older than the eighth century. A second inscription, on the buddhist temple at Sanchi, is in the Sanscrit, and the character used in the inscription, is the same as the other. The religion mentioned is buddhist : it mentions the holy monastry of Kakunada Sphola ; and the four Buddha are thrice named ; and images of four buddha are in niches. There are no kings or princes mentioned. This inscription records that a female devotee, Hariswamini, to prevent begging, caused an almshouse to be erected, and money was given for the lamps of the four Buddha ; so that, at this period, as Fa-hian states, more than one Buddha was worshipped. The numerals of the date are not understood.

Inscriptions 3 to 25, on the buddhist temple at Sanchi, are in old Pali, of date before the fifth century. The character used in inscriptions, vary from Lat to Allahabad, No. 2, or Gaya. Gifts to the charity are recorded, but no kings or princes are mentioned. All the inscriptions are in the character of Allahabad, No. 2, or Gaya, therefore before the eighth century, and they are of different ages : they record small gifts by buddhists to the chaitya, particularly by different communities of buddhists from Ougein ; and there is a regular progression in the form of the letters, from the simple outline to the more embellished type of the second alphabet of Allahabad. Three forms pervade all the monuments of Sanchi and Amravati ; (1) the topes or Sumpa, mound-like buildings erected for

the preservation of relics; (2) the Chaitya, which both in form and purpose, resemble early Christian Churches; (3) the Vihara, residences of priests and monks.

The topes of Kabul and Jellalabad were opened by Messrs. Honigberger and Masson in 1835, and those between the Indus and the Jhelum by Generals Ventura and Court in 1833 and 1834. The topes near Benares were opened by Major Cunningham in 1835, and those at Sanchi and other places around Bhilsa, were also opened by him and Lieut. Maisey in January and February of 1857. The topes of Tirhut and Bahar still remain to be examined. The Bhilsa topes have been described by Major Cunningham excepting the largest of the Sanchi group near Bhilsa. An accurate plan and section of this building, with a short account of the various subjects represented in the sculptured bas-reliefs of the gateways, was published by Captain J. D. Cunningham, in the Journal of the Asiatic Society of Bengal. In the topes dedicated to the celestial buddha, the invisible being who pervades all space, no deposit was made, but the Divine Spirit, who is "Light," was supposed to occupy the interior, and was typified on the outside by a pair of eyes, placed on each of the four sides either of the base, or of the crown of the edifice. Such is the great Chaitya or Tope near Kathmandu, in Nepal, dedicated to Swayambhunath the "Self-Existent," in which the eyes are placed on the upper portion of the building. A specimen of the regular Chaitya is represented in the third compartment (inner face) of the left-hand pillar of the eastern gate at Sanchi, in which the two eyes are placed one above the other. Such also are the numerous Chod-ten in Thibet, which are dedicated to the celestial buddha, in contradistinction to the Dung-ten, which are built in honour of the mortal Buddhas, and which ought to contain some portions of their relics either real or supposed. Chod-ten, means simply an "offering" to the Deity, Dung-ten, is emphatically a "bone," or relic receptacle. The same distinction is preserved in the Sanskrit term Chaitya and Dhatugarbha or Dhagoba. The former is properly a religious edifice, dedicated to Adi-Buddha, while the latter is only a "relic-shrine," or repository of ashes. The word Chaitya, however, means any sacred object—as a tree, an altar, a temple—as well as any monument raised on the site of a funeral pile, as a mound or a pillar. Chaitya may therefore, perhaps, be only a general term for both kinds of mound; while Dhatugarbha or Dhagoba is particularly restricted to the "relic" shrine. The word Tope is derived from Affghanistan, where it is used to designate all the solid mounds of masonry which were opened by Messrs. Honigberger and Masson. The same term also is applied to the massive tower of Manikyala in the Punjab, as well as to all the smaller towers in its neigbourhood. There can be no doubt therefore that the term Tope is the same as the Pali "Sthupo," and the Sanskrit "Stupa," a "mound" or "tumulus," both of which terms are of constant use in the buddhist books. Stupa, or Tope, is therefore a name common to each kind of tumulus; whether it be the solid temple dedicated to the Supreme Being, or the massive mound erected over the relics of Sakya, or of one of his more eminent followers. From several passages in the Pali buddhistical annals, it would appear that topes were in existence prior to Sakya's advent, and that they were objects of much reverence to the people. Sakya himself especially inculcated the maintenance of these ancient chaitya, and the continuance of the accustomed offerings and worship. In the sixth of his precepts, to the people of Vaisali, he enjoins them to maintain, respect, reverence, and make offerings to the Chaitya; and to keep up the ancient offerings without diminution. But this may have been only an adherence in his own doctrines to the existing belief of the people. Mahomed similarly recognised the prophetic missions of Moses and Elias, and the divinity of our Saviour Christ, and Sakya Muni acknowledged the holy muni Karkutsanda, or Karkuchanda, Kanaka, and Kasyapa, as his immediate predecessors. They were probably, heroes or saints, who had obtained the respect of their fellow-countrymen during life, and their reverence after death. Stupas had been erected over the relics in the neighbourhood of Kapila and of Benares. Sakya therefore accepted them in his own teaching on his own system as the Buddhas of a former age. It appears also that stupas had been erected over supréme monarchs prior to Sakya's advent, for Sakya particularly informs his disciple Ananda that, over the remains of a chakravarti raja, an imperial ruler, they build the Sthupo at a spot where four principal roads meet. It is clear, therefore, that the tope, or "tumulus," was a common form of tombs at that period. In fact, the tope, as its name implies, is nothing more than a regularly-built cairn or pile of stones, which was undoubtedly the oldest form of funeral momento. The topes were, therefore, of three distinct kinds; 1st, the Dedicatory, which were consecrated to the Supreme Buddha; 2nd, the strictly Funereal, which contained the ashes of the dead: and

3rd, the Memorial, which were built upon celebrated spots. As to the Dedicatory Topes, it is improbable that any deposit would be placed in them.—*Cunningham, in Bengal Asiatic Society translation, Vols.* iii, *p.* 488; vi, *pp.* 454–461; vii, *p.* 459; *Fraser's Magazine*; *Cunningham's Bhilsa Topes.* See Bhojpur, Buddha, Inscriptions, Sonari Topes.

SANCHI-BETA, Beng. Calamus rotang. Ratan.

SANCHYA, see Sankhya, Vedas, Vidya.

SANCHYA, Hind. White oxide of Arsenic.

SANCTUARY, a place of refuge, or safety. These have been established in most countries, to allow of alleged criminals and debtors escaping from immediate punishment, and admit of leisurely examination into the merits of their case. In one of these, in Rajputanah, whatever life, whether man or animal, passed their abode for the purpose of being killed, was saved (amra). Traitors to the state, robbers, felons escaped confinement, who may fly for sanctuary (sirna) to the dwellings (upasra) of the Yati, shall not there be seized by the servants of the court. See Bâst.

SANCU, Sans. A gnomon for astronomical purposes. The pillars which are erected in front of every pagoda are real gnomons.

SAND, properly, is granular quartz, silica, or flint, the chief ingredient in the sands of the deserts, sea-shores, river banks and soil. Sand is produced by the disintegration of rocks, and its colour, which is generally imparted by oxide of iron, may be red, white, grey, or black. The pure colourless sands are much in request for the manufacture of glass, also for making mortars, for filters, in the operation of casting and founding, in sawing and smoothing building stones and marbles, and in many grinding and polishing operations. River and pit sand are usually sharper than sea sand, for this has been rounded by attrition. The washed scrapings of roads which have been repaired with flints furnish the sand used by stone masons. Grindstone dust, formed during the turning of the grindstone into form, cuts deeper than Flanders brick, which is another form in which sand is used. Showers of sand fell in China, on the 26th March 1850, and lasted several days,—about ten grains to the square foot collected in one day, or about eighteen tons per square mile. Such showers are frequent—three occurred in 1850; the natives believe that the dust comes from the desert of Gobi.—*Chinese Repository*, 1850; *Bl. As. Trans.*, 1851, *p.* 193; *Dr. Buist*; *Tomlinson.* See Dust-storms.

SANDA, a sort of lizard in Ajmir. It is distilled and the product applied by mohammedans to the penis: the reptile is also eaten as an aphrodisiac.—*Gen. Med. Top.*, p. 151.

SANDACRES, Districts in Ceylon which differ from those called Patuna, in being studded with groups of timber trees of majestic dimensions.—*Tennant.*

SANDAL, Hind. Fraxinus xanthoxylloides.

SANDALE, Fr. Sandalwood.

SANDAL-HOLZ, Ger. Sandalwood, also Saunder's wood.

SANDAL-I-SURKH-RANG, Hind. A reddish brown colour.

SANDALO, It. Sandalwood?

SANDALO ROSO, It. Sandalwood, also Saunder's wood?

SANDAL-WOOD.

Sandal-abiaz,	Ar.
Chandana, Beng., Malay, Maleal., Sans.	
Sanda-ku,	Burm.
Peh-chen-tan,	Chin.
Tan-hiang,	,,
Chin-tan,	,,
Kayu-yndan,	Coch-Chin.
Sandal, Beng., Duk., Eng., Guz., Hind.	
Sandale,	Fr.
Sandalo,	It.
Kat-chandan,	Hind.
Sandal safed,	Pers.
Sandan,	Singh.
Shandana,	Japan.
Chandanam,	Tam., Tel.
Chandanapu chettu,	Tel.
Tsandan,	Tib.
Ayasra,	Amboin.
Ayasru,	,,
Iyarsi,	Fiji.
Nassau,	N. Heb.
Nebissi,	Tanna Islands.
Bua-ahi,	Marquesas.
Hiahi,	Sandwich Islands.
Ahi,	Tahiti.
Aika manil,	Timor.
Narti,	Annatom Islands.
Niat,	,,
Ka-ra-mai,	Burm.
Sukur,	Guz., Hind.
Sri-ganda,	Can.
Turi-Turi,	Oparo Islands.
Eimeo,	Tahiti.
Sarpa-bridaya,	Sans.
Mala-yaja,	,,

Many of the synonyms for this wood have been derived from the Sanscrit the letters *ch* of that tongue being converted into *s*, and *ts*. One kind is the produce of a small tree (Santalum album) growing in India and Ceylon, which gives its title to the natural order of plants called Santalaceæ or Sandalworts. The sandalwood of the Sandwich islands is from two other species of the same family, S. freycinetianum and S. paniculatum. By the Chinese it is ground into powder and used as a cosmetic. The tree grows freely among the mountains of Malabar, near the sea coast, whence Calcutta obtains her supply of sandalwood, and in Timor and the Fiji islands, from which China derives her chief supply. The tree is cut down when about 9 inches in diameter at the root; it is then cleared of its bark and cut into logs, which are buried for six weeks or two months in order that the white ants may clear off the outer wood; this they do most effectually, without touching the heart of the tree, which is the only valuable part. Sandalwood should be of a fine deep yellow-brown, and highly perfumed.

The average importation of this wood into Calcutta is 200 tons per annum. The Chinese imported an amount of sandalwood in 1838 worth about one hundred and fifty thousand dollars, but this is said to be doubled in some years. The supply to Europe is very small and chiefly derived from that which has been brought over by individuals without a view to commerce. It is much used in India and China for burning in temples, is extensively employed as a perfume in the funeral ceremonies of the hindoos, for cabinet-work, toys, fans and perfumes. Sandalwood is imported into Bombay from the Malabar Coast, and is re-exported to China, England and Calcutta. A description of white sandalwood, termed Lava or Lawa, is imported into Bombay from Zanzibar, and is applied to the same purposes as Malabar sandalwood. The deeper the colour, which is of a yellow-brown, and the nearer the root, the better is the perfume. Malabar produces the finest sandalwood, but it is also found in Ceylon and the South Sea islands. It is imported into England in trimmed logs from 3 to 8 and rarely 14 inches in diameter, the wood is in general softer than box-wood and easy to cut. The bark gives a most beautiful red or light claret-coloured dye, but it fades almost immediately when used as a simple infusion : in the hands of the experienced dyer, it might, it is supposed, be very useful. Two kinds of this wood are however known in commerce—the white and the yellow ; both are from the same tree, the former being the outer layers of the wood. The white sandalwood is coated with thick, compact bark, having a grey and brownish epidermis ; the wood is very hard, heavy, susceptible of a fine polish. It occurs in billets of middling size, is nearly inodorous, its taste being slightly bitter. The yellow, or citron sandalwood, is straight or twisted, lighter than water when taken from the trunk, heavier if from the roots, in yellow, fawn-coloured, or reddish billets, slightly shining, of middling hardness, taking a fine polish, and being very easily cleft. The odour of sandalwood is very strong, rose-like, and enduring, its taste slightly bitter. The wood of the Plumiera alba is occasionally substituted for the true sandal. The odour is due to the presence of an essential oil, heavier than water, readily congealed, and having a peculiar sweet smell. Sandalwood is extensively used by cabinet-makers for the fabrication of various articles of ornamental furniture. The oil is employed by the European perfumers, and in India is very extensively used for the adulteration of attar of roses. The wood in powder is given by the native physicians in ardent remitting fevers, and is supposed to be sedative and cooling ; with milk it is also prescribed in gonorrhœa. The powder is rubbed on the skin to allay the irritation of musquito bites, of prickly heat, and other cutaneous disorders. The Chinese consume it largely as a fancy wood and by them it is often elegantly carved. At the Madras Exhibition of 1855, a box exhibited by Mrs. Wilkieson, was a beautiful specimen of sandalwood carving. The figures and ornaments were taken from the sculptures in the celebrated temple of Hullabede in Mysore, they were boldly and deeply cut and well-finished. The work was executed under the direction of Captain Cunningham of the Mysore Commission and was carved by a native of Soorub, from careful drawings prepared expressly for the purpose. Some very creditable specimens of carved sandalwood were exhibited by the Bangalore Local Committee, of these the most deserving of notice were two large and two small boxes carefully finished and varied in the design ; but not so bold in relief as the box from Soorub. The Bangalore Local Committee also exhibited two rosewood carved boxes very similar in design to those made of sandalwood. The ornaments were all floriated, without figures, and clearly cut, but the general effect of the work was spoilt by the deep ground-work being dotted instead of being left flat. The Canara Local Committee contributed a well-carved sandalwood chess table, a model of a hindoo car, and some neatly finished boxes, one of which was inlaid with ivory and metal. Mrs. James Fraser exhibited two card cases and a work box carved at Ganjam, a district where the manufacture had been recently introduced. Well-carved sandalwood chowries were exhibited by Lady Montgomery and the Madras Local Committee. Mr. Meppen contributed sandalwood bracelets and crochet needle-holders made near Cuddoor in Mysore, and Mrs. Bourdillon, a box containing sandalwood knitting pins and silk-winders. The art of carving in sandalwood though creditable to the natives of India, as evincing care and laborious industry, owes its chief value to the quaintness of the designs and the elaborate nature of the work. As a branch of the fine arts it can hardly be ranked under the head of carving, as many of the specimens are little more than ornamental surface, showing much of the plain rectangle in the leading forms and little originality of invention. The chief markets for this manufacture, are Chicacole, Hyderabad, Vizagapatam and Travancore.

In any notice of sandalwood it is necsary to remember that three woods, designated white,

yellow and red, are so called. The white and yellow is from the Santalum album. Pterocarpus santalinus, *Linn.*, or Santalum rubrum, *Konig.*, furnishes the red sandal or red saunder's wood of commerce, and S. freycinetianum and S. paniculatum, give the sandalwoods of the South Sea Islands. Santalum album is found in abundance in Mysore and Canara, is remarkable for its agreeable fragrance ; it is a preservative against insects : is much used in making work boxes, walking sticks, pen holders, and other small articles of fine ornament but cannot be procured of a large size. On different occasions, while Dr. Cleghorn was travelling down the Carur ghaut he met parties of Mapilla with fresh cut sandalwood on their backs. On enquiry, he ascertained that these men barter the wood to the Kurumbar for saltfish and cocoanuts. It sells in London at £5-15 to £6 the ton. Sells in China at £35 the ton. The natives of Yap, the Isle of Pines and Maree traffic with ships for the sandalwood. Timor is the only country in the Eastern Archipelago which produces it in any quantity, price £1 17*s.* 6*d.* per 133½ lbs. An inferior kind of sandalwood, the produce of Exocarpus latifolia was met with in several localities,—as the Percy Isles, Repulse Bay, Cape Upstart, Palm Islands, &c.—*Tomlinson* ; *Tredgold* ; *Ainslie*; *O'Sh., p.* 532 ; *Crawfurd, p.* 375 ; *M. E. J. R.* ; *Macgillivray's Voyage, Vol.* i, *pp.* 97–8 ; *Bombay Forest Reports of* 1857–58–59–60, *p.* 57 ; *Report of Madras Conservative of Forests, pp.* 7, 44 ; *Poole, St. of Comm.*

SANDALWOOD ISLAND, S. of Java, called also Sumba and Sandelhout, and by the natives Jeendana, is of middling height. Its west end is in lat. 9° 42′ S., and long. 119° 3′ E. and Tapi point, its eastern extremity is in lat. 10° 0′ S., and long. 120° 53 E. See Papuans.

SANDALWOOD OIL.

Sundal-ka-tel,	HIND.	Chandana yennai,	TAM.

Sandalwood oil is highly valued as a perfume by the natives of India ; and is employed in the adulteration of otto of roses. It is chiefly made on the Malabar Coast, whence it is brought to Bombay, and re-exported to England, China, and the Arabian and Persian Gulfs. The exports from Madras, amount annually to about 100 cwt.—*M. E. J. R.*

SANDAN, HIND. Dalbergia ougeinensis, also Ougeinia dalbergioides.

SANDARACH.

Sundroos,	ARAB.	Sandrac,	ENG.
Zoos,	,,	Sandarac.	,,
Yun-hiang,	CHIN.		

A resinous substance met with in round or elongated tears, of a whitish or pale-citron yellow, brilliant, transparent and limpid, brittle under the teeth, burns with a clear flame, and emits a pleasant odour ; taste resinous, and slightly balsamic. It is used as an ingredient in varnishes and incense ; when reduced to a powder, it forms the article termed pounce. Sandarach is obtained from Morocco. This resin is said by some writers to exude in hot climates from the bark of the common juniper-tree (Juniperus communis). Others state it to be produced by another tree of the pine tribe called Thuja articulata, but according to Brongniart and Schousboe, it is tears of the Callitris quadrivalvis, also a coniferous tree. Dr. Lindley had seen a plank two feet wide of this sandarach tree, which in Barbary, is called the 'arar' tree. The wood is considered by the Turks indestructible, and they use it for the ceilings and floors of their mosques. The Citrus wood of the Romans, was extravagantly prized for tables : and is supposed to have been the Callitris quadrivalvis, *Vent.*, or jointed Arbor vitæ, the conifer which yields the gum sandarach. The wood was distinguished as striped "tigrinæ ;" spotted "pantherinæ," or speckled, apiatæ : Cicero gave £9,000 for a citrus wood table.—*Faulkner* ; *Tomlinson* ; *O'Sh., p.* 621 ; *Poole St. of Commerce, p.* 72 ; *Hogg, Vegetable Kingd., p.* 713; *Smith, Mat. Med., Chin., p.* 193.

SANDARI, HIND. Missiessya hypoleuca.

SANDAWA, also Mesiumentah, MALAY. Saltpetre.

SAND-BINDING PLANTS, Spinifex squarrosus, *Linn.*, known to Europeans by the designation of "Ground Rattan" and "Sea Pink." The Tamil name, Ravan mise, *i. e.*, whiskers of Ravanah, is a descriptive epithet. It comes near to the Sand Carex of England, in its habit of growth, creeping along horizontally, sometimes above, sometimes below the surface of the earth, emitting roots and shoots at short intervals of a few inches. It likewise possesses the advantage of being extremely tenacious of life ; the shoot at every node is capable of renewing the existence of the individual as fast as destroyed, and the whole plant offers a resistance to the effects of a storm which is rarely overcome. This species would be nearly as indestructible from natural causes as Couch grass, and would speedily colonize the sand tracts spontaneously, if it were only left unmolested for a year or two.

Ipomœa pes-capræ, *Sweet.* Mosul taylie, TAM. Goat's foot leaved Ipmœa, or "Rabbit weed." Perennial, creeping to a very great extent. Stems rooting at distant intervals. Leaves smooth, long petioled, two-lobed, like

these of Bauhinia, tipped with a neacro. Flowers large, reddish purple, very handsome. Common on the sandy beach north and south of Madras, where it is of great use in binding the loose sand, and in time rendering it sufficiently stable to bear grass. This fine creeper is equally abundant in both peninsulas, is also a native of Mauritius, Macao, &c., occupying the place of C. soldanella of the British coast, and a more striking and beautiful species of the tropical bindweeds is rarely seen. Rabbits, goats, and horses eat it, so do cows, but their milk is tainted. Great difficulty occurs in raising this plant in the vicinity of houses—as the inhabitants tread it down, and cattle nibble the tender shoots. It naturally takes a higher position on the sand-bank than the Spinifex, and suffers less injury during a storm, but they often grow together and conjointly effect much benefit. The Spinifex arrests the drifting sand, and the Ipomœa secures what the former collects. Mr. Caddell planted it most extensively along the canal banks near Tranquebar.

Canavalia obtusifolia, *DC.* Koyli avaree, TAM. Common on the sea-shore, frequently entwined with the last named binder, is a very useful plant, very abundant at the Adyar, Ennore, the mouth of the Godavery, and between Quilon and Anjengo.

Hydrophylax maritima, *Linn.* Seaside Hydrophylax. A straggling herbaceous plant, native of the shore of Coromandel, where it shows its pale lilac blossoms great part of the year. The branches run over the sand, sometimes under the surface, and strike root at the joints. It answers well when the sand is moist.

Microrhynchus sarmentosus, *Wight.* A widely diffused humble plant, common along the sea beach, with long flagelliform runners; but may not possess sufficient strength to effect the object in view. It is well figured in Wight's Illustrations, Vol. 11, t. 113. Plate No. 5.

Pupalia orbiculata, *Wight.*

Achyranthes orbiculata, *Heyne*, *Wallich.*
Cyathula orbiculata, *Moquin.*

Adai yotti, TAM.

Grows on sandy soils near the sea beach, abundant at St. Thomé, and near the mouth of the Adyar river. It is an extensively spreading procumbent plant, the branches being often several feet long; bristles attaching themselves to the clothes of passengers, cling to them with tenacity.

Pandanus odoratissimus, *Linn.*, the Kaldera bush, the Taylie marm, TAM., is a large spreading ramous shrub, often planted in belts, but takes up much room, forms dense thickets, and harbours venomous reptiles. The lands in which Chay root is cultivated are often protected from drift sand by means of this shrub. It is a very strong binder, but is objectionable from its raising sand-hills.

Ehretia arenaria, Sand-Ehretia, *Griffith*, is found between 12° and 28° N. L., binds together loose sand, in a minor degree. It may be the same as Ehretia cuneata? *Wight Icon., Vol.* iv, t. 1385, which grows on sand banks in the beds of all the rivers of the Western Peninsula of India.

The above are the sand-binding plants most frequently noticed along the Coromandel beach. There are others as Pedalium murex, Ipomœa pes-tigridis and Sesamum prostratum, &c., which co-operate in the work of conservation to a minor extent, but are less widely diffused along the coast; also Fagrœa Coromandellia. Trees such as the Cashew (Anacardium occidentale) the Alexandrian Laurel (Calophyllum inophyllum) and the wild date (Phœnix sylvestris) grow well, and render a double service by preventing a further encroachment of sand, and rendering the land useful. In Ceylon, the glass worts, Salicornia indica, and salt worts, Salsola indica, are the first to appear among the newly raised banks. The goat's foot Ipomœa, Ipomœa pes-capræ abounds on the shores, also species of beans, Canavalia obtusifolia and Dolichos luteus and the Hydrophylax maritima, the Mudugaeta kola of the Singhalese, literally jointed sea shore plant, with pink flowers and thick succulent leaves. Also the Spinifex squarrosus, a water pink, whose seeds are in a large circular head, and called Maha-Rawana ræwula "the great beard of Rawana." A little above high water-mark is, likewise, the Aristolochia bracteata, the Hedyotis umbellata, sayan, also Choya, SINGH. Gloriosa superba, Vistnu karandi, TAM., or Lippia nodiflora.—*Dr. Cleghorn*; *Sir J. E. Tennent.*

SAND BOX TREE OIL, see Oil.

SAND EHRETIA, Ehretia arenaria, see Sand-binding plants.

SANDEL-HOUT, DAN. Sandal wood, also Saunder's wood?

SANDERBAN, the islets at the delta of the Ganges, said to be derived from Sandari vana, a forest of Sundari trees. See Sunderbuns.

SANDER'S WOOD.

Chandan, VERN.	Rakta-chandan, VERN.
Red Sander's wood, ENG.	

Red Sander's wood, from the Pterocarpus santalinus, hard and of a bright garnet-red colour, is employed to dye a lasting reddish brown on wool. It only yields its colour to ether or alcohol. The tree is lofty, common in India, Ceylon, and the islands of the

Eastern Archipelago. The exports of this wood from Madras in one year amounted to nearly 2,000 tons. The imports of red Sander's wood from Calcutta and Bombay chiefly into London, are to the extent of 600 or 700 tons a year, worth £4 to £6 per ton.—*Poole, St. of Commerce, p.* 263.

SAND-GEMS, or Ava gem sand comes from the neigbourhood of Ava, and is sometimes one of the Shan articles of merchandize. It consists of small fragments of nearly all the precious stones found in the country, but garnet, beryl and spinell are its principal constituents, more especially the last, which seems to constitute nearly three-fourths of the whole mass. A single handful will contain specimens of every shade, black, blue, violet, scarlet, rose, orange, amber-yellow, wine-yellow and white.—*Mason.*

SAND-GROUSE. The Tibetan sand-grouse, Syrrhaptes tibetanus, repairs in large flocks to drink at the fresh-water springs. The plumage of both sexes is much alike but the long tail of the male is distinctive. —*Adams.* See Birds, Tetraonidæ.

SANDHA PALA, see Inscriptions.

SANDHEADS, a maritime term applied to the islets of the delta of the Ganges, nearest the Bay of Bengal. See Sanderban, Sunderbuns.

SANDHI, a conjunction of words in Sanscrit, and in the words of the Telugu language derived from sanscrit, and is a systematic element in Grammar.

SANDHI, or Sandhya, SANS. The twilight or crepuscule. The Sandhy of Brahma consists of 1,728,000 Solar Sidereal years ; the same duration as the Crita, or Satya-yug, which quantity is used in its double capacity for constructing the Calpa. Pratas sandhya, the morning twilight. Sayam sandhya, the evening twilight. The twilight of each yug is equal to 1-6th part of the same.

SANDORICUM, a genus of plants of the Order Meliaceæ, one unnamed species called Santoor by the Malay, grows in Tenasserim and the Malay Archipelago. It is used for furniture.—*Dr. Wallich.*

SANDORICUM INDICUM, *Cav.*

Trichilia nervosa, *Vahl.*

Theit-to,	BURM.	False mangosteen,	ENG.
Indian sandalwood,	ENG.	Wild ,,	,,

This elegant timber tree grows to a large size in the south of India, Mysore, Penang, the Moluccas and Philippines. It is scarce in the forests of British Burmah, but is large and plentiful near all villages both in the Rangoon and Tounghoo districts, where it is cultivated by the Burmese for its fruit, which is of the size of an orange, and has a fleshy acid pulp. The wood is white-coloured and adapted to every purpo of house-building. The pulp of its fruit i eaten raw by the natives of Tenasserim wh esteem it excellent. It is watery and coo ing and makes a good jelly, but this has i peculiar odour. Its root is bitter and use in medicine in bowel complaints.—*Drs. Ma son ; McClelland ; Voigt. ; Roxb., Vo ii, p.* 392.

SANDSTONE, a rock which occurs i most countries, an aggregation of sand b a sort of semifusion as in quartz rock, an in common gritstone, adjoining trap dykes o great faults. In many of the white sand stones the grains merely cohere together. In the sandstone of coal tracks the finer parti cles of carbonate of lime, clay, oxide of iron &c., are interposed between the grains : in other cases, as in the Hastings' sandstones, an infiltration of carbonate of lime has taken place. Some sandstones are in the lamina plane, waved, or slightly concentric : these admit of being readily split. The freestones are not distinctly laminated, the grains being so arranged as to present equal resistance in every direction. They work freely under the stone saw and the ordinary picks and chisels. They can also be turned into balustrades, pedestals and vases. In the East Indies, sandstones occur of different qualities, from the coarsest soft grit, to the hardest freestone, the most compact snakestone, and the toughest chert. Indeed, sandstones appear to be the most universally diffused rocks in Southern India ; occurring in sixteen different districts, and often in beds or strata of enormous extent, as in the South Arcot, Nellore, Cuddapah, Bellary, Mysore and Nagpore districts. The whole of the valley of the Kistnah and great parts of the vallies of its affluents, the Gutpurbah, Malpurba, Bheemah, Tunga, Bhoodra and Tumbadra, and much of the valley of the Godavery and of the valleys of its northern affluents, have limestone, clay slate and sand-stone rocks, and the houses and more extensive buildings are all built of these. The limestone of Kurnool, west to the Beemah, is an excellent building material. The whole of Kymore range in Shahabad is described as of limestone, which also shows itself in the valley of the river Sone as far at least as Mungeysur peak in Mirzapur, and it crops up at Rhotas forming a sloping base to the precipitous sandstone rock. Below the limestone is one of a plush grey colour mixed with occasional crystals of Calc spar. This, like the Kurnool stones, is admirably suited for lithography. Below the latter, in Kymore is a limestome of a hard tenacious almost indestructible composition admirably

suited for building. Soft sandstones resembling bathstone, and Tripoli abound near Nellore, Bellary, Cuddapah and Hurryhur. Sandstones suited for grinding purposes are obtained in Cuddapah at Chellamacoor, a greyish brown schistose granular standstone, near Cuddapah, there is bluish grey compact magnesian limestone, suited for fine sharpening stones, from Woontimitta fine grained schistose, sandstone, suited for a ragstone. In Guntoor, at Palnaud, are purple and lilac slaty sandstones fine in grain, honestones, black limestones, and lithographic marbles. From Gootemookoola and Dyda, hones from Koopokoonda, 8 miles west of Vinacondah, below the signal pond ; rough sandstone glistening with mica. From Matoor Hill, schistose ragstone.

The sandstones of the Kymore range in the Vyndhya have a high commercial value at Chunar and Mirzapore, being used as flagstones, and for ornamental purposes. The stones at those places owe their advantage to the proximity of the Ganges, which affords an easy river carriage ; otherwise they are the worst and most destructible description of stone in the range. The millstones of Chynepore, Sasseram, and Tilowlhoo, perhaps also Ackbarpore, are famous, but must always be dear in a distant market for want of river carriage. The Sone causeway and the Koylwan railway bridge are built of the dense sandstone of Sasseram, while even little quantities are found in the higher portions of the range towards Rohtas. The best stone, while easily workable, is almost as hard as granite, and may be had of any colour, viz., white, crystalline, blue, grey, and all shades to a dark red. Flexible sandstone is found in Ulwar, at Dadri in Jhend, and at Jubbulpore. It is called "Sang-i larzan," *i, e.*, shaking stone, and is obtained from the Kalyana hill in the pergunnah Dadri, it is used for roofing and for ornamental pillars. Sandstones also occur at Sahi Balabgarh, in the hills to the south-west of Delhi.—*Powell, Hand-book Econ. Prod., Punjab, pp. 35–56 ; Mad. Ex. Jur. Report ; Reports and Catalogues of the Govt. Central Museum, Madras ; Tomlinson.*

SANDUDA, see Singhalese.

SANDULAY KA PHAL, DUK. Fruit of Elate sylvestris, *Linn.*

SANDUN, SINGH. Sandalwood.

SANDWICH ISLANDS, population about 75,000 or 80,000, from having been wild and uncivilized, are now all nominally christians. The male population are a good height, athletic, and well-proportioned ; but neither men nor women are prepossessing in appearance although they have the reputation of being good-tempered and not easily aroused into anger. The ruins of an old temple are still to be seen about six miles from Honolulu, near Diamond Hill. It is said to have been built by Ka-me-ha-meha the first, after the conquest of the island. It is called Heiau. Here, in the days of heathenism, were offered human sacrifices. The victim was chosen either by the priest or king. The messenger of death entered his abode while he slept, and he met his end by strangling. He was then dragged off as an offering to the sanguinary god. In Vate, the people, although differing a good deal among themselves, have, except the black colour of their skins, few points of resemblance to the Sanese. They are of larger stature and more regular features, some having straight or almost aquiline noses, good foreheads, and beards of moderate size, their manners more composed, their dress much more decent, consisting of a broad belt of matting, seven or eight inches wide, very neatly worked in a diamond pattern of red, white and black colours, with a species of maro suspended in front. Many of them had their skins tattooed, or rather covered with raised figures, the arms and chest being the parts generally operated upon ; the cartilage of the nose was frequently pierced, and filled with a circular piece of stone, and the lobes of the ears always so, large ornaments of white shells, or of tortoise-shell, being hung from them, so as often to extend the orifice to a great size. Round their arms, and, in some cases, round their ankles, they wore handsome bracelets, made of small rings ground out of shells. In the island of Vate the passion for collecting every kind of bone is so great, that a traffic in them is carried on, not only among the tribes, but with the neighbouring islands. It did not appear that jealousy of their women was the cause of their fear of the intrusion of foreigners, as many as well as a fair proportion of children were seen. The women were generally tall and thin, their hair cropped close to the head, and the skin occasionally marked with figures, as on the men's bodies. Their dress did not differ much from that of the males, consisting of a somewhat broader waist-belt, and a square mat in front, resembling an enlarged maro. To this must be added however the singular appendage of a tail, made of grass or matting, the ends being a loose fringe of a foot and a half long, and the whole suspended from the waist-belt, and reaching nearly to the calf of the leg. On all sides are evidences of plenty of articles of food. Numerous pigs run about, and all the trees near the houses are covered with yams attached to the boughs.—*William's*

The Cruise of the Pearl, pp. 34-41 ; *Capt. Elphinstone Erskine, Islands of the Western Pacific, pp.* 324-332.

SAN-FA-SHI, the name applied by the Chinese pilgrim Hwen Thsang to the Vrij'h country which he also calls Fo-lo-shi. San-fa-shi or Samvaji, is the Pali form of Samvriji, or the "United Vriji," from which General Cunningham infers that the Vriji were a large tribe which was divided into several branches, namely, the Lichhavi of Vaisali, the Vaidehi of Mithila, the Tirabhukti of Tirhut, &c. Either of these divisions separately might therefore be called Vriji, or any two together might be called Vriji, as well as Samvriji, or the "United Vrijis," as is the case with the warlike tribe of the Bagri or Sambagri of the Sutlej, which consisted of three separate divisions. He is of opinion that Vaisali was a single district in the territories of the United Vriji, or Wajji. Kesariya is an old ruined town, 30 miles to the north-north-west of Vaisali. The place possesses a mound of ruins with a lofty stupa on the top, which the people attribute to Raja Vena Chakravarti. In the Puranas also, Raja Vena is called a Chakravarti, or supreme monarch; General Cunningham found his name as widely spread through northern India as that of Rama, or the five Pandu.—*Cunningham's Ancient Geog. of India, p.* 446.

SANG, PERS. A stone, but used as a prefix to designate several substances, mineral earths, stones, minerals, gems, fossils, compounds used in the arts, or in medicine. Of these may be enumerated:—

Sang-i-abri, HIND., a mottled brown and yellow stone.

Sang-i-akik, cornelian.

Sang-i-asshar, a form of silica.

Sang-i-assyum, millstone grit.

Sang-i-basri, "bassorah stone," a slag or dross of copper in tubular pieces; said to come from Basorah (Basrah), where it is collected at the mouths of the chimneys of copper furnaces.

Sang-i-birinj, the Dizful, is an important stream in Khuzistan. The bed of an occasional torrent in ancient Susiana, called Ab-i-bald, falls into the Dizful, is covered with a peculiar kind of pebble, which, being filled with little fossil shells resembling grains of rice, is called Sang-i-birinj, or the rice stone. These stones are also found in the river at Shuster, but of an inferior quality, and they are in much request throughout Persia for the head of the Nargil pipe, which is almost invariably composed of this material set in silver.

Sang-i-chamak, massive magnetic iron ore.

Sanj-i-dallam, PERS., HIND. Fuller's earth? In the peninsula of India, it is fire clay, procurable at Streepermatoor, Tripasoor, Chingleput, Metapolliam and Cuddapah, and in many parts of India, and bricks can be made that resist the action of great heat. A clay is found at Beypore 20 to 30 feet below the surface, and is used for fire-bricks and for lining furnaces.

Sang-i-irmali, a fossil.

Sang-i-jarahat, Sulphate of lime, steatite and other minerals.

Sang-i-jahanam, Lunar caustic ?

Sang-i-kara, Hornblende rock.

Sang-i-kharus, Fossil encrinite.

Sang-i-larzan, Flexible sandstone.

Sang-i-mehtab, also tambra, garnet.

Sang-i-marmar, Marble.

Sang-i-musa, Hard clay slate, syenite, granite.

Sang-i-palan, French chalk, or steatite, used for making crucibles, qu. ? sang-i-dallam.

Sang-i-marjan, Coral.

Sang-i-pathani, Bloodstone.

Sang-i-rasak, Copper-dross, a mixture of metallic copper with organic matter; obtained during the process of melting copper and brass.

Sang-i-sabz, Green earth.

Sang-i-safed, White quartz.

Sang-i-sar-i-mahi, Small fossil shells.

Sang-i-shadnaj, Fossil nummulite.

Sang-i-sitara, Avanturine.

Sang-i-sulaiman, Onyx.

Sang-i-tabak, a variegated stone.

Sang-i-yamani, Bloodstone.

Sang-i-yashm, Jade.

—*Chesney, Euphrates and Tigris, Powell's Hand-book.*

SANG, a reciprocal contract or promise. In the wedding ceremonies a few days after the conclusion of the Sang, a prepared entertainment is made sufficiently large to include the whole kheil, provided the young man's condition in life will admit of his going to that expense. It happens not unfrequently, that the Sang is entered into before the girl is marriageable. So soon as the girl arrives at proper age to take upon herself the duties of a wife, the Uroos or marriage ceremony is performed by a Moollah.—*Pottinger's Travels, Beloochistan and Sind, p.* 68.

SANG, a spear or javelin, formed wholly of iron, carried by faqeers; also a war-lance, ten feet long, covered with plates of iron, about four feet above the spike. A sirohi is a sword made at the town of that name, famous for its temper.—*Tod's Rajasthan, Vol.* ii, *p.* 118.

SANGA, HIND. A wooden bridge in the Himalaya.

SANGA, see Inscriptions, Karli, Kiu-siu.

SANGAL, Hind., of Kashmir. Taxus baccata, Common yew.

SANGALA, a hill fortress in the central Panjab, captured by Alexander. It is the city to which Alexander marched after passing the Hydraotes (now the Ravi), and is supposed by Rennell to have been on the East side of the Beas. The Arashtra, or the kingless, were the republican defenders of Sangala or Sakala. They are the Adraistæ of Arrian, who places them on the Ravi. They were known by the several names of Bahika, Jartikka and Takka, from which last is the name of their old capital of Taxila or Takka-sila as known to the Greeks. The people still exist in considerable numbers in the Panjab Hills, and their alphabetical writing characters under the name of Takri or Takni are now used by all the hindoos of Kashmir and the northern mountains from Simla and Sabathu to Kabul and Bamian.—*Elliot.* See Chandragupta, Haripa, Khetri.

SANGAM, Sans. The fork of two rivers, also, a union, wedding or marriage. See Sutti.

SANGAN KUPI, Tam. Clerodendron inerme, *Gærtn.*, *Roxb.*, *Rheede.*

SANGANA, see Inscriptions.

SANGAR, Hind. Prosopis spicigera.

SANGARA, the occupants of the island of Beyt, in the time of Alexander. They were even then daring, reckless, pirates.

SANGAT, see Sikh.

SANGBOYS, in lat. 6° 48½′ N., are two high islands of the Philippines.

SANG BARDAR, Hind. Spearsmen.

SANGCHA, Hind. Nummulites, obtained on the Mazari hills, at Dera Ghazi Khan and at Imam Baksh Khan. They are priced at 32 seers per rupee. See Sang.

SANG-DRAGON, Fr. Dragon's blood.

SANGGYE, Hind. Senecio laciniosus.

SANGIR, or Sanguey, an island on the N. E. of Celebes, extending from lat. 3° 21′ N. to lat. 3° 16′ N. It is said to possess a harbour on its east side. Sangir and the numerous islands of its group in the Celebes occupy a superficies of 13 square leagues, the Tolaut and the Meangis islands united are 18 square leagues; these archipelagoes, formerly subject to the authority of the sultans of Ternate, now make part of the Dutch residency of Menado. Several extinct volcanoes, and some still in full action, are found in the Sangir group; the devastations which they commit from time to time, have often been fatal to the inhabitants. The eruption of Duwana, in 1808, completely annihilated the village of Tegalando, destroyed all the surrounding forests, and suddenly deprived the inhabitants of all means of livelihood, by the destruction of their fields. The Gunong-api or fire mountain, causes numerous ravages in the island of Siau; its peak, 6,000 feet above the level of the sea, forms the culminating point of this group. Gunong-api covers with its base all the northern part of Sangir-besar, this volcano has not been active since 1812 when the torrents of lava which it poured out destroyed the extensive forests of cocoanut trees with which this part of the island was covered, and caused the death of many of the inhabitants. These islands furnish more than twenty-five kinds of wood suited for building and furniture. Two harbours, sheltered from all winds, exist in the larger Sangir, one in the Bay of Taruna, the other, called Midelu, on the eastern side.—*Jour. Ind. Arch. for Dec.*, *p.* 764.

SANGI, Hind. A pitch fork.

SANG-I-SULIMANI, Hind. Onyx.

SANG-KING, Lepch. Mustela sub-hemachalana, *Hod.*, *Blyth.*

SANG KOI, see India.

SANG-KUPI, Duk. Clerodendron inerme, *Gært.*

SANGLA, Hind. A plank bridge in the hills.

SANGNAI, Hind. Panolia acuticornis, *Gray.*

SANG-NILA-UTAMA, see Johore.

SANGOW, see India, Kyan.

SANGPO, see Yak.

SANG-PWAN-HIA, Chin. Midsummer root.

SANGRAI, Hind. Panolia acuticornis, *Gray.*

SANGRI, or Shangri, Hind. Seed pods of Prosopis spicigera.

SANGSAL, or Rangsal, the name of the larger of the idols at Bamian.

SANGSAPURBA, see Johore.

SANGS-GYAS, see Buddha.

SANGSUE, Fr. Leeches.

SANGTARAH, Hind. Citrus aurantium, the Lime. Citrus bergamia.

SANGU, Tam. Chank shells.

SANGUINOLARIA, a genus of molluscs.

SANGUIS DRACONIS, Lat. Dragon's blood.

SANGUISUGA, Hirudo, the leech.

SANGUISUGA ÆGYPTIACA, the leech of Prov. xxx, v. 15, the Olukeh, or Aluka, or Aluk of the Arabs.

SANG-YAHUDI, "Jew's stone," a fossil encrinite.

SANG-YEN, Chin. Tobacco. This is the name in some parts of China, but the ordinary names are Yen-t'sau; Jin-t'sau and Tan-pa-ku.

SANHITA, see Arians, Vedas.

SANI, the planet Saturn, whose influence is supposed by hindoos to be malignant: also a deity of the hindoos. Yama is the regent

of Hell ; Sani is the Planet Saturn ; and Brihaspati, is Jupiter. Saturn's ring was known to the ancients. In Maurice's Indian Antiquities is an engraving of Sani, the Saturn of the hindoos, taken from an image in a very ancient pagoda, which represents the deity encompassed by a ring formed of two serpents. Hence it is inferred that the ancients were acquainted with the existence of the ring of Saturn.—*Curiosities of Science, p.* 81.

SANI, a light camel or dromedary, trained especially for the riding of native chiefs. See Graha, Vara or Vasara.

SANI, see Khutri.

SANIGALU, or Senagalu, TEL. Cicer arietinum, *Linn.* Bengal gram.

SAN-I-JALUS, the year of a king's accession. See Jalus.

SANJAB, HIND. The sable.

SANJAD, or Sanjat, HIND. In Peshawur, in Pushtu, the berries of Eleagnus orientalis, also of Pyrus variolosa, wild pear.

SANJID, see Jugdalik.

SANJLI, or Ban-sangli, HIND. Cratægus oxyacantha.

SANJNA, HIND. Moringa pterygosperma.

SANKA, HIND. A chank, a shell. The chanks are made into trumpets, rings, beads, armlets, bracelets, and the Sankasari of Dacca are famed for their skill in the chank or sank work. The skill is remarkable with which the unyielding substance of a hard thick shell is converted into necklaces for men and into bracelets for women. The manufacture of shell bracelets is one of the indigenous arts of Bengal, in which the " Sankari" caste, at Dacca excel. The chanks of which they are made are large species of Turbinella, from six to seven inches long, and of a pure white colour. They are imported into Calcutta from Ramnad and South India, opposite to Ceylon, and from the Maldive Islands. See Sankasura.

SANKÆUR GOND, Acacia odoratissima, *Roxb., Willd.*

SANKALPA, see Sati.

SANKARA CHAR. In Kashmir, are two eminences which bear the name of Takht-i-Suliman ; one near Kashmir is called Sir-i-Shu, or Siva's head by the hindoos, but also Sankara char : and the hill on the opposite side of the city is called Hari Purbat, or the hill of Vishnu or Hari. On the latter hill is the fort of Kashmir. The heat on the plains under the Sulimani range is excessive. The Kayser mountain seems a collection of inaccessible precipices—*Vigne.* See Kaysar, Khyber.

SANKARA ACHARYA, who lived about the 8th or 9th century, was a religious teacher of the hindoos, in the South of India, a commentator on the Veda, and the alleged author of the Sankara Cheritra, Sankara Katha, Vijaya and S. Dignijaya. He was a Namb brahman, and a native of Kerala or Malab He lead an erratic life through India a Kashmir, and engaged in controversies, a finally died at Kedarnath in the Himalay he founded a dominant Saiva sect. Fr Benares have emanated and still eman almost all new opinions on questions of hi doo theology, hindoo philosophy and hind jurisprudence. The verdict of the Benar authorities is final in the hindoo world ; the Sankara Acharya won a great shivite contr versial victory ; there, disguised as a hind boy, Feizi became initiated in the hind Shasters ; there, at the fountain head, d Aurungzebe try to diffuse the leaven of m homedanism ; and there at last has the B nares College been erected by the British enlighten and form the native population wi new ideas in their heads and new institution Hindoo theologists have entered into va disputes on the question, which, among t attributes of God, shall be deemed chara teristic and pre-eminent ? Sankara Achary contended for the attributes of Siva ; a founded, or confirmed, the sect of saiva wh worship Siva as Mahadeva, the Suprem Being, and deny the independent existence Vishnu and other deities. He was the mo renowned master of the school of Vedan philosophy ; he says,

> A drop that trembles on the lotus leaf,
> Such is this life, so soon dispelled, so brief.
> * * * * * *
> The eight great mountains and the seven Seas,
> The Sun, the Gods who sit and rule over these,
> Thou, I, the Universe, must pass away,
> Time conquers all ; why care for what must pass awa

The term Dandi, means any one who bea a staff, but is applied especially to a numerou order of religious mendicants, founded b Sankara Acharya, many of whom have bee eminent as writers on various subjects, espe cially on the Vedanta philosophy. They ar divided into ten classes, each of which is dis tinguished by a peculiar name, as Tirth Asrama, Vana, Aranya, Saraswati, Pur Bharati, Giri or Gir, Parvata, and Sagar which is added to the proper name of th individual—as Purushottama Gir, or Baden dhra Saraswati. They are hence known co lectively as the Das-nami, or ten name Gosain Of these, only the classes named Tirtha Asrama, Saraswati, and part of Bharati, ar now considered as pure Dandi ; the other are of a more secular character and are mor usually termed Atit.—*Wils. Glos.* ; *Tr. o Hind., Vol.* i, *pp.* 275-276 ; *Bunsen, Go in History, Vol.* i, *p.* 332. See Advaitam Cow, Dandi, Hindoo, Kapila, Lakshmi, Sama veda, Veda.

SANKARI, see Sanka.

SANKASURA, means demon of the Sanka or Chank. Early continental travellers spell it Chanch, and in exotic words, a hard is usually substituted for a soft, initial, giving Kank, or Conch. Shells, as arousing implements of war, were as such used in former times among Indians, as trumpets are at present. In the terrible civil war between the Pandu and their kinsmen, the Kuru, as homerically described in the Mahabharat, Krishna used the shell Panchajanya, each chief also sounded a shell, to which, like the swords of the chivalrous knights of Europe, distinct and significant names were given.—*Moor, p.* 213. See Gita. Sanka

SANKAYA GAURISWARA, see Inscriptions.

SANKH, see Namam.

SANK'HA, SANS., TAM. A pearl shell, any shell. A Chank, or Conch shell, one of the principal weapons of Vishnu. Hence Sankhadwara, the Chank locality, the island of Beyt.

SANKHA-DWARA, is still renowned for its shells, and one bank uncovered at low water, whence they are obtained, is close to the landing-place; but as the rinsank, or war-shell, with which he was wont to peal a blast, the onslaught to battle, no longer graces the hand of the Rajpoot; its use is now restricted to the brahmin, wherewith "to awake the gods in the morning!" to let the world know when he dines; or, to form churi or bracelets, for the arms of the hindoo fair. Bengal is the best customer for the shells of Sankha-dwara; and at an early part of the 19th century an entire street was occupied in the city of Dacca by shell-cutters, all supplied from the island of Beyt. In Colonel Tod's time, the banks were farmed of the Guicowar government by a Parsee merchant of Bombay, who contracted with the Kharwar, at the rate of twenty koree (from five to six rupees) per hundred, and loaded them for Bombay, whence they are shipped for Bengal. Perpetual allusion is made, in the martial poetry of the Rajpoot, to the "blast of the shell," which is as common as the charge of the brazen trump of western chivalry. Pre-eminent mention is made in the "Great war" of two of these.—*Tod's Travels, pp.* 432–33. See Sanka.

SANKHA PUSHPI, TEL. Chrysopogon acicularis, *Host.*, also, HIND., SINGH. Evolvulus alsinoides, *Linn.*; *Roxb.*

SANKHIR, HIND. Celastrus paniculata.

SANKHRI, HIND. Prosopis spicigera.

SANKHU, HIND. Celastrus paniculata.

SANKHYA, SANS. A sect of hindoo philosophers, from Sankhya, clear knowledge.

SANKHYA, a hindoo system of philosophy, teaching the eternity of matter and spirit independent of God, founded by Kapila. The Sankhya system of philosophy was apparently the earliest of all the systems that preceded the really philosophic age of the hindoo schools. Its author is said to have been Kapila who is now fabled to have been a son of Brahma, and an incarnation of Vishnu; he is numbered among the seven great saints, and many marvels are ascribed to him. While using vedic notions, he in the main departed from vedic theories, and in all important particulars comes to conclusions diametrically opposed to what the veda teach. The Sankhya system contains two grand divisions, which differ on the vital question of the existence of a God; one is termed the 'Seswara Sankhya' that which owns a God; the other is called 'Niriswara Sankhya' or that which denies the very existence of a God; the latter was Kapila's system, a system at that time entirely new; it taught that there were two primary agencies, 'nature' or 'matter' and 'souls;' but that there was no 'Supreme Being.' He asserts as follows; 'souls' have existed in multitudes from eternity; by their side 'stands nature or matter;' for eternal ages the two remained separate; at length they became united, and the universe in all 'its forms was developed from their union.' The object of the Sankhya as well as of the other branches of the hindoo philosophy, is the removal of human pain by the final and complete liberation of the individual soul. The Sankhya system has twenty-five principles to which the soul must apply itself as objects of knowledge, and in respect to which true wisdom is to be acquired; they are:

1st.—Nature, termed 'Pradhan' or chief, from being the universal material cause, the prime cause of all things.

2nd.—Intelligence, the first product of nature, increate, prolific, itself productive of others.

3rd.—Self-consciousness, its peculiar function is the recognition of the soul in its various states, it is the product of intelligence, and itself produces.

4th to 8th.—Five principles, subtle particles or atoms of things. These are imperceptible to the gross senses of human beings, but may be known by superior intelligence; then follow—

9th to 19th.—The organs of sense and action, of which ten are external and one is internal. The organs of sense are five; the organs of action are five. The mind serves both for sense and action.

20th to 24th are five elements produced from the five subtle particles.

1st.—Ether ; this has the property of audibleness, being the instrument of sound.

2nd.—Air ; which has two properties ; it is audible, and it can also be touched.

3rd.—Fire ; this has three properties ; audibility, tangibility, and colour.

4th.—Water ; possessed of four properties ; audibility, tangibility, colour and taste.

5th.—Earth ; possessed of five properties ; audibility, tangibility, colour, taste and smell.

25th.—The last principle is soul : like nature it is not produced but is eternal, but unlike nature it produces nothing from itself ; it is multitudinous, individual, sensitive, eternal, immaterial.

The great error that lies at the root of the Sankhya system is, that the products of matter and mind are blended and confounded together.

The next hindoo system of philosophy is that attributed to Gautama, namely, the Nyaya system, which considers by means of subtle and logical argument, the true mode of inquiring after Truth ; and has surveyed the whole field of this argument more exactly and completely than any other of the hindoo systems. The first inquiry of this system is what is the way to attain perfect beatitude ? And the answer given is 'That deliverance is only to be secured by a knowledge of the Truth.' It then proceeds to examine what instruments are best adapted for the acquisition of that deliverance, and comes to the conclusion that they are four in number, namely, perception, inference, comparison and testimony. It then minutely examines the various objects of knowledge, which are required to be proved and known ; which objects are twelve in number : soul, body, sense, object, knowledge, the mind, activity, fault, transmigration, fruit, pain and beatitude.

The Vedantic system, thereafter made its appearance, in three stages of development. The germs of this philosophy and even its principal doctrines are contained in the Brahmana books of the Vedas ; then it is seen in a more complete form in the Sutras of Vyasa ; and lastly, this philosophy is recorded in the great commentaries which eminent scholars have written upon the original authorities.

The voice of hindoo antiquity ascribes the origin of the Vedantic system to the sage Badarayan, otherwise named Veda-Vyasa. The manner of his birth is thus described in one of the works attributed to him,

> 'Of birth and death, a multiplicity
> Of souls is to be inferred.'

The fact of transmigration none of the hindoo philosophical systems dispute, it is allowed by all ; as a man casts off his old garments, and puts on new ones, so that soul having left its 'old mortal frame, enters into another which is new.' 'One soul, and not another. These philosophies are subjects for the learned of the hindoo people. Brahmanism is, at present, synonimous with hinduism, and the brahmanical religionists are of three classes, the worshippers of Vishnu, of Siva and the Sakta, or those who worship the female energies of gods. But their views seem to have been gradually brought to the present condition and, as with the hindoo, is in some places a nature-worship, in others an idolatry, in others a hero-worship, in others a physiology or a philosophy, perhaps, in all, a spirit-worship. Bunsen says (iii, 516,) the forms of worship followed by the Arian immigrants and the institution of castes seem to have commenced after they crossed the Sutlej river, and the original seat of this worship extended from the Indus to the Ganges and to Bengal (Behar). He adds that brahmans, after crossing the Sutlej, introduced Siva and other deities and threw those of the Vedic period into the shade. According to Bunsen, it was about the year 3000 B. C. that the schism took place amongst the East and West Arians, when all India, east of the Sutlej, adopted brahminism, and the religious views, forms and habits of Bactria were for ever abandoned. According to Manu (the first book of which he thinks was composed but little antecedent to the christian era) the world had passed through four yoga, when brahmanism was introduced ; and the brahmanism of the Sanscrit books is the mythico-pantheistic form of Vedic naturalism. Brahmanism is usually understood to be the later development and corruption of the ancient Vedic faith. Bunsen, however, expresses the opinion that the region of the Indus still retains the nature-worship of Vedism, while southern India and the banks of the Ganges have long fallen into brahmanism ; but such is not the case, the worship of the bulk of the Aryan races is divided between the physiological views entertained by those who believe in Siva, and the hero-worshipping followers of Vishnu. Brahmanism is accommodating to any thing that partakes of idol-worship. Similarly as a Roman would worship Isis and Osiris, so a hindoo makes offerings to apotheosized mahomedans, such as Shaikh Sadu, Ghazi Mian and Shaik Madar in northern India and Bawa Adam in the peninsula. Brahmanism is at present divided into several branches, each of which has many sub-divisions ; the three principal branches are ; 1st, *Vedantism*, so named after the Vedanta of Vyasa. It has few adherents, consisting of some philosophical brahmans. Of the thousands of temples in India consecrated to vari-

ous deities, only one is consecrated to this doctrine, in which Brahma is worshipped alone. *2nd, Vishnuism.*—This doctrine raises the second person of the Hindu Triad (Vishnu) to the highest place, and adores his different avatars, together with a multitude of other deities, powers of nature, and mythical persons. Its professors are styled Vaishnava. *3rd, Sivaism.*—This doctrine places the third person of the Hindu Triad (Siva) highest in the rank of the gods. The professors of this doctrine call themselves Saiva and their number amounts to many millions more than the professors of Vishnuism. Although Siva is the god of destruction, he is also the god of production, considered with respect to the idea, which ever pervades the doctrine of Brahma, namely, that death is but the recommencement of a new life.—*Elphinstone's History of India* ; *Bunsen's Egypt's place* ; *Tod's Rajasthan, Vol.* i, *p.* 26 ; *Tennent's Christianity in Ceylon, p.* 199 ; *Hind. Th., Vol.* ii, *p.* 13.

SANKHYA, also Sankhya safed, HIND. Arsenious acid.

Sankhya bilauri, vitreous arsenic.

Sankhya pili, yellow arsenic.

Sankhya siya, impure bisulphide of arsenic.

Sankhya surkh, bisulphide of arsenic.

SANKHYA KARIKA, a book containing the system of the Sankhya philosophy taught by Kapila. It consists of sixty-eight Aphorisms. See Hindoo.

SAN-KI—— ? Illicium.

SANKISA, or Kapitha, an old city in the Gangetic Doab, near Kanoj, famous as the place of Buddha's fabled descent from heaven.

SANKHA PUSHPI CHETTU, TEL. Chrysopogon acicularis, *Host* ; Andropogon acicularis, *R.*, i., 262—*Rheede*, xxi, 43.

SANKA, or Sangu, TAM. Chank shells.

SAN-KOKLA, or San-kokra, HIND., also pat-san, or vat-san and sanni. Hibiscus cannabinus, Jangli san-kokra, is a species of Hibiscus.

SANKOSI PEAKS, in Nepal.

L. N. 27° 45′ 3″ to 27° 57′ 5″ ; L. E. Gr. 86° 33′ 5″ to 86° 5′ 5″

No. XVII,	27°	45′	3″ ;	86°	33′	5″	22,826	ft.	G. T. S.
No. XVIII,	27	52	8 ;	86	28	5	21,987	„	„
No. XIX,	27	58	3 ;	86	25	1	23,570	„	„
No. XX,	27	57	8 ;	86	18	3	23,447	„	„
No. XXI,	27	57	5 ;	86	15	5	19,560	„	„

SANKRANTI. The winter solstice, the sun's entry into Capricorn, is called the Maha-sankranti, or great Sankranti, and at this season, in the South of India, the Pongal festival is held.

The *Makar Sankranti* festival is held about the 12th January on the occasion of the sun entering the tropic of Capricorn or Makar. On this day, the hindoo people bathe, and anoint the body with sesamum oil, listen to the prayers of brahmans to whom they give presents. The prayers on this day are only to the sun. They have friends to dinner at night and put on new clothes.—*Wils. Glos.*

SANKRI, HIND. Prosopis spicigera.

SANKRITI, see Yug-byasa.

SANMALI, HIND. Asparagus punjabensis.

SANMIANI, see Kelat.

SANNA, HIND. Cassia obovata.

SANNA ELAKI, or Elaki chettu, TEL. Elettaria cardamomum, *Wh. and Maton.*

SANNA JAJULU, TEL. Jasminum auriculatum, *Vahl.*, *R.* i, 98.

SANNA LAVANGA PATTA, TEL. Cinnamon.

SANNA MAKHI, ARAB. Cassia elongata, *Lam.*, *Lisane*, also Cassia acutifolia, Kura sanna, and ra sanna, are Berthelotia lanceolata.

SANNAMU, TEL. Crotalaria juncea, *L.*

SANNAN, HIND. Ougeinia dalbergioides, also Populus alba.

SANNA NEREDU, TEL. Eugenia jambolana, *Lam.*, *Roxb.*

SANNA PAVILI, also Pavili kura, TEL. Portulacca meridiana, *Linn.*

SANNARKAT, HIND., of Kashmir, Daphne cannabina.

SANNI, HIND. Crotalaria juncea, C. sericea.

SANNI, see Jell.

SANNU, HIND. Sunn of Hazara and Kangra, Fraxinus floribunda, large ash.

SANO-BANEL, NEPAL. Porculia salvania, *Hodgs.*, *Horsf.*

SANOLI, HIND. Urtica heterophylla.

SANPOO, tributary of the Brahmapootra. It rises on the north face of Himalaya, in lat. 30° 25′, long. 82° 5′ E., winding its way through Tibet, and washing the borders of the territory of Lassa. It then turns suddenly south and falls into the Brahmapootra, under the name of Dihong. Length, about 100 miles. It receives as affluents, the Sanki-sanpoo, Niamtsion, Zzangtsion, Lallee Nuddee.

SANPU, see Indus.

SAN-SABZ, HIND. Green earth, silicate of the protoxide of iron.

SANSAPHAUR, HIND. Asparagus racemosus.

SANSARU, HIND. Missiessya hypoleuca.

SANSCRIT, according to Professor Müller, is not the mother of Greek and Latin, as Latin is of French and Italian, but Sanscrit, Greek and Latin are sister tongues, varieties of one and the same type, though Sanscrit is the older sister. It was also Mr. Colebrooke's opinion that Sanscrit draws its origin from a primeval tongue, which was gradually refined in different climates and became Sanscrit

in India, Pelavi in Persia and Greek on the shores of the Mediterranean. The Iranian family of language seems to be called Arian, by Mr. Farrar, it is the Indo-European and Indo-Germanic of some phylologists : Pictet and Burnous called it Arian from the Sanscrit word Arya meaning noble ; Rask called it Japhetic ; according to Mr. Farrar, it has 8 divisions,

Hindoo,	Greek,	Lithuanian,	Teutonic,
Persian,	Latin,	Sclavonic,	Celtic.

Of these, it is uncertain whether Celtic or Sanscrit represents the older phase. But it is known that all of them are the daughters of a primeval form of language which has now ceased to exist, but which was spoken by a yet undivided race at a time when Sanscrit and Greek as yet had only implicit existence. The Sanscrit language and its modifications in Hindi and Mahrati are written in the Nagari character. The Sanscrit S, is represented in Zend by *h*. Thus Sapta Sindhu or the seven rivers, which is the old Vedic name of India itself, and is derived from the five rivers of the Panjab, together with the Indus and the Sarasvati, becomes in the Zend, Hapta Hindhu. In the Aryan family of languages, the numerals up to 100 are the same.

The ancient Persian language east of the Euphrates was a near dialect of the Sanscrit. We are ignorant of the date of the introduction of the Arian branch of the Semitic tree into the regions south of the Hindoo Kush and its extension into the sub-Himalayan belt towards Hastinapur. For, as in the case of the Southern Alphabet, its earliest appearance within our ken, is in the counterpart edict of Asoka or Pyadasi, grandson of Chandragupta at Kapurdegiri in the Peshawar valley. And the greater amount of pure Sanscrit which the Kapur de Giri inscription carries in its text, illustrates the descending course of that language ; and the ultimate and not very long delayed extinction of all trace of the once extensively prevalent Arian character, and its supersession by the more exact and appropriate system of writing, indigenous to the south. The chief Sanscrit authorities of the buddhists, still in our possession, were written, at the latest, from a century and a half before, to as much after, the era of christianity. We may be satisfied therefore that the principal Sanscrit authorities which we still possess were composed by the beginning of the christian era at least, how much earlier is less easily determined. The principal Pali authorities of the south are of a period considerably subsequent to the Sanscrit buddhistical writings of India proper, and date only from the fifth century after Christ. Professor Max Müller seems to concur in these deductions from his remarking that after buddhism had been introduced into China, the first care of its teachers was to translate the sacred works from the Sanscrit, in which they were originally written, into Chinese. Colonel Sykes, however, still considers, from his examination of Gutzlaff's catalogue of Chinese buddhistical works, that the books taken from India to China, by the Chinese travellers between the fourth and seventh centuries were equally in Pali. The great body of the buddhist writings consists avowedly of translations. The Tibetan, Mongolian, Chinese, Singhalese, Burman and Siamese books, are all declaredly translations of works written in the language of India,—and that which is commonly called Fan or more correctly Fan-lan-mo—or the language of the brahmans. This, in India proper, was undeniably the Sanscrit language, though the buddhist authorities of Ceylon may have been Pali. The Sanscrit works, as they have come into our hands, have been found almost exclusively in Nepaul ; those in Pali being obtained chiefly in Nepaul and Ava. Pali is the language of the buddhists of Ava, Siam and Ceylon ; therefore it is concluded it was the language of the buddhists of Upper India, when the inscriptions on the several Lat were engraved ; and consequently that they are of buddhist origin. This however is questioned ; it being asserted that the doctrines of Buddha were long taught orally only, and were not committed to writing for four centuries after his death, or until B. C. 153, a date no doubt subsequent to that of the inscriptions. Buddha died 543 years before Christ. According to Mr. Burnouf and Mr. Hodgson, however, the earliest buddhist writings were not Pali but Sanscrit, and they were translated by the northern buddhists, into their own languages, Mongol and Tibetan. The buddhist authorities assert that Sakya Sinha and his successors taught in Pali, and that a Pali grammar was completed in his day. It is not likely that the edicts of Asoka, intended to regulate the moral conduct of the people at large should have been intelligible only to buddhist priests, or should have been perpetuated only on pillars for their edification. We may therefore recognise it as an actually existent form of speech in some part of India, and might admit the testimony of its origin given by the buddhists themselves, by whom it is always identified with the language of Magadha or Behar, the scene of Sakya Sinha's first teaching, but that there are several differences between it and the Magadhi, as laid down in Prakrit grammars, and as it occurs in Jain writings. It seems therefore to have been a form of speech peculiar

to the people of Upper India. Of Pali alphabets, may be mentioned that of the Girnar rocks. The Asoka alphabet (the Sanscrit one,) Tibetan, is acknowledged to be of the seventh century, and the Kuteli alphabet of Bareli. The ancient Pali or Maghadi alphabet had once a very extended currency, and for a lengthened period retained its separate identity. It occurs in Asoka's edicts at Delhi, Allahabad, Matia, Bakra, Dhauli and Girnar: its appearance in these several localities, would primâ facie imply that it was intelligible to the people at large, throughout the circle embraced by these geographical boundaries, or that it was the recognised sacred alphabet of buddhism. Opposed to the latter supposition is the departure from its use in the Kapur-di-giri text of the edict itself and the modification to which the language is seen to have been subjected in some of the Pali transcripts, to meet apparently the local dialects of each site. The available medallic testimonies of coins contributes largely to the inference that these characters formed the ordinary medium of record in the majority of the states included within the limits above alluded to. In this alphabet exclusively are expressed the legends of innumerable series of coins of purely local type; its characters are found associated on the one part with the Greek of Agathocles and Pantaleon and its phonetic signs are conjoined with counterpart Arian legends on certain classses of the Behat coins. Dr. Stevenson remarks, in speaking of the Nasik cave inscriptions, that on the whole, we find that brahmans and buddhists, in these early days of our era, lived in peace with one another, that both were favoured and protected by the reigning sovereigns, and that among the former, the Sanscrit language was used in writing and the Prakrit by the latter, the two languages probably holding the same place to one another that the Sanscrit and the vernaculars do at present.

Mr. Caldwell believes that theDravidian languages are to be affiliated not with the Indo-European but with the Scythian group of tongues and the Scythian family to which they appear to be most allied is the Finnish or Ugrian. The idioms which he includes under the general term Dravidian constitute the vernacular speech of the great majority of the inhabitants of Southern India. With the exception of Orissa and those districts of Western India and the Dekhan, in which the Guzerathi and the Marathi are spoken, the whole of the peninsular portion of India, from the Vindhya mountains and the river Nerbudda, (Narmadu) to Cape Comorin, is peopled, and from the earliest period appears to have been peopled, by different branches of one and the same race, speaking different dialects of one and the same language, the language to which Dr. Caldwell's term Dravidian is applied, and scattered off-shoots from the same stem may be traced still further north as far as the Rajmahal hills, and even as far as the mountain fastnesses of Beluchistan. The Guzerathi, the Marathi, (with its off-shoot the Konkani) and the Uriya, or the language of Orissa, are idioms which are derived in the main from the decomposition of the Sanskrit, the vernacular speech of the hindoo population within these respective limits: besides which, and besides the Dravidian languages, various idioms which cannot be termed indigenous or vernacular are spoken or occasionally used by particular classes resident in Peninsular India. The idioms which Mr. Caldwell designates as "Dravidian" are nine in number, exclusive of the Rajmahal, Uraon and the Brahui. They are as follows:—

1. Tamil,	4. Malayalam,	7. Kota.
2. Telugu,	5. Tulu,	8. Gond or Goand,
3. Canarese,	6. Toda or Tudara,	9. Khund or Kund, or Ku.

The last four languages are entirely uncultivated. The proportionable numbers of the several races by whom the languages and dialects mentioned above are spoken appear to be 32,150,000 as follows:—

1. Tamil spoken by	10,000,000
2. Telugu	14,000,000
3. Canarese	5,000,000
4. Malayalam	2,500,000
5. Tulu	150,000
6. to 9. Toda, Kota, Gond and Khund...	500,000

Whilst Dr. Caldwell regards the grammatical structure and prevailing characteristics of the Dravidian idioms as Scythian, he claims for them a position in the Scythian group independent of its other members, as a distinct family or genus, or at least, as a distinct sub-genus of tongues. They belong not to the Turkish family, or to the Ugrian, or to the Mongolian or to the Tungusian,—but to the group or class in which all these families are comprised. On the whole the Dravidian languages may be regarded as most nearly allied to the Finnish or Ugrian family, with special affinities, as it appears, to the Ostiak.

The conclusions arrived at by Dr. Caldwell with regard to the northern languages are that before the arrival of the Aryans, or Sanscrit-speaking colony of Brahmans, Kshatriyas, and Vaisyas, the greater part of Northern India was peopled by rude aboriginal tribes, called by Sanscrit writers Mlechcha, Daya, Nishada, &c., and it is the received opinion that those aboriginal tribes were of Scythian or, at least, of non-Aryan origin. On the

irruption of the Aryans, it would naturally happen that the copious and expressive Sanscrit of the conquering race would almost overwhelm the vocabulary of the rude Scythian tongue, which was spoken by the aboriginal tribes. Nevertheless, as the grammatical structure of the Scythian tongues possesses peculiar stability and persistency; and as the pre-Aryan tribes, who were probably more numerous than the Aryans, were not annihilated, but only reduced to a dependent position and eventually in most instances incorporated, in the Aryan community, the large Sanscrit addition which the Scythian vernaculars received, would not necessarily alter their essential structure or deprive them of the power of influencing and assimilating the speech of the conquering race. According to this theory, the grammatical structure of the spoken idioms of Northern India, was from the first, and always continued to be, in the main Scythian. And the change which took place when Sanscrit acquired the predominance, as the Aryans gradually extended their conquests and their colonies, was rather a change of vocabulary than of grammar,—a change not so much in the arrangement and vital spirit of Dravida as in the material of the language. This hypothesis seems to have the merit of according better than any other with existing phenomena. Seeing that the Northern vernaculars possess, with the words of the Sanscrit, a grammatical structure which in the main appears to be Scythian, it seems more correct to represent those languages as having a Scythian basis with a large and most overwhelming Sanscrit addition than as having a Sanscrit basis with a small admixture of a Scythian element. The Scythian substratum of the North-India idioms presents a greater number of points of agreement with the Oriental Turkish or with that Scythian tongue or family of tongues of which the new Persian has been modified, than with any of the Dravidian languages.

The locality of the Andhra dominion has hitherto been as uncertain as the period of its sway. Wilford says at one place that the Andhra princes made a most conspicuous figure on the banks of the Ganges for above 800 years. Again, that Andhra and Koshala (near Kalinga) are used synonimously by some Hindoo authors: again, that Sricarnadeva took the title of king of Tri-Kalinga, or of the three shores, to the east and west and south of India. The general term of Dakshinapetha (Dekhan) agrees well with the latter definition, and we may rest content with denoting the Sata Karni as kings of the Peninsula. There were Andhra kings at the beginning of the christian era, when, says Pliny, the Andaræ kings were very powerful in India, having no less than thirty fortified cities, an army of 100,000 men and 1,000 elephants.

The history of the lands adjacent to Kabul, during the centuries immediately preceding and following the present era, is but little indicated in books, but has been, to a considerable extent, traced out by Mr. James Prinsep, Mr. H. T. Prinsep, Professors Wilson and Lassen, from coins of Greek, Arian, Bactrian, Scythian, Partho-Scythian, Ario-Parthian and Indo-Scythian, kings and dynasties, which the researches of Sir Alexander Burnes, Mr. Masson, Generals Court and Ventura had brought to light, as also from the engravings on rocks and on relics found in topes in all the region around Kabul. The characters in which these legends are engraved are Arian or Bactrian, Greek and Sanscrit. On coins, these are sometimes single, but many dynasties adopted bilingual legends, Arian and Greek, or Greek and Sanscrit, the Greek becoming gradually more barbarous towards the present era, until at length, it becomes unintelligible. As Mr. Prinsep tells us, it seems established that the Arian or Bactrian language was long the vernacular of the Paropamisan range, of Kabul, and perhaps of Herat and Kandahar, up to the Indus, for it has been found in the topes of Manikhyala, in the Panjab and on the rock at Bamian. Unlike the Greek and Sanscrit, it is written like the Semitic tongues from right to left, but the letters being always separate, they could at pleasure be written from right to left. The earliest Greek was written alternately, as a plough is drawn, and tombs of Tuscan kings opened some years since contain inscriptions in Greek characters, written from right to left. The Mongolians who adopted the Syrian characters write it in lines downwards like the Chinese. The Arian character was adopted first on the coins of the Greek kings from Eucratides down to Hermæus. It was then taken up by the Scythians, who crossed the Paropamisus, Imaus or Hindoo Kush, and also by Parthians who asserted their independence in Affghanistan. The Aryan alphabet character, in the course of years, seems to have undergone a change, and the same forms are not to be recognised in later coins, nor the same epithets and titles, and the inscriptions discovered in topes are all in the less simple late character. Mr. James Prinsep, Mr. H. T. Prinsep and Prof. Wilson have considered this Aryan language to have a close affinity with Sanscrit, but Dr. Moore about A. D. 1858, put forth the opinion that it is Hebrew. It seems to have superseded the ancient Sanscrit of the days of

Asoka, which was adopted by Agathocles and Pantaleon, the first of whom we know, from the pure Greek style of his other coins, to have been one of the earliest of the Grecian kings. After them, however, Sanscrit characters were entirely disused. Menander, the known Indian conqueror, never seems to have coined with the language of Asoka, from which circumstance Mr. H. T. Prinsep infers that the characters on the coins of Agathocles and Pantaleon were not vernacular, and had been introduced by the Indian sovereigns, who, following the first Chandra Gupta, retained dominion over the provinces ceded by the first Seleucus, until they were restored by Asoka to the Great Antiochus. At Manikhyala, a tope solidly built of quarried stones and lime cement, a great cupola, 80 feet high and 310 to 320 feet in circumference was opened by General Ventura, but there are fifteen other and smaller cupolas there, which were opened by General Court. Monuments of the same kind are met with at Rawalpindi (in the Panjab) in the Hazara country, west of Kabul, at Jellalabad, Lagman, Kabul, Bamian and in the Khyber pass. Many of those west of Kabul have been opened by Mr. Masson. In one, N. N. E. of the village which was opened by General Court, a sculptured stone was found in Arian characters, along with Roman coins and coins of Kadphises and Kanerkes, a fact alone sufficient to indicate that the territories around had been under the sway of rulers of varied races. The inscriptions on the pillars at Delhi and Allahabad, and on the Tirhut pillars at Mathiya and Radhiya were deciphered and translated about the year 1830, by the remarkable ingenuity of the late James Prinsep. The inscriptions on the rocks at Junagiri in Gujrat, and at Dhauli in Cuttack, were also interpreted by him. A third version of the rock inscriptions (but in the Ariano-Pali character), which was found at Kapur-digiri, near Peshawur, has been carefully collated with the others by Professor Wilson. Many short inscriptions from Gaya, Sanchi, and Birat, as well as from the cave temples of southern India, have also been published at different times, but with the single exception of the edicts in the rock inscriptions, which contain the names of Antiochus, Ptolemy, Antigonus, and Magas, the inscriptions in the able work of Major Cunningham are of greater interest, and of much higher importance than all that had before been published. The Kapurdigiri inscription is on a rock on the side of a rocky and abrupt hill near a village of that name in the district inhabited by the Yuzufzye. The mode of reading it was discovered by Mr. E. Norris. It reads from right to left, is in the Arian or Bactrian character, and is nearly a transliteration of that of Girnar; and the language, he says, was in use for several centuries throughout that extensive line of country over which the Seleucidæ and their successors held dominion, —that is to say, from the Parapamisus or Caucasus to the upper part of the Panjab, including all Bactria, Hindoo Kush and Affghanistan.

Dr. Moore remarks that at least two classes of people employed the language expressed in this character, the one using the Arian or Bactrian, or Bamian, Kapurdigiri, &c., the other using the Budh or Lat character, found on the Girnar rock and on the pillar and in the cave temple inscriptions: and that these two classes of people seem to be the Getæ and Sakæ, the so-called Arian character being that used by the Getæ, while the so-called Lat character was that of the Sakæ. The Lat character occurs rarely in the southern part of the peninsula; still it is the only one used on the sculptures at Amravati, which have been described by the Rev. W. Taylor, and while in charge of the Government Central Museum at Madras, the Editor despatched a large collection of its marbles to England, which have since been described. Inscriptions in the Arian and Lat characters are engraved on rocks at Kapurdigiri in Affghanistan, and at Cuttack, at Delhi on a pillar, also on pillars at Allahabad, Betiah, Muttiah and Radhia, and show that Sanskrit was the spoken language of India at least some centuries before the time of Solomon. Sanscrit is the ancient language of the hindoos. It had ceased to be a spoken tongue at least 300 B. C. At that time the people of India spoke dialects standing to the ancient Vedic Sanskrit in the relation of Italian to Latin. Of these dialects, there were more than one in various parts of India, from the inscriptions which the famous king Asoka had engraved on the rocks of Dhauli, Girnar, and Kapur-digiri, and which have been deciphered by Prinsep, Norris, Wilson, and Burnouf. We can watch the further growth of these local dialects, in the Pali, the sacred language of buddhism in Ceylon, and once the popular language of the country where buddhism took its origin, the modern Bahar, the ancient Magadha. We meet the same local dialects again, in what are called the Prakrit idioms, used in the later plays, in the sacred literature of the Jains, and in a few poetical compositions; and we see at last how, through a mixture with the languages of the various conquerors of India, Arabic, Persian, Mongolic, and Turkish, and through a concomitant corruption of their grammatical system, they

were changed into the modern Hindi, Hindustani, Mahrati, and Bengali. During all this time, however, Sanskrit continued as the literary language of the brahmans. Like Latin, it did not die in giving birth to its numerous offspring; and even up to the middle of the 19th Century an educated brahman would write with greater fluency in Sanskrit than in Bengali. Sanskrit was what Greek was at Alexandria, what Latin was during the middle ages. It was the classical and at the same time the sacred language of the brahmans, and in it were written their sacred hymns, the Vedas, and the later works, such as the laws of Manu and the Puranas. Sanskrit, and its congeners are inflectional languages, after the manner of the languages of Europe; while the Turk, Mongol, Tangus and Ugrian, in the north and west, and the Tamil in the south, are agglutinate tongues. The Tibetan, Burmese, and all the Nepalese dialects are monosyllabic tongues. The Sanscrit differs from the Tamil of the south, and much more so from the Tibetan, Nepalese and Burmese, on its north and west. It has no relations with the Arabic, Armenian, Iran or modern Persian. The nearest congeners to the Sanscrit are the Sarmatian languages of the Russian Empire, then the classical tongues of Rome and Greece, then those of Germany and the Keltic, this class of languages being called the Indo-Germanic. Of the Sclavonic and Lithuanian, the two branches of the Sarmatian, the affinities of the Sanscrit are closest, and closer with the Lithuanian than with any other known tongue. Sanscrit was a dead language in the time of Buddha. The alphabet of the oldest Sanscrit manuscript and oldest composition in Sanscrit is of Pali origin. Sanscrit, next to Lithuanian, is most like the Sclavonic. The Sanscrit and Pali are, both, dead languages. It will thus be observed that the Arian or Sanscrit-speaking races of India, seem to have been closely connected with the Zend-speaking, Greek-speaking, Latin-speaking, German-speaking, and Sclavonic-speaking races, and not at all with the Arabic, Phenician and Hebrew families. Sanscrit in all its perfection was at one time, probably between the eighth and fourth centuries B. C., the spoken language of that race which immigrated into India from Central Asia, and to which modern orientalists give the name of Arian. The Hindi, Tamil, Telugu, Bengali and others of the languages of India, have their own ancient literatures; but even where these languages are in no way connected with the Arian stock, the subjects of their compositions are all referrable to those of the Sanscrit. The Sanscrita Vach, the "Perfect Language," is the vehicle of the older literature of almost every part of India. According to a reviewer of the works of Ernest Curtius that author is of opinion that the ancestors of the peoples of India, of the Persians, Greeks, Italians, Germans, Slaves and Kelts, were originally one people dwelling in the uplands of Asia: and that the first to separate themselves from this united Arian or Indo-European family, and to push their way into Europe, was the Kelts, they were followed by the Germans, and these by the Slaves and Letts. The next great swarm that deserted the hive and left behind them the progenitors of the Medo-Persians and the Indians, was composed of the common ancestors of the Greeks and Romans. But Sanscrit, though the latest researches have exploded the theory that it was the actual parent of that large stock of languages, which goes by the name of Indo-European and extends from India to the Americas, comprising Zend, Persian, Affghan, Armenian, Greek, Latin and all their progeny—the Celtic, the Sclavonic, the Teutonic and Scandinavian families—the languages of the whole Japhetic branch of mankind, it is not denied, that while it is the actual parent of some, as the Teutonic and Sclavonic families, it is certainly the eldest brother of, and presents older and more original forms than, all the rest. Professor Max. Müller, however, who does not accept the ordinary chronology of the world's age, in his history of Ancient Sanscrit Literature, divides the interval in which it appeared, into four periods. The first of these, the Chhandas period, he computes to have lasted from 1,200 to 1,000 B. C., and during that time the most ancient of the Vedic hymns were composed. The second or mantra period lasted from 1,000 to 800 B. C., and its hymns bear traces of the growth of a sacerdotal spirit and system. The third or Brahmana period lasted from 800 to 600 B. C. In these ancient liturgical books, the ritual application of the hymns, is prescribed with painful minuteness, and often with a mixture of childish allegorical interpretation. The fourth period is that of the Sutras or aphorisms, in which the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system. Sanskrit, the best dictionaries of the English language do not show the Sanscrit derivations, but mother, father, brother, sister, daughter, and the names of familiar beasts and things were almost the same in the mouths of men who dwelt on the Indus 4 or 5,000 years ago, as they are in England to-day.

Sarpa,	SANS.	Serpens,	LAT.
Herpeton,	GR.	Serpent, reptile,	ENG.

The declension of the verb sarptum, to creep, with the Latin and Greek equivalents, is also given by Dr. Muir. In Malay, the

most familiar words for the head, the shoulder, the face, a limb, a hair or pile, brother, house, elephant, the sun, the day, to speak, and to talk, are all Sanskrit. In the language of Bali, the name for the sun in most familiar use is Sanskrit, and a word of the same language is the only one in use for the numeral ten. It is on the same principle that Mr. Crawfurd accounts for the existence of a similar class of Malayan words in the Tagala of the Philippines although the whole number of Malayan words does not exceed one-fiftieth part of the language. Head, brain, hand, finger, elbow, hair, feather, child, sea, moon, rain, to speak, to die, to give, to love, are examples. In Javanese, Sanskrit furnishes words for the head, the shoulders, the throat, the hand, the face, father, brother, son, daughter, woman, house, buffalo, elephant, with synonymes for the hog and dog, the sun, the moon, the sea, and a mountain. Sanskrita signifies, adorned, completed, perfect; in respect to language, classic. It is composed of the elements, sam, "with" and krita, "made." Sanskrit Philosophy, was greatly advanced by Sir W. Jones, Colebrooke, Wilson and Müller in England, Burnouf in France, the two Schlegels, W. von Humboldt, Bopp and Lassen in Germany.

The Sanscrit or Pali languages have ceased to be spoken in any part of India, but both of them are in use as the sacred languages of the brahminical hindoos and the buddhists. The characters which have been used for Sanscrit as seen inscribed on sculptures have been the Kutila as at Vijayamunder, in Udaypur and on a stone slab from a temple at Ranode and at Oojein. An old form of character is engraved on the Allahabad column, and that on one of two bronze tridants found at Gopendara in Garhwal was in this old character, others being in nearly modern Deva-Nagari. The latter has been largely employed in writing Sanscrit in somewhat differing forms and as it is now used, but another form of it is known as Kanouj-Nagari. The character on the Allahabad column is Deva-Nagari in transitu, identical with that of the Gaya inscription, and also, like Mr. Wathen's inscriptions from Gujarat and those of Mahabalipur. The character of the Gaya inscription, is known to be of the eleventh century. A seal was found at Aseerghar in Kandesh, engraved with a Deva-Nagari, resembling the Gaya or Gour, approaching the Allahabad. That on the Bhitari Lat or pillar at Ghazipur, is not pure Sanskrit, nor easily intelligible; but its character is the same as Allahabad, No. 2, or Kanouj-Nagari, with numerous mis-spellings. At the ancient village of Maguta, district of Bhushana, on a stone slab, is an inscription in Sanskrit verse, the language and poetry superior. The character used is called the Kulda, and is midway between the Deva-Nagari and the Gauri. Some of the vowel inflections wanting. The inscriptions at the Budda Gaya vaulted cavern, or Nagarjuni, are in old Pali, of date, B. C. 280 to B. C. 247, and the character used in the inscriptions, old Lat. Those at Mathiah near Bettiah, at Bahra, and at Rediah, are in Pali, of date, 315 B. C.; and the character used in the inscriptions is old Pali.—*Muller's Lectures, pp.* 139–189; *Buddhism and Buddhist Pilgrims, p.* 24, *London,* 1857; *Jour. Bomb. Royal. As. Soc.* 1*st July* 1853, *p.* 41; *Prim. Ind. Ant., Vol.* ii, *pp.* 31, 33, 34, 45, 46, 50, 51 and 67; *Wilson*; *Latham*; *Bopp's Comp. Gram.* See Hindoo, India, Iran, Kama, Koh, Rama, Yama, Yavana, Sanskritoid, Sanscrita vach. Swastika, Tope,

SANSEE, a thieving race of the Panjab. In 1863, efforts were made to reform them by inducing them to undertake agriculture.

SANSEVIERA ROXBURGHII, *Schult.* Syn. of Sanseviera zeylanica, *Willd.*

SANSEVIERA ZEYLANICA, *Thunb.*

S. roxburghiana, *Schult.*

The tree.

Marool,	HIND.	Moorghabi,	HIND.
Murle,	„	Dant Saga, Saga Nar,	„
Moorva,	„	Chaga laga,	SINGH.

The root.

Moorgabi ka gudda,	DUK.	Marool kalung,	TAM.
Muroova,	SANS.	Changa gudda,	TEL.

The fibre.

Marool,	HIND.	Moorghabi,	HIND.
Munga,	„	Dant Saga, Saga, Nar,	„
Murle,	„	Murva,	SANS.
Moorva,	„	Moorga Moorgavi,	BENG.
MoorvaFibre,	AN.-HIND.	Marul,	TAM.
Bowstring Hemp,	ENG.		

This grows along all the coasts of Southern Asia; has smooth oblong-acute, flat, and linear lanceolate, channelled, glaucous leaves, which are shorter than the scape; the style as long as the stamens, the bracts equalling the peduncle in length. It resembles the Agave in some of its characters, but produces finer fibres, which are easily separated from the pulp, and have been long known as a useful material for cordage, being soft, silky and pliant when well prepared, about equal to the Agave fibre in point of strength, but as it is a finer material, it might be applied to a better description of manufactures. The plant is easily propagated, and yields a good crop under cultivation. It was tried against Russian hemp, on board the Thalia, East Indiaman, when commanded by Captain Biden, and was highly approved of; it has also been made into fine cloth, thread, twine, rope; and cords are made from

this fibre. The zonar, the sacred thread of the hindoo, was ordered by Menu to be made of the fibre, and the fine necklace cord, on which hindoos string their neck ornaments is made of it; the fibres are commonly used to make bowstrings, and the plaited-leaves form an excellent soft mat. The root is in a slight degree warm to the taste, is not of an unpleasant odour, and is prescribed by the native Practitioners, in the form of electuary, in consumptive cases, and coughs of long standing. The juice of the tender shoots of the plant (which is the Katukapel of the Hort. Mal.) is given to young children for the purpose of clearing their throats of viscid phlegm.—*Roxb. Fl. Ind.*; *Voigt*; *Eng. Cyc.*; *M. E. J. R.*; *Ains. Mat. Med., p.* 88; *Royle, Fib. Plants.*

SANSI, the sun, dominating the earth and heavens.

SANSIO, JAP. A middle-sized tree of Japan, with prickles. They make use of its bark and husks instead of peppper or ginger, and they eat the pleasant tasting aromatic leaves.—*Amœn. Ex., p.* 892; *Thunberg's History of Japan, Vol.* i, *p.* 115.

SANSKARA, SANS. In hinduism, essential rites of which the hindoo religionist has ten or twelve,

Garbhadhana, worship on a woman's evincing signs of pregnancy, sometimes on attaining maturity.

Punsavana, worship on quickening, to obtain a male child. The Mahrattas perform— this as their

Anavalobhana, to obviate mis-carriage.

Simantonnayana, parting the hair of the head of a pregnant woman, on the 4th, 6th or 8th month.

Vishnubali, amongst the Mahrattas, a sacrifice to Vishnu, on the 7th month.

Jata karma, ceremonies at birth, amongst others putting of ghi into the child's mouth, with a golden spoon, before cutting the navel string.

Nama karanam, naming the child on the 10th, 11th, 12th or 101st day after birth.

Nishkramanam, taking the child out of the house when three months old to see the moon in the third light fortnight.

Suryanilokanam, showing the sun to the child when four months old.

Annaprasana, feeding the child with its first rice, on 6th or 8th month.

Karnavedha, boring the ears.

Chudu or Chula karanam, on the 1st or 3rd year and not later than the 5th year, shaving all the head save one lock, called the Chuda or crest.

Upanayana, investiture with the sacrificial thread which falls from the left shoulder to the right hip, for a brahmin on the 8th to the 16th year; for a Kshatrya on the 11th and not later than the 22nd, and for a Vesya on the 12th and not later than the 24th. This constitutes the *Dwija* or second birth of these three races.

Savitri maha namya, at the time of or four days after the Upanayana, when the Gayatri is taught and repeated.

Samavarrttana, the ceremony on the student's completion of his studies and return home.

Vivaha, marriage.

Swargarohana, ascending to heaven, funeral ceremonies. Of these, the 3rd, 9th, 11th, 14th and 15th, are either local or modifications of others. Women have also the Sanskara of marriage.—*Wils. Glos.* See Yugbyasa.

SANSPAUR, HIND. Asparagus racemosus.

SANSTHAVA, SANS. Monastery, a college.

SANTAL. The Santal, Mundah, Bhumi and Horaces, speak languages nearly identical. They occupy most of the British districts of Chota Nagpore, Singbhoom, Manbhoom and the hilly part of Bhagulpur, (the Rajmahal hills excepted) now known as the Santal pergunnahs; also, parts of West Burdwan, Midnapore and Cuttack, an extensive country west of Calcutta. The Santal are a simple, industrious, people, honest and truthful, tractable and free from caste prejudices. Their country is healthy, their numbers are increasing and they are much sought after and prized as labourers, by the Bengal Indigo planters, and on the railways, and other works of Western Bengal, and in the Assam tea plantations. These tribes live apart in detached houses or isolated hamlets, or homesteads. The Santal are a branch of the Mundah Kol. They seem to have separated when the Mundah fell back on Chota Nagpore from the Damudah river, which the Sontal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. The Santal are now most numerous in the Sontal pergunnahs, but there are many in Mohurbung, and there are several colonies of them in the Singbhoom district. They are an erratic race; but, Lieut. Col. Dalton thinks that they left their chief settlements on the Damudah river, from having been pressed by the Kurmi, The Sontal, Bhumij and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirgujah and Juspur, the Kheriah tribe of Chota

Nagpore and the Juanga of the Cuttack tributary mahals. Since the beginning of the nineteenth century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. The Santal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered at the shrine of Kali, as Runkini, but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially brahminical. The Santal and Rajmahali are markedly different in habits, appearance, manners and national characteristics, and on the Chota Nagpore plateau, these differences are very marked. The Santal are a very ugly race, with flat broad nosed features. They are a more simple, mild and industrious race than the Rajmahali, Gond, or Khond. Though the Santal are geographically near the plains, the Santal seem to be more shy and more socially isolated than the Mundah, Bhumi and Ho. They have kept much to themselves, preferring locations surrounded by jungle and segregated from the world, and cultivate the lower lands of their country, but they have latterly taken to labour for hire.—*Dalton, pp.* 154, 155, 157 ; *Mr. Campbell, pp.* 33, 4, 5.

SANTA CRUZ ISLANDS, are two small islands on the western side of the Philippines.

SANTALACEÆ, *R. Br.* The Sanderswood tribe of 6 gen., 10 species, viz., 2 Thesium ; 2 Santalum ; 2 Osyris ; 2 Spærocarya ; 1 Scleropyrum ; 1 Octarillum.

SANTALE ROUGE, Fr. Saunders wood.

SANTALUM ALBUM, *Linn.* ; *Roxb.*

Ayasru,	Amboin.	Sakar?	HIND.
Harti, Annatom	Island.	Sandalo,	IT.
Hiat,	,,	Chandan,	MAHR.
Sandal abiad,	AR.	Chandana mara,	MALEAL.
Chandana, BENG., HIND.,		Bua-alu,	Marquesas.
MALEAL., MALAY. SANS.		Nassau,	New Hebrides.
Sanda-ku,	BURM.	Turi-turi,	Oparo-Islands.
Sri-ganda,	CAN.	Sandel safed,	PERS.
Gandaga mara,	,,	Hia-hi,	Sandwich Is.
Tan-hiang,	CHIN.	Chandana,	SANS.
Tan-muh,	,,	Mala-yaja,	,,
Kaya-yndhan.	COCH-CHIN.	Bhadrasri,	,,
Sandal,	DUK., HIND.	Sandan,	SINGH.
Ghundasaru,	,,	Rathihri,	,,
Ganda-saru,	,,	Nebissi,	Tanna Islands.
Sandalwood,	ENG.	Eimeo,	Tahiti.
White sandalwood,	,,	Ahi,	,,
True ,,	,,	Chandanam,	TAM., TEL.
Yellow ,,	,,	Chandana,	,,
Sandale,	FR.	Shandanam,	TAM.
Jame,	FIJI.	Chandanapu chettu,	TEL.
Sundul sukur,	GUZ.	Tella chandanam,	,,
Sandal sakar,	,,	Krishna ,,	,,
Chandana, veru,	HIND.	Rakta krishna ,,	,,
Kat chandan,	,,	Aika menil,	Timor.

The synonyms of this plant are also given under sandalwood, but arranged according to their derivation. This small, but very valuable tree, the white or true sandalwood tree, is found in abundance on the hills which separate the Coimbatore district from Mysore, also, in abundance in Coorg and Mysore, and sparingly in Canara. In the Dekhan, this tree grows both in gardens and the jungles. It is usually cut into billets, and disposed of by weight. The scent is believed to be much modified by peculiarities of soil and elevation. It is remarkable for its agreeable fragrance, is a preservative against insects, and is much used in making work boxes, walking sticks, penholders, and other small articles of fine ornament. Sandalwood is a favorite cosmetic with Burmese ladies. It bears a small black berry, which if planted grows without any trouble. The wood is generally brought for sale in small logs seldom exceeding eighteen inches in length. An inferior kind of sandalwood is produced by a tree in the southern part of Mergui province, and forms an article of commerce. The Rakta Chandana is the red sanders wood (Pterocarpus santalinus). The Santalum or Syrium mytrifolium, grows in the Northern Circars, and Dr. Roxburgh considered it a strongly marked variety of the Malabar sandal tree. The attractive nature of the sandal tree is described in the sloka, "Round the stem of the Chandana dwell serpents, on its top birds, on its branches monkeys, on its flowers bees,—so the riches of a good man are beneficial to all. There are three kinds of sandalwoods known in commerce, the white, the yellow, and the red. The latter is from the Pterocarpus santalinus, *Linn.*, also called saunder's wood, or red sander's wood, but the white and the yellow are both from the Santalum album, a small or moderate-sized tree which grows in both the Indian peninsulas, in Assam, Cochin-China, China and, as the various names will show, in some of the islands of the Eastern Archipelago in southern India, it grows in a wavy tract from S. Canara southwards into Mysore and Coimbatore ; its wood is cut into billets of 50 to 70 lbs., and sold by weight in that state. It is burnt as a perfume, in houses and temples, both in India and China, is used in the funeral ceremonies of the hindoos ; is employed for trunks, almirahs, &c., as a preservative against insects ; is much used in making work-boxes, walking sticks, pen-holders and other small articles of fine ornament ; its powder is a favourite cosmetic with hindoo, Chinese and Burmese ladies, and hindoos use it to form the sectarian marks on their foreheads ; it is much used among the Chinese in cabinet work, and in the manufacture of fans, and other ornamental articles, and a valuable oil, used as a perfume, is distilled from its wood. The sandalwood trees in Mysore,

Canara, Coimbatore, Salem, and some in North Arcot, received much attention from Dr. Cleghorn, its spontaneous growth has increased to a considerable extent, and he thinks it certain that with the vigilant supervision of local officers and slight assistance to nature in clearing the heads of young plants, which are often matted down by strong creepers, an addition might accrue to the revenue of these provinces. In Ossoor and Denkinakotta are sandalwood jungles. In Mysore the Colkar are employed to destroy the strong creepers which tend to choke the young plants springing from seed dropped in hedgerows by birds. It is their duty also to cut, annually, all the ripe trees, 20 years old and no other, and to take care that the billets are properly prepared and sorted, and brought into the sandal godown. The sandal tree grows to perfection in Mysore, Denkinakotta, Andyar, Collegal, and Suttimungalum and yields a large annual revenue to the state. It also thrives well in some parts of Salem, Coimbatore and North Canara. Dr. Gibson (Report, p. 162) mentions that the sandalwood appears to grow freely without any cultivation in all parts of the Bombay Deccan and may be seen in quantities in waste gardens, and even in some of their grass preserves, and trees may be seen in numbers of the hedges along the water-courses in western Khandesh. But, the northern Bombay sandalwood has not the high qualities of that found in the more southern provinces. In the Dharwar collectorate there are about 153,000 trees, a number which much exceeds that found in the whole length and breadth of the more northern provinces. Sandalwood is very liable to the heart-shake which decreases its value twenty to thirty per cent. In North Canara, there are many stills for making sandalwood oil. There is a current belief that the fragrance of the wood, depends on the local circumstances of its growth and that it is much modified by peculiarities of soil and elevation. A Chinese merchant mentioned that the sandalwood growing on rocky mountains contains the greatest quantity of oil. That of North Canara is not of the first quality, and Dr. Gibson, when at Hungul, tried the fresh sandalwood by cutting into several of the ripe trees, and, he found the wood very deficient in fragrance as compared to that of Mysore. There is a depôt for this wood in the forests near Denkinakotta, which the poojalies, for a few months of the year, work very laboriously and cheaply, felling, cleaning, shaving and cutting the trees into billets of 2½ to 3½ maunds of 25 lbs. each for one Rupee and bringing the same to the nearest store. The sandalwood tree grows slowly and irregularly, in the Archipelago, where it general[ly] attains a height of 8 feet without branch[es] and 30 feet with branches and 2 feet [in] diameter. The heart-wood of the tree, yiel[ds] the oil and one pound of the wood will yi[eld] about 2 drams. The wood increases in fr[a]grance in age. The sandalwood of the San[d]wich group is from two other species of t[he] same genus, S. freycinetianum and S. panic[u]latum; but the name is also applied to t[he] wood of the Exocarpus latifolia, which gro[ws] in the Percy Islands, Repulse Bay, Cap[e] Upstart, Palm Islands, &c. &c., though it is u[se]less as a substitute. In 1847 nearly 1,0[00] tons of the true sandalwood, procured chie[fly] from New Caledonia, the New Hebrides, &[c.] were exported, from Sydney to China, whe[re] it is burnt with other incense in the temples. The sandalwood trade in these islands gives employment to about six small vessels belonging to Sydney. In China, it realizes about £30 per ton. The oil exports from Madras ports of the Chandana nuna, Tel.; Chundana yennai, Tam., amount annually to about 100 cwt. Oil of the seed, or sandal seed oil from the seeds of the sandal-wood tree. They yield by expression a thick and viscid oil which is burnt by the poorer classes in lamps.—*Dr. Gibson, Conservator's Reports,* 1849 *to* 1856, *p.* 162, *and* 1857 *to* 1860, *p.* 58; *Dr. Cleghorn's Conservator's Report, p.* 41; *McGillivray's Voyage, Vol* i, *pp.* 97-8; *Dr. Wight*; *Bennett's Wanderings in N. S. Wales*; *M. A. J. R.*; *M. E. J. R.*; *Wight, No.* 94, *Travancore* 263, *Mysore* 1, *Coorg* 3, *Masulipatam, Madras, Hort. Garden* 75, *Cleghorn, Mysore*; *Riddell*; *Mason*; *Flora Indica, Vol.* ii, *p.* 464; *Hind. Theat., Vol.* ii, *p.* 96.

SANTALUM FREYCINETIANUM, the sandalwood tree of the Sandwich Islands, is from two species S. freycinetianum and S. paniculatum. And, the name of sandalwood is also given to the wood of the Exocarpus latifolia, which grows in the Percy Islands, Repulse Bay, Cape-Upstart, Palm Islands, &c., &c., but it is useless as a substitute. These grow in the south Sea Islands, at Hawai, Fiji and New Hebrides, but has been nearly extirpated by the avidity of traders.—*Bennett's Gatherings, p.* 419.

SANTALUM MYRTIFOLIUM is a separate species, or a strongly marked variety of S. album, found by Dr. Roxburgh in the mountains of the Rajahmundry Circar, and figured by him in Plate 2 of his 'Coromandel Plants:' it is distinguished by its opposite lanceolate leaves. The wood is of little value, according to Dr. Roxburgh, but Dr. Wallich says it is 'certe odoratissimum.' About 200 tons of sandalwood are annually imported

into Calcutta from the Malabar coast, and about twice as much into Canton from the islands of the Indian Archipelago. Dr. O'Shaughnessy says Santalum myrtifolium is synonymous with the S. album of Roxburgh's Coromandel plants, a native of the continent of India, Timor, &c.; that it is a small tree, with yellow flowers, in stalked, trifid, axillary cymes, leaves narrow and oval, and affords the sandal wood of Malabar. He adds that Roxburgh makes the Santalum album and S. myrtifolium, two distinct species. S. album thrives luxuriantly in the Calcutta Garden, is in flower and seed nearly the whole year, and is easily grown from seed.—*Eng. Cyc.*; *O'Shaughnessy*, *p.* 532.

SANTA MARIE, PORT. See Poverasite.

SANTANG, see Kyan.

SANTHA, HIND. Dodonæa burmanniana.

SANTIPORE, a town of Nuddea. In the Santipore women are observed, that light, female form, that slender and delicate make, that graceful shape and elegance of proportions, and that smooth, soft body, which constitute the native beauty of Bengal.—*Tr. of Hind.*, *Vol.* i, *p.* 22.

SAN TOME, or Saint Thomé, a sea coast suburb of Madras, 4 miles to the south.

SANUK FATEEHA.

SANWAK, HIND. Oplismenus frumentaceus, Panicum colonum.

SANWAK, a class of slaves in Chota Nagpore, a hereditary slave; the Bandha Sanwak is a slave for life, but whose children are not slaves, and the Chuta Sanwak is described as a slave for debt. Also in Chota Rangpur, Ramgurh, and Hazaribagh, there are Sanwak life-slaves, generally from the hill tribes.—*Wilson's Glossary.*

SANWAR, HIND. Rhazya diffusa, Rhazya stricta.

SANVITALIA PROCUMBENS, a pretty compact plant, adapted to cover a small patch or bed, in the flower garden, colour yellow, and raised from seed.—*Riddell.*

SANYAL PEN, or Sanalk the spirits of the departed, amongst the Gond are worshipped or propitiated for a year after death; but persons of note, headmen of villages or priests are treated as gods for years or generations, and sacrifices are usually offered at their Sthapana or shrines of earth.

SANYASI. Amongst the rules prescribed for a hindoo man, the brahman, the Kshatrya and the Vesya have to pass through four stages (asrama) in life, the Brahmachari or religious student; the Grihashta or householder, the Vanaprastha or hermit, and the Bhikshuka or Sanyasi, religious mendicant. —*Wilson's Glossary.*

SANYASI. Amongst the hindoos, a wandering religious mendicant, generally a follower of the Saiva sects. The Sanyasi is a professed ascetic, but some of them marry, an instance of which in 1868, was the Sanyasi family at the temple of Mahadeo at Rainapur near Mominabad. Amongst the Vaishnava, the terms Sanayasi and Vairagi are in a great measure restricted to peculiar classes, but amongst the Saiva, all the sects, except the San-yogi Atit, are so far excluded from the world, as not to admit of married teachers, a circumstance not uncommon amongst the more refined followers of Vishnu. In general, the Bramachari or student, and the Avadhuta or Avdhauta and Alakhnami, express all the Saivi class of mendicants, except perhaps the Jogi. The Brahmachari or students are also regarded as Sanyasi, and where the term is used in a definite sense, the twelve classes, viz., the Dandi, Brahmachari and ten Dasnami orders are implied. Sanyasi and Viragi are terms applied generally to all the erratic mendicants of the hindoos, of all religious orders. The terms signify a man who has abandoned the world or overcome his passions. Occasionally, however, the people distinguish between a Sanyasi and a Viragi, in which case, the Sanyasis imply the mendicant followers of Siva, and the Viragis those of Vishnu. The distinction thus made requires a peculiar exception, for besides the indiscriminate application of the term Sanyasi to the Vaishnava, as well as other mendicants, there is a peculiar class of them to whom it really pertains, these are the Tridandi or Tridandi Sanyasi. These are such members of the Ramanuja or Sri Vaishnava sect as have passed through the two first states of the Brahmanical order and entered that of the Sanyasi or the ascetic life. Their practices are in some other respects peculiar: they never touch metals nor fire, and subsist upon food obtained as alms from the family of Brahmins of the Sri Vaishnava faith alone. They are of a less erratic disposition than most other mendicants, and are rarely met with in Upper India, but are found in considerable numbers, and of high character, in the south. In their general practices, their religious worship and philosophical tenets, they conform to the institutes and doctrines of Ramanuja.—*Wilson, Hindoo Sects.* See Dandi, Hindoo, Mendicants, Siva.

SANYOGI, a married mendicant; Vivogi or Byogi, an ascetic mendicant.

SAN-YOGI ATIT, see Sanyasi.

SAOO-HULDEE, HIND., a ceremony.

SAORI, GUZ. Hystrix leucura, *Sykes.*

SAOURI NUTS, see Suwarrow Nuts, Caryocar.

SAPADAS, also Alya, MALAY. Ginger.

SAPAN WOOD. Cæsalpinia sapan.

Lolan,	AMB.	Sapang,	MALAY.
Su-fang-mu,	CHIN.	Samya, Roro,	MOLUC.
Su-muh,	,,	Patonga,	SANS-
Puttung,	GUZ.,.HIND.	Isiapungum, also	VUT.
Bukkum,	,,	tunghy,	TAM.
Sachang,	JAV.	Sibukas,	TAGALA.

The product of Cæsalpinia sapan, a thorny tree indigenous to Siam, Pegu, the Philippine Islands, Tenasserim, Bengal, Ceylon, throughout the Archipelago and the South of India. Sapan wood is imported into Bombay from Siam, and Singapore; and an inferior description, in small quantities, from the Malabar Coast. The former kinds are occasionally re-exported to London. Sapan wood is an article of considerable commerce in the East. In 1842 as much as 78,000 cwts. were shipped from Ceylon, but the export from thence has decreased. This island, however, ships dye-woods annually to the amount of £2,000. A large quantity is exported from Siam and the Philippine Islands; as much as 200,000 piculs annually from the former, and 23,000 piculs from Manila. 3,524 piculs were shipped from Singapore in 1851, and 4,074 piculs in 1852. The picul is about one cwt. and a quarter. It forms a large export from Ceylon: the shipments from thence were, in 1842, 77,694 cwt.; in 1843, 1,692; in 1844, 2,592; in 1845, 2,854. In 1837, 23,695 piculs of sapan wood, and 2,266 piculs of roots of ditto were shipped, and in the first six months of 1843, 22,326 piculs were exported from Manila; a large portion of this comes to Europe, but some goes to China, the United States, Singapore, &c. 15,500 piculs were shipped from Manila in 1844, 5,250 ditto in 1845; and 1,210 tons in 1850. About 3,000 piculs of sapan wood and the same quantity of other dyestuffs are annually imported into Shanghae. The price of straight sappan wood at Shanghae was thirty dollars per picul. In Calcutta, in June 1850, 4,000 piculs of the root of Manila sapan wood sold freely at about 7*s*. 6*d*. per factory maund, Siam, ditto 6*s*. 75 tons were imported into Liverpool in 1849: and 120 tons in 1850, from Calcutta. The imports of sapan wood into the United Kingdom, in 1850 amounted to 3,670 tons, worth £8 to £12 the ton, and this continued the price in January 1853. One Liverpool house imported 600 tons of dye-woods in a single year, worth £9,000.

Dyewoods imported in 1850.	Tons.	Re-exported. Tons.
Logwood	32,930 ...	4,332
Fustic	9,808 ...	1,771
Nicaragua	7,909 ...	112
Barwood	1,896 ...	1,229
Sapan	3,670 ...	...
Green Ebony, and Cocuswood	1,457 ...	—
Red Sanders	656 ...	—
Camwood	416 ...	—
Brazil and Brazillito..	309 ..	—

The annual consumption of heavy d woods in Britian in dyeing cotton, lin woollen and silk goods, &c., exceeds in weig 51,000 tons. In 1850, Great Britain impo ed 3,670 tons of sapan wood valued at to £12 per ton, duty free. Sapan wood, imported in pieces like Brazil-wood, to wha for the purposes of dyeing, it is greatly in rior, it is generally too unsound to be use for turning. At the Madras Exhibition 1855, specimens were exhibited in billets a chips from Tanjore, Travancore, Goa a Cuddapah. A red dye is made from aqueous extract of the chips of this woo but it is not reported to be a fast colour, a is principally used for common and che cloths. It is precipitated dark brown wi iron, and red with alum. A decoction of t wood is used by calico printers as a red dye the wood contains much gallic and tann acids and is an excellent substitute for lo wood, though weaker. In the valley the Tenasserim, between the latitudes Tavoy city and the mouth of the Tav river, the hills that border the valley on th eastern side abound in sapan-wood. Conside able quantities are exported every year fro Mergui, and that province is usually suppose to contain the tree, though it is really withi the province of Tavoy; but the facility water communication from the interior t Mergui, makes that the only port to whic the wood is conveyed. This narrow localit is the only one in the Province in whic the tree is found. The tree has a muc wider range, the Karens say, on the Meinam side of the mountain in Siam. More tha five hundred thousand pounds have been ex ported from Mergui during some years be tween 1830 and 1840; but latterly th forests have not been so productive. Sapan wood, is abundant in the island of Sum bawa, and in the Provinces of Iloilo i Panay and Pangasinan in the great islan of Luzon. In 1850, there were exported chiefly to Europe and America, no less tha 11,000 tons of this article from the port o Manilla. It has, like many indigenous product a distinct name in the different languages, the only agreement, and this not perfect, being between the Malay and the Javanese, in the first of which it is called sapang, the origin of the European commercial and scientific names, and in Javanese sachang. In one language of the true Moluccas we have it as samya, and in another as roro, while in

Amboynese it is lolan, and in the Tagala of the Philippines sibukas. It seems probable, however, that the Cæsalpinias which produce the dye-wood of countries which extend from the 9th degree of South to the 19th of North latitude, may be a distinct species. The Sapan-wood of Luzon is by from 40 to 50 per cent. more valuable than that of Siam, that is, yields by so much more of colouring matter. In this respect all the Asiatic Cæsalpinias rank far below those of Brazil. Sapan-wood, is largely exported from Madras to Calcutta. For many years past, a trade in sapan-wood from Mergui to Decca has been prosecuted by the native boats, the article being obtained from the sapan-wood forests lying near the frontier hills, from the eastern side of which large supplies are annually imported through Bangkok into Singapore. It is also found throughout the valley of the Great Tenasserim river, and is said by the Karens to be plentiful in the vicinity of the head waters of the 'Hoin bwai,' and 'Dagyne,' in isolated patches, but generally distributed throughout the whole provinces. In Siam it sells at *5s. 6d.* per 133 lbs. In the Philippine islands at *9s. 5d.* per 133½ lbs. The sapan-wood is the log-wood of the Archipelago, whence it is exported in large quantities to Europe, where it is employed as a red dye. In China its decoction is used as a dye, and as a staining material. The tree grows abundantly in the western, southern and central provinces of Ceylon. It is fit for cutting when about five years old, at which time it attains a height of ten or twelve feet. The exports from Ceylon have been for the last few years about 6,000 cwts. annually.—*Faulkner* ; *Simmond's Dict.* ; *Tredgold* ; *M. E. of* 1855 ; *Mason* ; *Crawfurd's Dictionary*, *p.* 376 ; *Poole, Statistics of Commerce.*

SAPANG, MALAY. Sapan-wood, Cæsalpinia sapan, *Linn.* ; *Roxb.* ; *W. & A.*

SAPATA CHEDDY, TAM. Hibiscus rosa sinensis, *Linn*, also pronounced Sapata cherri, TAM., Sapatapu, TAM., the flower, and Sapata cheri, TAM., the plant of Hibiscus rosa sinensis, *Linn.*

SAPEC, JAP. A cash, about the 5,200th of a dollar, *Hodgson's Nagasaki, p.* 132.

SAPEK, a Tartar money of account, equal to about 5*d.* sterling.—*Simmond's Dict.* See Sepeck.

SAPFALI, HIND. Delphinium brunonianum.

SAP-GREEN.

Luh-kiau, CHIN. | Luh-kau, CHIN.

This beautiful and permanent dye-stuff, is, in China, the product, in great part, of the Rhamnus infectorius. It is made in Shantung, Hu-peh, Cheh-kiang. That of Hankow is expensive and is sold in the form of thin, dry, bluish scales which when rubbed up produce a bluish green pigment, used to colour shark skin for covering spectacle cases. It has the purgative properties of the buckthorn in the crude state and makes excellent marking ink when mixed with lunar caustic. Lime is present in the sap-green of China, as it is added to neutralize the acetic acid which is apt to form in this as well as in the syrup of buckthorn.—*Smith, Mat. Med. of China.*

SAP'HARA, a palanquin carried on the shoulders of Nambi brahmans, *Taylor.*

SAPHIR, FR. Sapphire.

SAPHURA KUMRA, BENG. Cucurbita maxima, *Duch.*

SAPHT, EGYPT. Hyosciamus niger, *Linn.*

SAPI, MALAY. A wild breed of the genus Bos. The Sapi has much the general appearance of the Bali cattle, but has not the white patch on the buttock ; the horns are small, curved inward, white, tipped with black ; the forehead is flat with a tuft of long hair on it, particularly on the bulls ; the back is curved, the highest point being about the centre ; the spines of the vertebra are usually long ; the total height of an animal killed, from foot to spines of dorsal vertebra, was six feet two inches ; the hair was smooth and silky, of a brown colour, except on the feet which were of a dirty white, a mane about two inches long runs the whole length of the spine. There is no dewlap. The fibre of the flesh is fine, well mixed with fat, a most delicious meet for flavour, tenderness and juiciness that ever could be tasted. The other species of wild cattle is the Saladang. A Malay guide Inchi Basow stated that the meat was coarser than the buffalo and not good eating, but that the animal was much larger than the Sapi, some of the bulls growing to seven "asta or cubits." This is the moderate height of 10½ feet.—*Journ. of the Indian Archip.*, *Vol.* vi, *Nos.* v *and* vi, *May and June* 1850, *p.* 355.

SAPINDACEÆ, *Juss.*, the Soap tribe of plants or Soap-Worts, a natural order of plants belonging to the calycose group of Polypetalous exogens. It consists of trees or shrubs, rarely herbaceous plants, with erect or climbing stems, with alternate often compound leaves, rarely simple, with or without stipules, and often marked with lines or pellucid dots. Their inflorescence is racemose or paniculate, with small white or rose-coloured, rarely yellow, flowers, which are seldom barren or hermaphrodite. The calyx consists of 4-5 sepals, slightly cohering at the base. The petals are the same in number as the sepals, one being occasionally abortive. They are

in general furnished with a petal-like scale, but are sometimes naked. They have a fleshy glandular disc occasionally occupying the base of the calyx. The stamens are definite, about twice the number of the sepals. The filaments are free or slightly connate, the anthers 2-celled, the ovary 3-celled, rarely 2-4-celled, the cells containing 1-2-3 ovules. Style undivided, or more or less deeply 2- or 3-cleft. The seeds have usually an aril, are without albumen, and have a curved or spirally twisted embryo. The order contains 43 genera, 150 species of which inhabit the West Indies, Mexico and South America, 1 in North America, 2 in Bengal, 4 in Guinea, 10 in South Africa ; 1 in Madagascar ; 9 in Bourbon and Mauritius ; 50 in the East Indies ; 2 in Japan ; 4 in China ; 2 in Timor ; and about 10 in New Holland. The East Indies genera and species may be thus shown :

Cardiospermum halicacabum, *L.*, all India.
canescens, *Wall.*, Burmah.
Sioja sanguinaria, *Buch.*, Goalpara, Sylhet, Ava.
Schmidelia serrata, *DC.*, Peninsula of India, Bengal.
aporetica, *Roxb.*, Sylhet.
glabra, *Roxb.*, Chittagong.
villosa, *Wight*, Chittagong.
dentata, *Wall.*, Assam.
Sapindus sapinaria, *L.*, West Indies.
laurifolius, *Vahl.*, Peninsula of India.
emarginatus, *Vahl.*, Peninsula of India.
detergens, *Roxb.*, Bengal.
rubiginosus, *Roxb.*, both peninsulas of India.
polyphyllus, *Roxb.*, Pegu.
undulatus, *Wall.*, ?
acuminatus, *Wall.*, Nepal, Himalayan valleys.
fruticosus, *Roxb.*, Moluccas.
danura, *Roxb.*, Sunderbuns.
angustifolius, *Wall.*, Khassya.
Cupania canescens, *Pers.*, Circars, Kandalla.
lœvis, *Pers.*, Bourbon, Mauritius.
roxburghii, *Wight*, Sylhet.
sapida, *Cambess*, Guinea, cultivated in India.
madagascarensis, *G. Don.*, cultivated.
alternifolia, *Willde*, Mauritius.
Harpulia cupanioides, *Roxb.*, Chittagong.
Baccaurea pierardi, *Buch.*, Tippera, Burmah, Cochin-China.
dulcis, *Wall.*, Penang, Sumatra.
Nephelium lichi, *W. & A.*, China, cultivated in India.
ramosum, *W. & A.*, Sylhet.
lappaceum, *L.*, Rambutan, N. E. Archipelago.
longan, *Cambess*, China, Cochin-China, both Peninsulas of India, Khassya.
rubrum, *Wight*, Sylhet.
verticillatum, *Wall.*, Moluccas.
Schleichera trijuga, *Willde*, Peninsula of India.
Melicocca bijuga, *Linn.*, Jamaica, East Indies.
Kolreutera paniculata, *Laxm.*, China.
Cossignia bourbonica, *DC.*, Bourbon.
Dordonæa burmannia, *DC.*, Peninsula of India.
dioeca, *Roxb.*, Hindustan.

One genus is found in Australia, Dodonea. This order is closely allied to Aceraceæ, from which they only differ in their alternate leaves and petals. The number of their stamens 8, with 5 unequal sepals, point out a relation with Polygalaceæ. Their climbing habit and tendency to produce tendrils give them a remote relation to Vitaceæ. In this order, although the leaves, branches, and other organs act in a deleterious manner, yet their fruit and seeds are eatable and wholesome. The Litchi and the Longan, favourite fruits in China, are produced by the genus Euphoria ; these fruits are sweet, with a sub-acid flavour ; they are considered a great luxury in China, and are sent at a great expense from the provinces of Fokien and Quan-Tong, where they grow, to Peking, for the consumption of the emperor. Several other genera bear fruits which are very delicious, and are eaten in Japan and Brazil. Sapindus is remarkable for bearing a pulpy fruit, the outer part of which has been used, on account of its detergent properties, as a soap. Some of the species of this genus also produce eatable fruits. Paulinia is another genus which has poisonous properties residing in the leaves and other parts of the plant, whilst the fruits are eatable. The whole of the order partakes more or less of these properties. In China, the seeds of a Sapindus, besides their value in cleansing, are worn as beads "because," say the budhists, "all demons are afraid of the wood," one native name means preventative of evil. Euphoria li-chi, is one of the most delicious and delicate-flavoured fruits of the east, and though a native of China, succeeds well in most parts of India, as it does so in Euphoria longan and Nephelium, the Rambootan of the Malayan Archipelago yield edible fruits ; as well as Euphoria rimosa and rubra, both inhabitants of the Sylhet district, which are eaten by the natives of that district ; so are those of Melicocca trijuga, called even in the distant parts of India where this tree is indigenous, kusoombha and gusum, and where, as in the Doon in April, it may be readily recognised at a distance by the red colour of its young leaves. All its parts of fructification are liable to considerable variation. The pulpy sub-acid aril, as Dr. Roxburgh remarks, forms a grateful fruit ; the wood is hard and used as timber. Schmidelia serrata, of which the root is said to be astringent, yields also an edible fruit. The wood of several species is close-grained and hard, and forms valuable timber, as of Sapindus rubiginous, and of Euphoria longan and li-chi ; the latter also one of the most ornamental of trees. The edible fruit of the Indian and Malayan species of Pierardia, (P. sativa and dulcis), a genus referred by M. Blume to Euphorbiaceæ, is known. The latter, Dr. Jack is of opinion, consists of two varieties ; the Rambeh, of which Mr. Marsden has given a figure in his history of Sumatra, (Pl. vi, p. 101,) belonging to the peninsula of

Malacca, but unknown at Bencoolen; while the Choopa, from which Dr. Jack has described the species, is abundant at the latter place, but not found in the former. To this genus is nearly allied a Dr. Jack states, (Lin. Trans. xiv, p. 118) is Hydnocarpus, of which the only species H. malayanus, yields the Tampui, a fruit ranking in point of taste and flavour along with the Lanseh. This, belonging to the genus Lansium of Jack (l. c. p. 115) is closely allied to Milnea of Roxburgh, also yielding an edible fruit, and both belonging to the Meliaceæ, and in many respects resembling Pierardia, and showing the connection between the two families. Several species furnish useful timbers, and edible fruits.—*Royle, Roxb, Voigt.*; *Eng. Cyc.*; *Williams' Midd. Kingd. p.* 286.

SAPINDUS, a genus of plants of the natural order Sapindaceæ, names derived from Sapo indicus or Indian soap, the berries of several of the species being employed as a substitute for soap. In America, the S. saponaria, in Java, S. rarak, in India, S. acuminatus, S. laurifolius, and S. emarginatus, and S. detergens (the last, according to Dr. Roxburgh, nearly allied to S. saponaria), are all used for the purposes of soap; owing, it is now ascertained, to the presence of the vegetable principle called saponine. This has been traced in many other vegetables, which have the property of forming a lather with water. Some of this genus, as Sapindus esculentus and S. senegalensis, yield edible fruit. Sapindus laurifolia, *Roxb.*, is a stout, very shady tree, of various parts of India: S. squamosus, *R.* is a native of the Malay Archipelago and of the island of Nassaulaut. S. longifolia and S. fruticosus, *R.*, and S. serratus, *R.* are trees of the Moluccas.—*Willde*; *Royle, Ill. Him. Bot., p.* 138.

SAPINDUS, *Species.*

Koste legree,	CAN.	Khete,	MAHR.

This is common in Canara and Sunda, in the ravines below, but is not common on the high lands of Canara: its wood is not used in the arts, but for building purposes, is of average quality.—*Dr. Gibson.*

SAPINDUS, *Species.*

Tsheik khyee, BURM.

This species is found on the hills, and in the forest skirting them in British Burmah where the wood is prized for house posts, ploughs, &c. Its color is grey, with a beautifully mottled grain. A cubic foot weighs 66 lbs. In a full grown tree on good soil the average length of the trunk to the first branch, is 40 feet, and average girth measured at 6 feet from the ground, is 6 feet.—*Dr. Brandis, Cal. Cat. Ex.*, 1862.

SAPINDUS, *Species*

Chitra, HIND.

Not uncommon in Murree and Hazara.

SAPINDUS ACUMINATUS, *Wallch, Royle.* A tree of the valleys of the Himalaya, of Nepaul and the Khassya mountains, *Voigt.*

SAPINDUS ACUTA, *Roxb.* Syn. of Sapindus laurifolius, *Vahl.*

SAPINDUS DETERGENS, *Roxb.*

Do dan,	HIND.	Soap nut tree,	ENG.
Ritha,	,,	,, berry ,,	,,
Aritha,	,,	Arishta,	SANS.
Haritha	,,		

A small but handsome tree; berries used for washing woollens and silks, also for the hair of the head. It forms a soapy admixture with water. In medicine, applied externally to pimples and abscesses, internally in cases of headache, also in epilepsy, and as an expectorant; if pounded and thrown into water it destroys fish. It is also recommended as an expectorant and for the cure of chlorosis, also to stop epileptic fits by placing its powder in the mouth.—*Roxb.* ii, 280; *Voigt, p.* 94; *Lt. Col. Lake*; *Dr. J. L. Stewart*; *Powell Hand-book, Vol.* 1, *p.* 330.

SAPINDUS EMARGINATUS, *Vahl. Roxb.*; *W. and A.*; *Ill. Graham.*

The Tree.

Buroritha,	BENG.	Penela-gas,	SINGH.
Thalymarathu,	CAN.	Puvandi,	TAM.
Soap nut tree,	ENG.	Pounanga,	,,
Riti-ka-jhar,	HIND.	Pucha-cotta-maram,	,,
Areeta,	MAHR.	Kunkudu,	TEL.
Rarak,	MALAY.	Kunkudu-karra,	,,
Penela,	SINGH.	Kunkuda-chettu,	,,

The Wood.

Soap nut wood,	ENG.	Kankadu karra,	TEL.
Kunkudu wood,	ANG.-TL.		

The Nut.

Ritah,	DUK.	Phenela,	SANS.
Rishta,	,,	Phænile,	,, ?
Soap nut,	ENG.	Ponnang-cottai,	TAM.
Soap berry,	,,	Mani-pungam-kai,	,,
Rithi-ki-binj,	HIND.	Puvandi-kotti,	,,
Bindake,	,,	Kunkuda-kaya,	TEL.
Rarak,	MALAY.	Kumati-ghenzalu,	,,
Arishta,	SANS.		

The Oil.

Soap-nut-oil,	ENG.	Poongam-kai-yennai.	TAM.
Poonga-oil	,,	Pungumyennai,	,,
Rithay-ka-tel,	HIND.	Kuncudu-nuna,	TEL.
Puvandi-cottay-yennai,	T.		

This handsome tree grows in the peninsula of India, and in Bengal; it is met with in the villages, its fruit is sold in all bazars as a detergent, and in many cases yields a more profitable return than any other fruit tree. The wood is white, and Dr. Gibson had seen it used only for fuel, but Captain Beddome describes it as a yellowish, prettily grained wood and adds that it is tolerably hard. Its semi-solid oil, extracted from the kernel, is used medicinally. Its cost prevents its general use. When the soap nut is mixed with water it froths like soap, and is used instead of that

substance for washing woollens, silks and hair. Dr. Sherwood has mentioned that the seeds pounded with water often put an end to the epileptic paroxysm, a small quantity being introduced into the patient's mouth. Another species, the S. saponaria, has been used in medicine in the treatment of chlorosis, in the form of the tincture or extract of the soapy matter of the capsule. The nuts themselves are exceedingly hard and tough, and as they take a fine polish are employed for necklaces and beads. The kernels of the small black nuts of the S. saponaria are eaten in the West Indies, and deemed as palatable as the hazel nut or almond. The roots as well as the capsules are used in washing, but it is stated that the fabric washed is rapidly corroded; this however requires confirmation. Wight suspects the Poochay cottay marum, to be the same as S. detergens, *Roxb.* The fruit is used for the same purposes as indicated by the characteristic native name. His S. emaginatus may be a different plant as the fruit does not correspond. Mr. McIvor says, the wood is elastic, strong and durable, common in Wynnad.—*Drs. Roxb., Wight, Gibson, Cleghorn* ; *O'Shaughnessy, p.* 241 ; *Captain Beddome* ; *Edye, Forests of Malabar and Canara* ; *M. E. J. R.* ; *McIvor, M. E. of* 1857.

SAPINDUS FRUTICOSUS, *Roxb.* A shrub, native of the Moluccas, with pretty, rose coloured, small, flowers, in racemes in March, and fruiting in May. Introduced into the Dekhan from the Moluccas.— *Voigt* ; *Riddell.*

SAPINDUS LAURIFOLIUS, *Vahl.*

Sapindus acuta, *Roxb.*		S. trifoliata, *Linn., Rheede.*	
Purinsji,	MALEAL.	Urinji,	MALEAL.

This tree grows in the Peninsula of India where its fruit and leaves are used in medicine. Its berries are saponaceous and used by all.

SAPINDUS RUBIGINOSUS, *Roxb. W. & A., Willde.*

S. fraxinifolia, *DC.*		Moulvisia rubiginosa, *G. Don.*	
Hseik-kyi,	BURM.	Isakarasi manu,	TEL.
Rusty soap nut,	ENG.	Ishi-rashi,	,,
Rithi-ka-jhar,	HIND.	Undurugu manu,	,,
Mani pungum,	TAM.		

This tree grows in both the peninsulas of India, it is a large timber tree in the mountainous tracts of the Circars, it is found, though not very plentiful, in the Pegu district, where it attains a girth of three or four feet, growing tall in proportion and straight. Its wood is white coloured, large, straight, strong and durable, and useful for a great variety of purposes. When dry it has something the appearance of teak, but, towards the centre it is chocolate coloured. Its Tamil name is derived from the quantities of silex or sand it contains, particularly near the bark, and which injures tools used in working it.—*Voigt* ; *Hort. Cal. Cat.* ; *Mr. Rhode's MSS.* ; *Dr. McClelland, Flor. Andh.* ; *Roxb., Vol.* ii, *p.* 283 ; *Ains. Mat. Med*, *p.* 213.

SAPINDUS SAPONARIA. ?

Aritha; Ritha,	HIND.	Soap nut.	ENG.

The dried berries are brought to Ajmere from Kotah, Malwa and Mewar, they are not used in medicine; but are much employed in dyeing, and as a detergent: eight seers are sold for the rupee.—*Gen. Med. Top., p.* 122.

SAPINDUS TRIFOLIATA, *Linn., Rheede.* Syn of Sapindus laurifolius, *Vahl.*

SAPINDUS UNIJUGUS, *Thw.* A large tree, in the Hewahette district of Ceylon, at an elevation of 3,000 to 4,000 feet. Wood not known.—*Thw. En. pl. Zeyl., p.* 56.

SAPISTAN, HIND. Cordia myxa.

SAPIUM, a genus of plants belonging to the natural order Euphorbiaceæ. The flowers are monœcious, the calyx bifid and 3-toothed, the style trifid, and the capsule 3-coccous. Wight gives Sapium baccatum, S. Indicum. S. baccatum is a tree of Assam, with minute greenish flowers.—*Roxb.* ; *Eng. Cyc.* ; *W. Ic.* ; *Voigt.*

SAPIUM INDICUM, *Willd., Roxb., W. Ic.*

Huruga,	BENG.	Kirri nakooloo Gass,	SINGH.
Benjieri,	MALEAL.		

A small tree of the warmer parts of Ceylon, the Coromandel coast, south Konkun, the Sunderbuns and Assam, with minute greenish flowers, and in fruit all the year round. Capsule or nut globular, size of a nutmeg, 3-celled, 6-valved, thick and exceedingly hard, seed solitary, fixed by apex, smooth, juice very poisonous, taste exceedingly nauseous, seeds used for intoxicating fish.—*Hort. Cal.* ; *Roxb.* ; *O'Shaughnessy, p.* 562 692 ; *Thw. En. pl. Zeyl., p.* 296.

SAP-MARIL, BENG. Circaetus gallicus, *Gm.*

SAPO, LAT. Soap.

SAPODILLA PLUM.

Achras sapota, *L.*	A. zapotilla, *Browne, Jr.*
Bully tree.	Common sapota.

This, a native of the West Indies, is largely cultivated in the East Indies, its fruit, when ripe, is luscious, its bark is used medicinally and its timber makes good shingles.

SAPONACEOUS PLANTS. Many tropical plants furnish useful substitutes for common soap. The aril which surrounds the seed and the roots of Sapindus saponaria, an evergreen tree, is used as soap in South America and the West Indies under the name of soap berries. The seed vessels are very acrid, they lather freely in water and will cleanse more linen than thirty times their weight of soap, but in time they corrode or

burn the linen. Humboldt says that proceeding along the river Carenicuar, in the Gulf of Cariaco, he saw the Indian women washing their linen with the fruit of this tree, there called the parapara. Some other species of Sapindus and of Gypsophila have similar properties. The bruised leaves and roots of Saponaria officinalis, a British species, form a lather which much resembles that of soap, and is similarly efficacious in removing grease spots. The bark of many species of Quillaia, as Q. saponaria, when beaten between stones, makes a lather which can be used as a substitute for soap, in washing woollens and silk clothes, and to clean colors in dyeing, in Chili and Brazil, but it turns linen yellow. The fruit of Bromelia pinguin is equally useful. A vegetable soap was prepared 100 years ago in Jamaica from the leaves of the American aloe (Agave americana) which was found as detergent as Castile soap for washing linen, and had the superior quality of mixing and forming a lather with salt water as well as fresh. Dr. Robinson, a naturalist, thus describes the process he adopted in 1767, and for which he was awarded a grant by the House of Assembly :—"The lower leaves of the Curaca or Coratoe (Agave karatu) were passed between heavy rollers to express the juice, which, after being strained through a hair cloth, was merely inspissated by the action of the sun, or a slow fire, and cast into balls or casks. The only precaution necessary was to allow no mixture of any unctuous materials, which destroyed the efficacy of the soap. A vegetable soap, which has been found excellent for washing silk, &c., may be thus obtained ; to one part of the skin of the Ackee add one and a half part of the Agave karatu, macerated in one part of boiling water for twenty-four hours, and with the extract from this decoction mix four per cent. of rosin. In Brazil, soap is made from the ashes of the bassura or broom plant (Sida lanceolata) which abounds with alkali. There are also some soap barks and pods of native plants used in China as substitutes for soap. The bark of Quillaia saponaria renders water frothy, and is used as a detergent by wool dyers. Saponaria vaccana is common in India. The pericarp of Sapindus emarginatus mixed with water, froths like soap. Saponaceous berries are found in Java. The Sapindus is used as a substitute for soap, as Sapindus acuminata, Laurifolius emarginatus, and detergens, all of them. East Indian plants are similarly used.—*Simmonds, p.* 575.

SAPONARIA, a genus of very ornamental plants belonging to the order Silenaceæ, with pretty species of rose coloured, pink or yellow flowers ; S. procumbens from its trailing habit, suited for covering rock work. S. ocymoides is one of the most elegant, and is also well adapted for rock work. The properties of Saponaria vaccaria, well known in India, are identical in every respect with those of the S. officinalis, or soap wort, the Στρουθιον of Dioscorides. The taste of the entire plant is bitter, the roots are cylindrical, two or three feet long, the thickness of a swan quill, branching above, epidermis ruddy, thick, and easily separable ; parenchyma white and solid. The taste of the root is bitter and mucilaginous ; the infusion is blackened by salts of iron, and the decoction froths like a solution of soap. According to Bucholz' analysis, these properties are due to the presence of a mucilaginous extractive called saponine.—*Riddell* ; *Eng. Cyc.* ; *O'Shaughnessy, p.* 212.

SAPONE, IT. Soap.

SAPOO, SINGH., a soft, firm, but rather open though even grained, light, Ceylon wood.

SAPOOMIDILE, a soft, rather coarse, open grained, light, Ceylon wood.

SAPOR or Shapur, the second sovereign of the Sassanian dynasty of Persian kings. It was this sovereign who captured the Roman emperor Valerian. He succeeded the Artaxerxes, of the Greeks and Romans, that being their mode of pronouncing Ardeshir. Ardeshir Babegan, the son of Sassan, was an officer of the Parthian king, Arsaces Artobanus V, and assumed the Persian throne as the first of the Sassanian dynasty in A.D. 226 ; his successor was the Shapur or Sapor who captured the emperor Valerian. There were other Artaxerxes, the first in A.D. 381, and the second in A.D. 629, and the Sassanian dynasty ended in A.D., 641, when Yezdejird or Izdejird iii, was overthrown by the mahomedans. Artaxerxes Longimanus was the Kai Bahman or Adashir daraz-dast of the Kaianian dynasty of Persian kings. Artaxerxes Mnemon, a Persian king, B.C. 426, at whose court Ctesias resided for some years. After Scylax, Ctesias was the next historian in India, and in his Indica cap. iv., p. 190, he mentions that Artaxerxes Mnemon and his mother Parasatys presented him with two iron swords, which when planted in the earth, averted clouds, hail and strokes of lightning. This is the first notice of the lightning conductor.—*Prinsep by Thomas.* See Greeks of Asia, Kabul, Persian kings, Scylax, Lightning conductor.

SAPOTACEÆ, *Endl.* The Sappodilla tribe of plants, comprise 5 genera, 22 sp., viz., 2 Chrysophyllum ; 5 Mimusops ; 7 Bassia ; 6 Sideroxylon ; 2 Isonandra ; which may be thus shown :

Achras sapota, *Linn.*, East and West Indies.
sessiliflora, *Poir.*, Mauritius.

Lucuma mammosa, *Juss.*, America, China, East and West Indies.
Chrysophyllum cainito, *L.*, E. and W. Indies, S. America.
roxburghii, *G. Don.*, Assam, Khassya.
Imbricaria commersonii, *G. Don.*, Bourbon, Mauritius, Java.
Mimusops elengi, *Linn.*, Moluccas, Ceylon, both Peninsulas of India, Bengal, Sylhet.
obtusifolius, *Lam.*, Mauritius.
kauki, *L.*, Malabar, Gour, Malay Islands, New Holland, Moluccas.
hexandrusus, *Roxb.*, Circar mountains, Bombay.
erythroxylon, *Bojer*, Bourbon, Mauritius.
Bassia longifolia, *L.*, Ceylon, Malabar, Coromandel.
sericea, *Bl.*, Java.
latifolia, *Roxb.*, Peninsula of India, Malwa.
cuneata, *Bl.*, Java.
butyraceæ, *Roxb.*, Nepal, Almorah.
parkii, *G. Don.*, West Africa.
Sideroxylon inerme, *L.*, ?
regium, *Wall.*, Pegu.
cinerium, *Lam.*, Mauritius.
tomentosum, *Roxb.*, Ghauts.
wallichianum, *Wall.*, Penang,
Isonandra lanceolata, *Wight*, Peninsula of India.
villosa, *Wight Ic.*, Peninsula of India,
gutta, Malay Peninsula, Java. Borneo.

This natural order of trees or shrubs, have simple and alternate leaves, flowers solitary, or in fascicles at the axillæ of the leaves, gorged with a milky white juice. No individual of this order is really dangerous, the juice being devoid of acrid or irritating properties. The barks of many species are astringent, the fruits pulpy, acidulous, and edible. The seeds contain an oil rich in stearine. The butter tree of India, and of Mungo Park, Bassia butyracea, is one of this family ; it also contains the Sideroxylon, or iron wood ; the Achras sapota, Sapodilla plum, has delicious fruit with very bitter seeds, believed in Martinique to be powerfully diuretic ; the bark is deemed a substitute for cinchona. The Indian Sapoteæ spread from the Islands of the Indian Archipelago along the Malayan peninsula to Sylhet, and from that to Nepal, where the Bassia butyracea is found, as well as in the neighbourhood of Almora. The most remarkable product is that of the Fulwa or Phulwara, Bassia butyracea, the butter or ghee tree of the Almora and Nepal Hills, which is of a delicate white colour, and of the consistence of fine lard, but without any disagreeable smell ; it is highly esteemed as a liniment in rheumatism, contraction of the limbs, &c., and when used by natives of rank is frequently impregnated with some fragrant atar ; the tree very much resembles B. latifolia but may be distinguished by its much less fleshy corols and more numerous stamens ; it grows on the southern aspect of the Almora Hills, flowering in January and ripening its fruit in August ; the kernels, about the size and shape of almonds, are easily extracted from the smooth chesnut-coloured pericarps, when they are bruised and rubbed up to the consistency of cream, and subjected to a moderate pressure in a cloth bag ; the oil concretes immediately it is expressed, and retains its consistency at a temperature of 95°.—*Lindley, Fl. Med., p.* 388 ; *O'Shaughnessy, p.* 427 ; *Royle Ill. Him. Bot., pp.* 262-63 ; *Roxb., As. Res.*, viii.

SAPOTA, *Species*.

Lawoloo, SINGH.

A tree of the western province of Ceylon, the berries of which are eaten by the natives. The wood is little durable, lasting only 10 years, but it is used in common house building purposes. A cubic foot weighs 39 lbs.—*Mr. Mendis.*

SAPOTA, *Species ?*

Palaepean, BURM.

In Tavoy, a very large tree, used in building.—*Dr. Wallich.*

SAPOTA ELENGOIDES, *A. DC.*, ; *Prod.* A large tree of the hot, drier parts of the island of Ceylon, common on the Neilgherries, wood strong and elastic like the hawthorn, burns well when green.—*Thw., En. Pl. Zeyl., p.* 175 ; *McIvor, M. E.*

SAPPAN-WOOD. Wood of Cæsalpinia sappan, *L.* ; See Dyes, Bakam, Patang, Sapan,

SAPPHIR, GER. Sapphire.

SAPPHIRE.

Sufir,	AR.	Nilam,	MALAY., TAM.
Nilum,	DUK.	Jachant,	RUS.
Saffierstin,	DUT.	Nil,	SINGH.
Saphir,	FR.	Safiro, Safir,	SP.
Sapphir,	GER.	Nilam,	HIND., TAM.
Sapphirus,	LAT.	Zaffiro	IT., SP.
Nila : Manila,	MALAY.		

Corundum, if translucent, when red is the oriental ruby ; when blue a sapphire, when green it is the oriental emerald, and when yellow a topaz. Sapphire (sapphirus) with the ancients, was a generic term for all blue gems. It was on tablets of the sapphire, so often mentioned in holy writ, that the ten commandents were engraved. It was supposed to preserve the sight. It occurs in parts of India. In the arts, minerals with other colours are also styled sapphire, the names being dependent on their colours. White sapphire, is transparent or translucent ; the oriental amethyst is purple ; the oriental topaz, yellow ; the oriental emerald, green : and some other varieties occur, as the chatoyant and the opalescent sapphire. Chemically, sapphire is a pure alumina ; it occurs in six-sided prisms often with uneven surfaces ; it also occurs granular. When the surface is polished, a star of six rays corresponding with the hexagonal form, is in some specimens seen within the crystal. The sapphire ranks next to the diamond in hardness. The sapphire is used in the jewelling of watches ; the oriental ruby, of fine colour

and free from flaws, is more valuable than a diamond of equal weight. In Mr. Hope's collection is a blue sapphire which cost £3,000. Sapphire occurs in Ceylon, in dolomite. A piece dug out of alluvium near Ratnapoora, in 1853, was valued at £4,000. In Burmah, sapphires are found in the same earth with the rubies, but are much more rare and are generally of a larger size. Sapphires of ten or fifteen rutti without a flaw are common, whereas a perfect ruby of that size is hardly ever seen. The value of the gems, rubies and sapphires, obtained in a year may be from 1¼ to 1½ lac, from £12,000 to £15,000. Dr. Helfer writing from Mergui says "a Karen informed him that precious blue stones are to be had, which the Shan people collect and carry to Bangkok. He described the place as eight days' distant, and did not know whether it was British or Siamese." The green sapphire, or oriental emerald gem, is often seen for sale among the Burmese. The red sapphire, or ruby, or oriental ruby, is brought from Burmah, where it is found with the common blue sapphire, probably in the valley of the Salwen. The Burmese call it by the same name that they do the precious garnet, and do not appear to be always able to distinguish them. The violet sapphire, or oriental amethyst, is found in the same localities as the common sapphire. Corundum sapphire, ruby, emerald and topaz are found in great abundance in the peninsula of India but not with sufficient translucence to be valuable as precious stones. Some small fragments of sapphire and of spinel, with the matrix in which it occurs, were exhibited from Masulipatam. Sapphires, in colour, vary from white to the deepest blue and black, but stones are often of varied hues. If held in water, with forceps, these coloured and uncoloured stones will be seen. A very good blue sapphire of one carat weight would bring £20. The white sapphire is sometimes sold as a diamond. The adamant described by Pliny, in the opinion of Professor Tennant, was a sapphire, as proved by its form, and by the fact that when struck on an anvil by a hammer it would make an indentation in the metal. A true diamond, so treated, would fly into a thousand pieces. Sapphire (sapphirus) with the ancients, was a generic term for all blue gems. The sapphire of the Greeks and Romans is described as intermixed with gold but, according to Mr. Emmanuel, that of Scripture was a transparent blue stone.—*Emmanuel*; *Eng. Cyc.*, *p.* 151 ; *Tomlinson* ; *Mason*.

SAPPHIRINE is calcedony tinged with pale blue.

SAPPHIRINE GURNARD. Cuvier mentions that, in India, there are species allied to Trigla hirundo the sapphirine gurnard.

SAPPHIRUS, Lat. Sapphire.

SAPPRAH MARAM, Tam. Bixa orellana.

SAPRIA GRIFFITHII, a plant closely allied to Rafflesia, which was discovered in the Assam mountains by Griffith, is the most remarkable form known to occur there.

SAPROTRI, Hind. Saxifraga ligulata.

SAPTHAPATHINAM, see Hindoo.

SAPULOBUA BANDER, see Johore.

SAPUN, a river of Baitool.

SAPUSUND, Beng. Amberboa moschata.

SAR, Hind., Pers., the head, often employed to form compound words, Sardar, a chief; Sar-kar, a government, a head servant; Sarhad, a boundary; sarrashtadar, the head of a department ; Sar-band head-binder, is the source of the turban, the s being changed into t.

SAR, Hind., see Sarkara.

SAR, or Ser, Hind., a grass, Imperata koenigii.

SAR, also sara, Hind. Saccharum sara.

SARA, Sarah, wife of Abraham.

SARA, Hind. Picea webbiana.

SARABAITES, see Math.

SAR, Baluch, the northern Indus, from the junction of the Punjab rivers to the town of Sihwan. It is also a Slavonic word. Gatterer and Niebuhr mention that Sauromatæ means northern Medes, and north of the Caucasus were the province and tribe of Siracene.—*Elliot, Hist. of Hind.*

SARABAS, see Kyan.

SARACEN, see Acre, Kasr, Semitic races.

SARACEN CORN, Fagopyrum *sp.*

SARAF, Hind. A money changer or banker.

SARAHI, an affluent of the Beas river.

SARAI, the capital of the khans of Kapchak, founded by Batu : it stood on the left bank of the Achtuba or northern branch of the Wolga.—*Yule Cathay*, i, *p.* 231.

SARAI, Hind. A caravansery, a building for the shelter and accommodation of travellers.

SARAI, Tel. Arrack.

SARAIAM, Tam. Arrack.

SARAIN, see Burabur Caves.

SARAIRI, Hind. Amarantus anardana.

SARAKHS, an ancient city of Khurasan, situated about mid-way or six days' journey, between Merv and Naishapur.

SARAKONTAY, Tam. A wood of Tinnevelly, of a whitey brown colour, used in building in general.—*Col. Frith.*

SARAKOONNAY, Tam. Cathartocarpus fistula.

SARALA DEVADARU, Tel. ? Berrya ammonilla, *Roxb.*

SARA-KUPA, or the Arrow Fountain, has been identified with Sarwanpur.

SARAN, a revenue district of Bengal, formed out of the ancient Bahar.

SARANA STUPA, or Asylum Tope, at Chapra in Saran.

SARANG, Hind. Nymphœa pubescens.

SARANGA DEVA, see Orissa.

SARANGÆAN. Those soldiers composed part of the army of Xerxes ; they were dressed in splendid and varied coloured habits, and armed with bows and javelins. They were the Euergetæ of the Greeks, a title bestowed on them by Cyrus, in gratitude for the relief which they afforded him, on his return from an unsuccessful expedition into Scythia.—*Kinneir's Geographical Memoir, p.* 189.

SARANG-BURUNG, Malay. Edible bird-nests.

SARANGI, a stringed musical instrument of hindoos and mahomedans.

SAR-A-PA, Pers. A suit of garments presented by mahomedan princes to those whom they intend to honour ; literally from head to foot.

SARAPH, see Serpent.

SARAPHAN, the dress of female peasants.

SARA-PAPPU, Tel. Buchanania latifolia, Sarapappu nunai, its oil.

SARAR, Hind. Saccharum sara.

SARAS, Duk. Cupressus glauca, also Cupressus sempervirens, *Willde,* also Acacia sirissa.

SARAS, Hind., also Surhuns, Grus antigone, the tall Saras is found all over British India : they may be seen in pairs now plunging their bills into the shallow waters, now scattering pearly drops from their throats. The natives of India strongly object to shooting these birds, about which they have a multitude of curious stories. There is a prevalent idea that if one of a pair be killed, the survivor never fails to die of a "broken heart."—*Burton's Falconry, Valley of the Indus, p.* 58.

SARASHTRA. According to Hwen Thsang, the province of Su-la-cha, or Suratha was a dependency of Balabhi. Its capital was situated at 500 li or 83 miles, to the west of Balabhi, at the foot of Mount Yeu-chen-ta, or Ujjanta. This is the Pali form of the sanscrit, for Ujjayanta which is only another name for the Girinar hill that rises above the old city of Junagarh. The name of Ujjayanta is mentioned in both of the Girinar inscriptions of Rudra Dama and Skanda Gupta, although this important fact escaped the notice of the translators. The name of Surath is still known in this part of the peninsula, but it is confined to a comparatively small tract, which forms one of the ten divisions of Gujarat. In the time of Akbar, however, it was applied to the southern or larger half of the peninsula, which, according to Abul Fazl, extended from the port of Ghoga to the port of Aramroy, and from Sirdhar to the port of Diu. The name of the district is also preserved by Terry whose information was obtained at the Court of Jehanghir. According to his account the chief city of Soret was called Janagar, that is, Javanagarh, or Jonagarh.—*Cunningham's Ancient Geography of India, p.* 325.

SARASWATI, a branch of the Caggar river near Thanesur. The Saraswati mentioned in the Vedas (vol. 3, p. 504) as breaking down the precipices of the mountains, fierce, mighty, vast, impetuous, overflowing her banks, "having seven sisters" evidently points to one of the great confluents of the Indus river, and probably the Ravi, the ancient Iraotes, that is Ira, (or Arya-vati) and in the Vedas the people of the Punjab are invariably termed Saraswata. In the Vedas, heaven, earth, (Aditi and Pritivi) and ocean, are rarely invoked, and the sun has comparatively few sakta. Occasional laudations are given to rivers, especially to Saraswati ; and this nature-worship extends so largely as to embrace the cow, the wood used in the oblations, and even the "yapa" or sacrificial post. On the banks of the Caggar Saraswati, the Arian race came into contact with others, caste became recognised, but their descendants on the banks of that river have never adopted the high hinduism of the brahmins of the Gangetic valley, and continue agricultural. The Saraswati branch of the Caggar, however, seems to have been at one time, a fine river flowing through a well watered and green country. There are traces of its former course all the way to the Indus, and ancient Hindoo history is corroborative of this view ; it is now merely a dry bed which is filled by surface water at the rains, and the countries through which it flowed are for the most part desert and barren. The Triveni or three plaited locks, in hindoo mythology, is the mystical union of the three sacred rivers, the Ganges, Jumna and Saraswati, severally the consorts, or energies, of the three great powers, Siva, Vishnu, and Brahma. Triveni, or the three plaited locks, is a mythological junction—a female triad, similar to that of the Trimurti of male powers. The Gunga or Ganges, Yamuna or Jumna, join near Allahabad, and the Saraswati, now a dry bed, is also supposed to join the other two underground. A hindoo dying near the imagined confluence of these three streams, or even those of the Gunga and Yamuna, attains

immediate beatitude, consequently self or self-permitted immolation, suttees, &c., are meritorious on this peculiarly holy spot. The junction of the three waters at Allahabad is a sacred prayag, and an annual mela is held in March for purposes of ablution. Junctions of any sort, especially of waters, are held sacred by hindoos, and above all, the union of the sacred rivers, Ganga and Yamuna or Jumna near Allahabad, the latter river having previously received the Saraswati below Delhi, so that, in fact, all three do unite at this famed sangam or confluence. But the hindoo poet, feigns a subterrene flow of the Saraswati, and a mystical union at the sacred point, where bathing is deemed peculiarly efficacious, and where zealots are persuaded that suicide is of a most meritorious description. Major Moor, once saw, at Poona, a well modelled group in clay, where Rad'ha's locks, tripartite, were plaited into the mystical Triveni by the amorous Krishna, who sat rapturously admiring the work of, and in, his hands. Other rivers are, however, held sacred by the hindoos, viz., the Godaveri, the Sindhu or Indus, the Krishna or Kistna and the Brahmaputra.—*Campbell, p.* 62-63 ; *Tr. of Hind., Vol.* i, *p.* 15 ; *Cole., Myth. Hind., pp.* 394, 398 ; *Moor, Hindoo Pantheon, p.* 429. See Brahma or Hiranyagharbha, Chandra, Inscriptions, Krishna, Lakshmi, Mahadevi, Osiris, Sacta, Satarupa, Triveni, Vahan, Vina.

SARASWATI, a hindoo goddess, the wife, or sakti, or female energy, of Brahma, is analogous in western mythology to Minerva, the patroness of learning, &c. The fifth day of the month Magha is called Sri-panjami, on which Saraswati or Sri, the goddess of arts and eloquence, is worshipped with offerings of perfumes, flowers, and dressed rice : even implements of writing, and books, are treated with respect, are not used on this holiday, and are presented to the image of this goddess. Saraswati is, among other deities, especially propitiated in the marriage ceremonies of the brahmans : the following hymn is chanted in her honour :—"Charming Saraswati ! swift as a mare, whom I celebrate in the face of this universe, protect this solemn rite. O thou ! in whom the elements were produced, in whom this universe was framed, I will now sing that hymn," (the nuptial text) "which constitutes the highest glory of women." Viswadeva, like Serva-deva, means the gods collectively : all the gods ; the Pantheon. "One oblation to the assembled gods, thence named Vaiswadeva, both for evening and morning." Saraswati is the goddess of learning, music, and poetry, is the wife of Brahma. Saraswati is also called Brahmi, or Brahmini, the goddess of the sciences ; and Bharadi, the goddess of history. She is sometimes seen as a white woman standing on a lotus, or water-lily, holding a lute (or vina) in her hand, to show that she is also the goddess of music ; at others, riding on a peacock, with the same emblem in her hand. Although the worship of Brahma has fallen into disuse, the annual festival of Saraswati, in the month Magha, is highly honoured. In the Pantheum Mythicum of Pomey, which formerly belonged to the late Sir William Jones, and is referred to by him in his dissertation on the gods of Greece, Italy, and India, he has, in various marginal and other notes, compared the deities of these several mythologies as follow :—

Siva, Indra	Jupiter.	Rama	Bacchus.
Brahma	Saturnus.	Bala Rama	Do. as the inventor of the use of wine.
Yama	Minos.	Skanda	Mars.
Varuna	Neptunus.	Durga	Juno.
Surya	Sol.	Suraswati	Minerva.
Chandra	Lunus.	Remb'ha	Venus.
Vayu	Æolus.	Ushasa	Aurora.
Viswakarma	Vulcan.	Swaha	Vesta.
Aswinicamara	Castor and Pollux.	Prit'hivi	Cybele.
Ganesha	Janus.	Sri	Ceres.
Pavana	Pan.	Gopyah, Vidyah	Musæ.
Viraja, or Vaitarini.	The River Styx.	Atavi Devi	Diana.
Kuvera	Plutus.	Aswiculapa	Genii.
Krishna	Apollo.	Heracula	Hercules.
Nareda	Mercurius.		

—*Colebrooke, As. Res., Vol.* vii, *p.* 303 ; *Moor, Hindoo Pantheon, p.* 128 ; *Cole. Myth. Hind., p.* 10 ; *Menu, ch.* iii, v. 121.

SARASWATI AKU, TEL. Clerodendron viscosum, *Vent.*

SARATNI, SANS. Ell.

SARAWAK, in Borneo, is situated in a bay to the eastward of Point Api, at the foot of a range of mountains from one thousand five hundred to three thousand feet high, extending towards the interior of the island. The Sarawak government have acquired the coast territory from Cape Datu to the river Barram. The banks of the river of Sarawak are everywhere covered with fruit trees, the mangosteen, lansat, rambutan, jambou and blimbing are all abundant, but the Durian is most so and most esteemed. A beautifully resplendent sand, the particles of which resemble amethysts and topazes, and which is used in the adulteration of gold dust, may perhaps be thought to indicate the vicinity of other gems : it is found at Lingah, a branch of the great Batang Lupar river, not far from its mouth. Sago is manufactured at Muka, and antimony at Basein in Borneo.—*Low's Sarawak, p.* 29 ; *Wallich, p.* 75. See Archipelago, Borneo, Kyans.

SARAWAN, HIND. Pistacia integerrima.

SARAWAN, a province in Beluchistan.

The great central mountain range or table land running north and south comprises the provinces of Sarawan, Jhalawan, and Lus. See Beluchistan, Kelat.

SARB, also Ghas, HIND., Bupleurum marginatum.

SARBASHTAI, HIND., PUSHTU. Spiræa lindleyana, S. hypoleuca, S. callosa.

SARCOCLINIUM HOOKERI, *Thw.*

Maha-bairoo-gass, SINGH.

A moderate sized tree near Eknalagodde, in the Ratnapoora District of Ceylon, at no great elevation.—*Thw., En. Pl. Zeyl., p.* 279.

SARCOCLINIUM LONGIFOLIUM, *W. Ic.*

Bairoo-gass, SINGH.

A tree of the Central Province of Ceylon, growing at an elevation of 4,000 to 6,000 feet. The leaves are of a firm consistence, do not rapidly decompose, and are used by the Singhalese for thatching.—*Thw., En. Pl. Zeyl., p.* 279.

SARCOCOCCA PRUNIFORMIS, *Lind.*

S. trinervia, *Wight Ic.* | Shial; Shila, HIND.

A tree of the Central Province of Ceylon, very abundant at an elevation of 5,000 to 8,000 feet. It is extremely variable in the shape of the leaves, which differ from nearly orbicular to narrow-lanceolate acuminated.—*Thw., En. Pl. Zeyl., p.* 290.

SARCOCOCCA TRINERVIA, or Neilgerry Box-wood tree, very common on the Neilgherries; wood hard, durable, might be used as common box-wood in the Arts.—*McIvor, M. E. J. R.,* 1857.

SARCOCOLLA.

Anzarut,	AR.	Unjirut,	AR.
Unzirut,	„	Runjudeb,	PERS.

A sub-acid, sweetish, and somewhat nauseous, gum resin, produced in North Africa, Persia and Arabia, by several shrubs, the Penæa sarcocolla, Penæa mucronata and other species. It is yellow, or reddish, like gum arabic, in oblong globules, the size of a pea or of grains of sand, friable, opaque or semi-transparent, softening but not melting by heat; sp. gr. 1268. Sarcocolline is half transparent, crystalline, brittle, like gum, soluble in 40 parts of cold water and 25 of boiling water, soluble also in alcohol. Odour weak and peculiar, taste saccharine and slightly bitter; composition, carb. 22, hyd. 19, oxy. 10, atoms. Sarcocolla was once deemed a powerful healer of wounds σαρξ flesh, and κολλα glue), but this idea has been long abandoned. It is rarely met with in India, and then only brought from Persia and Arabia. Mesure regarded it as cathartic.—*O'Shaughnessy, p.* 427; *Powell, p.* 408; *Faulkner.*

SARCOSTEMMA, a genus of plants of the order Asclepiaceæ of which S. acidum, S. brevistigma, S. brunonianum, S. intermedium and S. viminale, occur in India. The name is (from σάρξ, flesh, and στέμμα, a crown, in reference to the leaflets of the inner corolla being fleshy). The genus has a rotate corolla, a coronet of double stamens: the outer one cup-shaped or annular crenated, the inner one 5-leaved, higher than the outer one, with fleshy segments; the stigma is nearly blunt; the follicles slender and smooth and the seeds comose.

SARCOSTEMMA ACIDUM, *W. Contr.*

S. brevistigma, *W. Contr.* | Asclepias acida, *Roxb.*
S. viminale, *R. Br., Wall.* | „ aphylla, „

Brami, Shomluta,	BENG.	Pullatige,	TEL.
Som,	DUK.	Soma luta,	„
Soma,	HIND.	Tige jemudu.	„
Muwa kiriya,	SINGH.		

This leafless plant grows in rocky sterile places, in the Peninsula of India, about Coromandel, Khandesh, Bombay, Perim, Loony, between Dowlatabad and the upper Godavery, throughout the Dekhan and in Bengal, Poona, Bolan Pass, Panjab, Rohilcund. The plant yields an abundance of a mildly acidulous milky juice, and travellers suck its tender shoots to allay thirst. A bundle of the twigs with a bag of hard compressed salt if put in the trough of a water course so that the waterflow may become impregnated, will destroy white ants. This is the Soma or Som of the Vedas, and it obtained this name from the ancient hindoos because they gathered it by moonlight, carried it to their homes in carts drawn by rams, and a fermented liquor was prepared by mixing its juice strained through a sieve of goat's hair, with barley and ghee. This wine was drunk at all their religious festivals, and was used by the Rishi as an intoxicant. The Rishi continued it at their meals with beef. The Rig Veda, ix, says, the purifying Soma like the sea rolling its waves, has poured forth songs, and hymns and thoughts.—*Roxb.*; *W. Ic.*; *Voigt*; *Birdwood.*

SARCOSTEMMA ANNULARE *Retz.,* Syn. of Holastemma rheedii, *Spr.*

SARCOSTEMMA GLAUCUM. Glacous-leaved Sarcostemma, is a lactescent, smooth twining, herbaceous plant.—*Eng. Cyc.*

SARCOSTEMMA VIMINALIS, *Wall.*

S. brevistigma, *Wight.* | Som, DUK.

A leafless plant, resembling the Euphorbia tirucalli; flowers white in the rains, the natives tie the stems up in a bundle and place them in the watercourse of their wells for the purpose of preventing the attack of white ants.—*Riddell.*

SARCOSTIGMA KLEINII. Its oil, long known under the name of Poovana and Poovengah, is used largely on the western coast,

of the peninsula of India, as an external applicant in rheumatism.—*M. E. J. R.*

SARD, a reddish coloured quartzose mineral supposed to be a kind of cornelian or chalcedony.

SARDA, HIND. Cucumis melo, *Linn.*, *W. & A.* A very superior kind of melon brought from Kabul, &c., to be met with in Peshawur.

SARDA, HIND. Cool.

SARD-AE, PERS., an underground room which the people of Baghdad occupy in the hot weather; except in British India most houses in the hot countries of the east are provided with subterranean chambers, called sardab (literally cold water) to which the family retire during the heat of the day. They are often furnished with the greatest luxury, and their refreshing coolness is increased by the play of fountains, and punkahs or large fans hung from the ceiling. This is the favourite place for the ladies afternoon siesta.—*Ed. Ferrier Journal, p.* 292.

SARDAI, HIND. In dyeing, a colour of ripe melons, made with tun flowers, yellow, and a faint shade of kussumba.

SARDINAPALUS, brother of Samoges; the dominion of the Ninyads of Babylon, ended with the death of Sardanapalus, who burned himself at Nineveh, in his palace, B. C. 662, in which year occurred an inroad of Scythians into the south of Asia. Sardanapalus had held his court at Nineveh, at his death, two of his late viceroys, Arbaces, governor of Media, and Belesis, governor of Babylon, partitioned the empire between them: Arbaces receiving Media, with its dependencies, and Nineveh, for his portion, removed from the seat of his late government to that great city of Assyria, and hence took the title of king of Assyria. Meanwhile, Belesis remained at Babylon, in the midst of the wide territories of Chaldea, &c., and began the race of Babylonish kings. Arbaces, king of Assyria and the Medes, was the Feridoon of the Persian writers, and the Tiglath-pileser of Holy Writ, who, in his war with Pekah, king of Israel, carried away the first captives of that nation, who were brought to the east. This event happened about 639 years before Christ. —*Porter's Travels, Vol.* i, *p.* 95. See Babylon, Nabopolassar, Nineveh.

SARDINE, ENG., FR., IT.

Sardellen, GER. | Sardinas, SP.

The sardine fish of commerce is found in the Mediterranean where its fishery employs a great number of people. In the Asiatic seas there are fishes of the same or allied genera; on the Ceylon coasts, Sardinella neohowii, *Val. and Cuv.* of which great numbers are eaten and the S. leiogaster, *Val. and Cuv.* Engraulis meletta? is a small fish of the herring family at Tavoy and Mergui, which is nearly related to the common sardine. Sir J. E. Tennent mentions as Ceylon fish, Cybium (Scomber, *Linn.*) guttatum; mackerel, carp, whitings, mullet, both red and striped, perches and soles as abundant, Sardinella neohowii, *Val.* frequents the southern and eastern coast in such profusion that in one instance in 1839, four hundred thousand were taken in a haul of the nets in the little bay of Goyapanna, east of Point de Galle. As this vast shoal approached the shore, the broken water became as smooth as if a sheet of ice had been floating below the surface. S. lineolata, *Cuv. and Val.* and the S. leiogaster, *Cuv. and Val.* are found at Trincomallee, also off the coast of Java. Another Ceylon fish of the same group, a Clupea, is known as the "poisonous sprat." The sardine has the reputation of being poisonous at certain seasons, and accidents ascribed to eating it are recorded in all parts of Ceylon. Whole families of fishermen who have partaken of it have died. Twelve persons in the jail of Chilau were thus poisoned, about the year 1829; and the death of soldiers have repeatedly been ascribed to the same cause. An order passed by the Governor in Council in February, 1824, after reciting that "Whereas it appears by information conveyed to the government that at three several periods at Trincomallee, death has been the consequence to several persons from eating the fish called Sardinia during the months of January and December," enacts that it shall not be lawful in that district to catch sardines during these months, under pain of fine and imprisonment. This order is still in force, but the fishing continues notwithstanding. The poisonous fish of this family which occurs in the Asiatic seas, is however, the Meletta venenosa.—*Tennant's Sketches of the Nat. Hist. of Ceylon, pp.* 234-235; *Mason*; *Journ., Ind. Arch.* See Clupeonia.

SARDIUS, in the breast plate of the Jewish high priest; any precious stone of a red hue was supposed by the Jews to be a preservative against the plague, and amongst the Arabs, to be useful in stopping hæmorrhage.

SARDONYX, a quartzose mineral. The sardonyx is rarely seen in use in India.

SARD-SAIR, PERS., a term in use amongst the nomade races of Persia, to indicate the locality to which they drive their herds in summer; the garm-sair is the winter quarters. In the South of Persia, a huge wall of mountains separates the garm-sair, or low region, from the sard-sair. Sard-sair signifies the cold region, but it is also termed the Sarhada, a word literally signifying

"boundary or frontier," but generally applied to any high land where the climate is cold as on the high table-land of Persia. One of the most conspicuous of these, is an abrupt lofty hill, named Hormooj, where coal occurs.

SARDULA VARMA, see Inscriptions.

SAREBAS DYAK, see Kyan.

SAREDA TILAKA, in a monologue of later date than the play of Mrichchakati, which was of the 1st century of the Christian era, but still of comparative antiquity, there is a curious and amusing description of the various women of India, distinguishing each by her nationality, if such a term be allowable; but the author fails of expressing anything definitive.

1. There goes the maid of Gurjara (Guzerat,) blooming as with perpetual youth, having eyes like the chakōra, of the complexion of the yellow Rochana, and a voice musical as that of the parrot. She wears anklets of silver, large earrings set with pearls, and her bodice is buttoned below the hips with gems.

2. The matron of Maharashtra proceeds yonder, her forehead stained with saffron, and with silver chains upon her feet; she wears a coloured veil, and a girdle round her loins.

3. A Chola female (South of India) approaches, whose cheeks are tinted with saffron, and whose dress is embroidered with the buds of the lotus.'

The bodice which buttons below the hips, is unknown at the present day, either in Guzerat or elsewhere in India; and as no single cloth; as a scarf, or the present sar'hi could be buttoned, we can only presume that the garment was cut out and sown in the fashion of a long tight-fitting robe, as in use among Persian women of the present time.—*Dr. Forbes Watson.* See Tantra.

SAREE, HIND. See Sarhi, Cotton Manufactures.

SAREI, HIND. Abies smithiana.

SAREMA, see Khuzistan or Arabistan.

SARERA, HIND. Amarantus anardana.

SARGAL, HIND. Pangi fraxinus, P. xanthoxyloides, Crab ash.

SARGARRA, HIND. Cymbopogon iwarancusa.

SARGASSUM BACCIFERUM, or Gulf weed covers all the gulf stream from L. 22° to 36° N., and L. 35° to 65° W.

SARGASSO SEAS, from Sargasso Sp. weed, Midway in the Atlantic between the Azores, Canaries, and the Cape de Verde islands, are vast masses of the Fucus natans, Oviedo calls them Praderias de Yerva. Fucus natans or the Sargasso gulf-weed, is found in large masses between the parallels of 18° and 34 of north latitude, and its utmost eastern lim extends to 36° E. L. It is of a greeni yellow colour, is abundant on the Florid reefs, but continues to vegetate as it floa about in the circular currents after it ha been torn from its attachment. The masse give shelter to a great number of fish, mo lusks and crustacean animals. Fucus natan is the common Gulf weed, which travellers, t and from India, meet with in the Atlantic.

SARGUJAH. The Gour race on the eas of the Gond, extend into the borders o the Chota Nagpur agency in Udipur and Sar gujah. They are the dominant tribe in Sar gujah and the Sargujah rajah is supposed t be a Gour though claiming to be a rajpoo They are much hinduised.

SARHAD is occupied by tribes of Koord —*Pottinger's Travels, Beloochistan an Sinde, p.* 140.

SAR'HI, HIND.

Shiali,	CAN.	Pudawi,	TAM
Lugra,	MAHR.	Chira,	TEL.

The sarhi is the lower garment worn by the hindoo and non-Aryan women in India. Viscountess Falkland describes a group of women, with their heavy anklets, 'making a tinkling with their feet, (Isaiah iii, 16) each with their sarhi folded over their heads and persons, and carrying little chubby children on their shoulders, or astride on their hips; and now these are lost to sight, and a fresh group appears, consisting of hindoo women of various castes, clothed in jackets and the sarhis of divers colours, and wearing the 'chains and the bracelets,' 'the earrings, the rings and the nose jewels.' (Isaiah iii, 19 and 21.) One end of the sarhi forms a very voluminous kind of skirt or petticoat, the other end is drawn over the head and shoulders, somewhat in the style or form of a Maltese faldett This sarhi is, in fact, the national costume almost all hindoo women. The mahomedan in India, in Hyderabad in the Dekhan, Oud and Rajpootana, the N. W. Provinces, and t Punjab wear the voluminous petticoat intr duced by the mahomedans; it is worn by a mahomedan women and by many hindoo w men whether secluded or otherwise; but thi practice is confined to those provinces of Indi and is almost unknown from Rajpootana south wards to Cape Comorin: and Bengal an Orissa also adhere to the ancient nation costume and this article of woman's dre only varies with local taste as to colou length and breadth, and fineness or closene of texture. There is no female costume mor elegant than a sarhi. It is an entire cloth, i many cases eighteen yards long and abou a yard broad; and the texture varies from th finest and most open character of muslin i

Bengal and the south of India, to the still fine but closer texture of the Deccan, Central India, and Guzerat. Sarhis are of all qualities, to suit the very poorest as well as the very richest classes of society the ordinary labourer and the princess and are obtainable for two shillings each up to one hundred pounds of value. In the manner of tying and wearing this garment there is little differences anywhere. The cloth, which has one plain end, is passed round the loins, and the upper border tied in a strong knot ; the cloth is then passed two, three, or even four times round the waist, to form a petticoat, which, if the sarhi be a proper breadth, reaches to the ground. A portion is then plaited neatly into folds and tucked in before, so as to hang down in front to the instep, or even lower. The remainder of the cloth is passed across the bosom over the left shoulder and head, on which it rests, the ornamented ends falling partly over the right arm below the waist. In the south of India, however, the end does not pass over the head ; it is drawn tightly over the left shoulder and bosom, and tucked into the waist behind, or on the right hip. The ancient female costume of Egypt, a sarhi or single robe, appears to have been put on and worn in precisely the same manner without a boddice. Well-to-do women of the Deccan and the south frequently wear a gold or silver zone, according to their circumstances, which, passing over all, confines the drapery to the waist in graceful folds. This zone appears unknown to the northward, but in many cases it is beautifully wrought and extremely ornamental. The Sarhi are largely made of silk, in Benares ; but the multitude have them of cotton, some of cotton and silk, with borders of gold or silk. Each woman of a household usually gets a new sarhi once a year. The Mahratta women, and women engaged in labour often make the sarhi take a very ungraceful form by passing it between the legs, in which it assumes the appearance of tight trowsers.—*Viscountess Falkland, Chow-chow, p.* 7, *London* 1857 ; *Dr. Forbes Watson.*

SARHIND, an ancient Indian city.

SARI, HIND. Prunus armeniaca, or Armeniaca vulgaris, the Apricot.

SARI, also Sarri, SIND, a necklace of gold beads worn by hindoo mendicants.—*Richard F. Burton's Sindh, p.* 393.

SARI, an old city of Mazandaran, which is celebrated in the legends of Afrasiab. In the eighteenth century, there were still to be seen at Sari four ancient circular temples, each thirty feet in diameter and one hundred and twenty feet high. In the time of the kings of Persia, Sari had been the seat of an officer called the Great General of the East.—*Malcolm, p.* 42 ; *Yule, Cathay, Vol.* i, *p.* 88.

SARIARA, HIND. Amarantus anardana.

SAR-I-ARA, HIND. See Sil safed.

SAR-CHASHMA, the source of the Kabul river in lat. 68° 10′ E. and long. 34° 15′ N.

SARINDA, HIND., an Indian fiddle.

SARINDIGA, HIND. Cassia obovata.

SARINGHI, or lute, see Jogi or Yogi.

SARINGHIHA, see Jogi or Yogi.

SARIPUTRA : the new town of Rajagriha is said to have been built by king Srenik, otherwise called Bimbisara, the father of Ajatasatra, the contemporary of Buddha. Its foundation cannot therefore be placed later than 560 B.C. according to buddhist chronology. Fa-Hian makes Nalanda the birthplace of Sariputra, who was the right hand disciple of Buddha ; but this statement is not quite correct, as we learn from the more detailed account of Hwen Thsang that Sariputra was born at Kalapinaka, about half way between Nalanda and Indra-Sila-Guha, or about 4 miles to the south-east of the former place. The remains at Baragaon consist of numerous masses of brick ruins, amongst which the most conspicuous is a row of lofty conical mounds running north and south. These high mounds are the remains of gigantic temples attached to the famous monastery of Nalanda. The great monastery itself can be readily traced by the square patches of cultivation amongst a long mass of brick ruins, 1,600 feet by 400 feet.—*Cunningham's Ancient Geography of India, pp.* 467, 470. See Buddha.

SARIPHI, see Koh.

SARISHT, HIND. Glue.

SARJIKA, also Sarjikashara, HIND. Soda.

SARJU, see Hindoo.

SARKA, Sarkanda, Sarkara, HIND. Saccharum sara.

SARKANDA, HIND., a grass, a species of Saccharum, growing in moist places, the flower stalk of the moonj grass, S. munja.

SARKAR, HIND. ; A Government, the ruling power.

SARKARA, HIND. Saccharum spontaneum, a grass—the leaves or grass of Saccharum munja.

SARKARA, SANS. Sugar.

SARAKONNI MARAM, TAM. Cathartocarpus fistula, *Pers.*

SAR KACHU, BENG., water leaved caladium, Colocasia nymphaæfolia, *Roxb.*

SARL or Salla, HIND. in the Himalaya beyond Punjab, Pinus longifolia, long leaved pine.

SARLAKHTEI, HIND. Spiræa lindleyana, Andromeda ovalifolia.

SARMAL, TRANS-INDUS. Heteropogon contortus, *R. & S.*

SARMAN or Sraman, an ancient name of brahmins. See Shaman or Shamanism.

SARMATIA, name of wide range of country in N. W. Asia and N. Europe, from Mongolia through Siberia and the Crimea to Courland, Livonia and Prussia. Some of the Sarmatia races are now known as the Sclave. In ancient Sarmatia and modern Poland, trees and serpents were worshipped by the peasantry up to the limits of the nineteenth century. The last relic of the tree worship the Stock-am-Eisen, the apprentice tree, is still standing in the heart of Kenna. In Norse mythology, the Yggdrasil ash tree was represented with one of its roots over the well of knowledge and with a serpent, Nidhog, gnawing its stem. The tree in the centre of Eden, with the serpent, is amongst the oldest mentioned, of the tree and serpent together, and the Bo-tree of Ceylon was planted at least, B. C. 200. Abraham's terebinth at Mamre is mentioned by Eusebius, to have been worshipped down to the time of Constantine and is said to be still growing at Eshkol. Serpents are thrown into temporary catalepsy by pressure on the back of their necks. The figure of the serpent on the pole in Numbers xxi, 8 and 9, was the Caduceus of Æsculapius, and in Kings xviii, 4, the reformer king cut down the groves and broke the serpent, which Hezekiah mentioned, was preserved in the temple itself.—*Fergusson, Tree and Serpent Worship.* See India, Kartelania, Sanskrit, Saratha.

SARMON, HIND. of Spiti, a kind of barley.

SARMEI, HIND. Berthelotia lanceolata.

SARMUL, HIND. Astragalus multiceps.

SAR NAHANA, HIND. Bathing.

SARNAKASSARI MARA, CAN. Rottlera tinctoria.

SARNATH, a town in Hindustan: the Choukaudi, or Luri-ka-kodan is so called from the leap, from its top, of an Ahir, by the name of Luri. It is in the town of Sarnath, and is a lofty mound of solid brick-work, surmounted with an octagonal building. Hwen Thsang describes this tower to have been no less than 300 feet in height. In 1835, Major Cunningham excavated numerous buddhist images at Sarnath, near Benares, all of which had evidently been purposely hidden under ground. He found quantities of ashes also, and there could be no doubt that the buildings had been destroyed by fire. Major Kittoe, who subsequently made further excavations was of the same opinion. The budd'hist religion had evidently assumed the form of the heresy of a weaker party, who were forced to hide their images under ground, and were ultimately expelled from their monasteries by fire.—*Travels of a Hind., Vol.* i, *p.* 295. See India, Inscriptions.

SAR-NAT'H, a temple at Benares. Inscriptions on images of Buddha from the temple at Sarnath, at Benares, and on an image from Bakhra, in Tirhut are in sanskrit, but not pure. The date is after A. D. 800, and that of Sarnath, probably of the eleventh century. The character used in the inscription is more modern than Kanouj Nagari, approaching the modern character. The religion mentioned is buddhist, and the sages, Tathagata, Sramana Buddha. These inscriptions upon images of Buddha, are in a comparatively modern form of the Deva Nagari. They contain the quaint compendium of buddhist doctrines, commencing with Ye dharma hetuprabhava, &c.; but the Sanskrit text of the moral maxim has not been found in the Tibetan Pragna Paramita. These buddhist inscriptions in Sanskrit are most remarkable, showing at their late date that Sanskrit was still imperfect! The mounds and remains near Bakhra testify to a former buddhist city. From copper-plate inscriptions found near Sarnath it is conjectured the buddhist temple was erected by the sons of Bhupala, a rajah of Gaur, in the eleventh century. The image and inscription would probably be of the same date; and the character of the inscription corresponds to that date.—*Bengal As. Soc. Trans.*; *Vol.* iv, *pp.* 135, 181, 211 *&* 713.

SARNGAR, HIND. Rhododendron campanulatum.

SARO, BENG. Saccharum sara, *Roxb.*

SARO also Sarobij, HIND. Cupressus sempervirens, *Willde.*

SARON, HIND. Brassica campestris.

SARONG, JAV., MALAY. A piece of cloth, wrapped round the lower part of the body as a petticoat, also a cotton garment for men. Javanese women draw figures on their sarong, to express their thoughts and emotions. The sarong is worn by men and women, only that of a woman is deeper. The sarong when united is called a slendang; a woven or printed fabric imported into the Dutch ports of the Eastern Archipelago. There are imitation Battik sarongs, and Turkey red sarongs.—*Bikmore*; *Simmond's Dict.*

SAROSANTHERA LASIOPETALA, *Thw.*

Cleyara lasiopetala, *Wight Ill.* i, *p.* 99. | Eurya lasiopetala, *Gardner.*

A moderate sized tree, common in the forests of the Central Provinces of Ceylon at an elevation of 6,000 feet and upwards.—*Thw. Enum. Pl. Zeyl.*, i, *p.* 41.

SAROS, see Chronology.

SARPA, SANS. The serpent so called in Sanskrit because it was conceived under the general idea of creeping, an idea expressed by the word srip. But the serpent was also called ahi in Sanskrit, in Greek echis or echidna, in Latin anguis. This name is derived from quite a different root and idea. The root is ah in Sanskrit, or anh, which means to press together, to choke, to throttle. Here the distinguishing mark from which the serpent was named was his throttling, and ahi meant serpent, as expressing the general idea of throttler. It is a curious root this anh, and it still lives in several modern words. But in Sanskrit it was chosen with great truth as the proper name of sin. Evil no doubt presented itself under various aspects to the human mind, and its names are many; but none so expressive as those derived from the root, anh, to throttle. Anhas in Sanskrit means sin, but it does so only because it meant originally throttling,—the consciousness of sin being like the grasp of the assassin on the throat of his victim.—*Muller's Lectures, p.* 366.

SARPAKSHI CHETTU, TEL. Ophiorrhiza mungos, *O'Sh.*, 400. The Sans. syns. Naga suganda, *W.*, 459, and Nakuli, *W.*, 458—a plant—the ichneumon plant, a vegetable supposed to furnish the mungus with an antidote, when bitten in a conflict with a snake.

SARPAM, TAM., TEL., Serpent.

SARPAN, HIND. Calophyllum calaba.

SARPANKA, HIND. Calophyllum inophyllum, *Linn.*, also Tephrosia purpurea, also Celosia argentea.

SARPASHI CHETTU, TEL. Ophiorrhiza mungos.

SARPAT, HIND. Saccharum sara, also Saccharum procerum.

SARPATKA, or Sarphoka, also Sarphonka, HIND. Tephrosia purpurea.

SAR-PESH, HIND. A forehead jewel.

SARPUN, in Hundes, a Chinese officer, a captain of police. The Shib chid, is a Chinese official, in Hundes, residing in the province of Bood, a month's march from Gartok.

SARRA or Sarrah, TEL. A wood of the Kolla mallai, of a dark grey colour but appears to be readily attacked by the worm. —*Mr. Latham.*

SARRABAND considered the first of the Affghan tribes, they are termed by Mr. Elphinstone and Professor Dorn, Betnee, Botni, Baitni or Batini. See Sarriban.

SARRACENIA PURPUREA. This plant belongs to the natural order Sarraceniacæ, in which there are three genera, and eight species, of which six are confined to North America, one is peculiar to California and one is found in Guiana. There is no representative of the order in India. In the 'Lancet' for December 7th, 1861 appeared a paper by Assistant Surgeon Miles stating that during an epidemic of small-pox in Halifax, Nova Scotia, a squaw had administered an infusion of the root in numerous cases, the result in every instance being a perfect cure. Subsequent trials in London and Edinburgh Hospitals have not established the reputation of the drug as an ante-varioloid remedy. In an article on the Sarracenia purpurea in the January number of the 'Pharmaceutical Journal' Professor Bentley, says:—that hitherto when tried in this country Sarracenia has altogether failed to cure, or in any way modify, the progress of small-pox."

SARRAP, HIND., PSHTU. Taxus baccata; common yew.

SARRI, also Sarria, HIND. Brassica campestris, also Cicer soongaricum.

SARRIBAN TRIBES are Abdali, Tarin, Barech, Mabanah, Gharshin, Sirani, Babar, Kansi, Jamand, Katani, Kaliani, Turkani, Khalil, Muhmaud, Daud-Zoe and Yusufzoe.

SARRIS, MAHR., DEKH. Acacia odoratissima, *Roxb.*, *Willde.*

SARRU, HIND. Brassica campestris.

SARSAPARILLA, ENG., LAT.

Oshba, Muckwy,	AR.	Sarza,	LAT.
Ku-ku: Chin-a h'po,	BURM	Shariva,	SANS.
Salsepareille,	FR.	Erramasumul,	SINGH.
Sarsaparille,	GER.	Irimusa,	,,
Mugrabu,	HIND.	Zarzaprilla,	SP.
Salsapariglia,	IT.	Nunnarivayr,	TAM.

The word sarsaparilla is derived from the Spanish word zarza, a bramble, and parilla, a vine. The sarsaparilla in use in medicine is composed of the roots of various species of Smilax. S. officinalis, is a native of South America. Varieties of this root are also found in the South of Europe. East Indian Sarsaparilla belongs to the Hemidesmus indicus, it is abundant and cheap, partakes largely of the qualities of the true sarsaparilla, and is extensively employed as a substitute as also is S. China. Sarsaparilla is valued as a restorative to debilitated constitutions, but the medical qualities which it is said to possess are to be attributed rather to its general composition than to any distinct principles. S. aspera continues to be employed in medicine. S. officinalis, *H. B.* and *K.*, was discovered by Humboldt and Bonpland in New Granada on the banks of the Magdalena, in Columbia and in Minas Geraes. Its roots are taken to Cartagena.

S. Sarsaparilla, *Linn.* is a native of the United States of America; but it does not yield any of the sarsaparilla of commerce. S.

papyracea, *Poir.* (S. syphilitica, *Mart.* non *Humb.*) is a native of Brazil; its roots are collected by the Indians on the Rio Negro and other places in the vicinity of the Amazon river and they form the Salsa, Salsaparilla, Sarza, or Zarza, which is named the Sarsa of Maranhao, of Para, and of Lisbon; it abounds more than the other in Parigline. S. Syphilitica. *Willd.*, was found by H. and B. on the Rio Cassiquiare, in Brazilian Guiana. S. Medica, *Schlecht*, was found by Schiede on the eastern slope of the Mexican Andes. The roots are dried and exported from Vera Cruz. Dr. Hancock states that there is but one species which manifests to the taste any of the sensible properties of sarsaparilla; and this grows chiefly on the elevated lands of the Rio Imiquem, at Unturana and Caraburi; also that the Sarsa of the Rio Negro, which comes by way of Angostura or Para, is the best. This is probably yielded by the above S. papyracea. Several other species are, however, enumerated by Martius, as S. Japicanga, brasiliensis and also Herreria salsaparilha as employed for the same purposes. So S. Cumanensis the Azacoreto of the natives, S. Cardato-ovato of Poppig, S. Purkampuy, referred doubtfully to S. officinalis by Dr. Lindley, S. China yielding the China-root of the shops, long famed in the East Indies. S. China and S. sagittæfolia are said to come from the province of Onansi in China. Smilax pseudo-China, S. Sarsaparilla, S. rubens, and S. Watsoni, furnish the drug of North America. The sarsaparilla distinguished in commerce as the Lisbon or Brazilian is the root of S. papyracea of Poiret. Besides this species S. officinalis, grows in the province of Mina; S. syphilitica, grows in the northern regions, and three new species, S. sapicanga, S. brasiliensis, and S. sarsaparilla of India. The roots of Hemidesmus Indicus were sent to the Madras Exhibition of 1855 from almost every district, but they varied considerably in aroma, also a syrup and extract from the indigenous plant, growing at the foot of Courtallum hills. Dr. A. J. Scott forwarded a crystallized principle called "Hemidesmine," which was found on examination to be an entirely new substance, exhibiting a remarkable indifference both to acids and alkalies, crystallizing in a peculiar manner in hexagonal plates, which are subject to rapid efflorescence. The only ascertained solvents are alcohol and ether; it is perfectly insoluble in water, both cold and hot. These facts show that it is a substance of a very peculiar nature. The jury recommended that this preparation be fully tested in hospital practice, along with the extract and syrup prepared from the same plant. The Hemidesmus Indicus, and Ichnocarpus frutescens, both used as sarsaparilla, are common on the slope of the Neilgherries. When sarsaparilla is not obtainable, the China root, (S. China,) may be employed. An infusion of the Hemidesmus Indicus, (Ununtamul,) is a still better substitute for sarsaparilla. But as much of the virtues of the Ununtamul depend on a volatile principle, it should not be used in decoction, as the long boiling dissipates the active ingredient. Syrups of Hemidesmus and of China root are alterative and diuretic, and are used to sweeten the decoctions and infusions of the same articles. —*Tomlinson*; *Royle, Himal. Bot. p.* 383; *Simmonds*; *M. E. J. R*; *Beng. Phar. pp.* 279, 409.

SARASPARILLE, Ger. Sarsaparilla.

SARSAVA, Tel. Sinapis species.

SARSHAF, Saron Pji, also Rai, Hind. Mustard, S. juncea, Sinapis sinensis. Brassica juncea; B. campestris, &c.

SARSHAPA-TELAM, Sans. Mustard oil. Oil of Sinapis alba.

SARSON, Hind. Brassica campestris, rapeseed; jangli sarson, is sisymbrium iris, Kala sarson, also Tara-mira is Brassica eruca.

SARSOTE, properly Sarasvati, are brahmins found in considerable numbers, who aver that they were masters of the country prior to the Jit colonists. They are a peaceable, industrious race, and without a single prejudice of the order; they eat meat, smoke tobacco, cultivate the soil, and trade even in the sacred kine.

SART, Arabo-Hindi. A gig or buggy, corruption of Arabic "shart" a wager, a bargain, a horse race.

SART, the name applied by the Turks to the Tajik aborigines of Trans-oxiania. The Sart or Tajik from time immemorial have occupied the tract in Central Asia, which has as boundaries, Siberia, India, Persia and China. The Tajik is Iranian. He is met with in largest number in the khanat of Bokhara and in Badakhshan, but many have settled in the towns of Kokand, Khiva, Chinese Tartary and Affghanistan. The Tajik is of a good middle height, has a broad powerful frame of bones, and especially wide shoulder bones, but they diverge from the Iranian, they have the Turanian wider forehead, thick cheeks, thick nose and large mouth. The Tajik originally came from the sources of the Oxus in the steppe of Pamir. The term is from Taj, a crown, the fire worshippers head dress. But the Tajik does not so style himself and regards the term as derogatory. The Turks style the Tajik Sart. The Tajik is covetous, unwarlike, and given to agriculture and trade; fond of literary

pursuits and polished and it is owing to their preponderence in Bokhara that that city has been raised to the position of the head quarters of Central Asiatic civilization, for, there, from pre-Islamic times, they have continued their previous exertions in mental culture and, notwithstanding the oppressions which they have sustained from a foreign power, have civilized their conquerors. Most of the celebrities in the field of religious knowledge and belles letters, have been Tajiks, and at the present day the most conspicuous of the mullah and ishan are Tajiks, and the chief men of the Bokhara and Khiva court are Tajik or, as the Turks style the race, Sart. Vamberry considers the Tajik and Sart identical, but he recognizes that in their physiognomic peculiarities, the Sart differs greatly from the Tajik, being more slender, with a larger face, and a higher forehead; but these changes Vamberry attributes to frequent intermarriages between Sart men and Persian slaves.

SARU, or Sarv, HIND. Cupressus sempervirens, also Casuarina equisitifolia.

SARNESVARA, *lit.*, the lord over all, a name used for the true God by the Roman Catholics.

SARUG or Serug. The old name of Edessa, a district lying somewhat to the west of Rehi. It was the ancient Osroene. It was occupied by the race of Arphaxad, when they were no longer pastoral, after the Peleg. See Terah.

SARUNG, MALAY. The under garment of the Malay women; written sarong.

SARULMARA, CAN. Bauhinia purpurea, *Linn.*

SARUNGA, HIND. Phytolacca decandra.

SARURA, HIND. Butea frondosa.

SARUT, HIND. Saccharum sara.

SARV, PERS. Cupressus sempervirens, *Willde.* See Saru.

SARV KA JHAR, DEKHANI. Casuarina equisetifolia.

SARWALI, HIND. Celosia argentea.

SARWAN, HIND. Camel driver.

SARWARI, HIND. Celosia argentea, *Lin.*, *Rheede*, *Roxb.*, *W.*, *Ic.*

SARWYA or Sariaspa. Of this Rajput race, tradition has left us only the knowledge that it once was famous; for although, in the catalogues of the bard, it is introduced as the "essence of the Khetri race," we have only a few legends regarding its present degradation. Its name, as well as this epithet of the bard, induces a belief that it is a branch of the Aswa, with the prefix of sar, denoting 'essence,' or priority, also perhaps, northern. Silar or Sular in all probability, originated the epithet Larike, by which the Saurashtra peninsula was known to Ptolemy and the geographers of early Europe. The tribe of Lar was once famous in Saurashtra, and in the annals of Anhulwarra mention is made of Sid Rae Jey Sing, having extirpated them throughout his dominions. Sular or Silar, would therefore be distinctively the Lar. Indeed, the author of the Komarpal Charitra styles it Raj-tilac, or 'regal prince;' but the name only now exists amongst the mercantile classes professing the faith of Budha: it is inserted as one of the eighty-four clans. The greater portion of these are of Rajpoot origin.

SARZA, LAT. Sarsaparilla.

SASAFRAS, ARAB. A medicinal substance, the root of S. officinale, a shrub or tree of N. America, in its Southern parts. See Sassafras.

SASALADALA, SINGH. Literally the shaking leaf; one of the names of the bo-tree, the Ficus religiosa. Its leaves are almost constantly tremulous.—*Forbes' eleven years in Ceylon, Vol.* ii, *p.* 161.

SASANAM, HIND., SANS. A royal grant, usually on copper, sometimes on paper or on stone.

SASARKUND, is a pool in the Mahur jungle where the Pain-ganga is said to be engulfed. The Naikude Gond repair, there, in pilgrimage, at the month Chaitra, to a huge stone that rises in a gorge, and goes by the name of Bhimsen, before which the Naikude Gond mingle with Raj Gond and Kolam in worship. Towards evening, the worshippers cook a little rice, and place it before the god, adding sugar. Then they smear the stone with vermilion and burn resin as incense, after which all offer their victims, sheep, hogs and fowls with the usual libations of arrack, the pujari appears to be inspired, rolls his head, leaps wildly about and finally falls down in a trance, when he declares whether the god has accepted the services or not. At night drinking, dancing and beating tomtoms goes on, and in the morning they return home after an early meal. Those unable to leave home perform similar rites beneath a Mahwa tree.

SASASVATI, a goddess of the hindoos in the S. of India.

SASAVI, MALAY. Sinapis chinensis; Mustard seed.

SASIN, see Siva.

SASSAFRAS, ENG., FR., GER., LAT., SP.

Sasafras,	AR.	Sassafraso,	IT.
Cay-vang-di,	COCH.		

This medicinal substance, true Sassafras wood, is the root of Sassafras officinalis, the Sassafras laurel of North America. But, at the Madras Exhibition of 1855, the Jury remarked two specimens of wood, like Sas-

safras, both from Mergui, very fragrant, and containing an essential oil of value in medicine. Dr. Mason, indeed, says that a species of sassafras abounds in the Tenasserim jungles, which seems to possess all the properties of the sassafras of America. But he had never met with the tree in fruit or flower, and the leaf, he adds, shows that it is not the Sassafras officinarum ; in another place, he mentions that a species of laurus with the odour of sassafras, is, in Tenasserim, often used in house carpentry. It is probably the Camphora glandulifera, and Dr. O'Shaughnessy tells us that the Sassafras of Assam, is perhaps the bark of the Camphora glandulifera, *q. v.* It is fully equal to the American kind, and may be introduced accordingly, although its source is as yet not perfectly ascertained ; the root of Sassafras officinalis is used in medicine. The small wood is of a light brown, the large is darker ; both are plain, soft, and close. Sassafras-wood measures from 4 to 12 in. diameter ; it is sometimes chosen for cabinet work and turning, on account of its scent.—*Beng. Phar., p.* 279 ; *Dr. Mason, Tenasserim* ; *M. E. J. Rep.*, 1855 ; *Tredgold.*

SASDELLEN, Ger. Sardines.

SASSAFRAS OFFICINARUM, *Nees.*

Laurus sassafras, *Linn.* | Persea sassafras, *Spreng.*

A tree of N. America which has been introduced into India : it produces the sassafras bark and root used in medicine—*Voigt, p.* 309.

SASSAIS, Hind. Ærua bovii.

SASSANAM, Karn., title deed.

SASSANIAN KINGS of Persia. The following are the dates given in Dr. Smith's Dictionary, with Dr. Mordtman's latest determinations of the genealogical history of this race.

Smith. A. D.	Mordtman. A. D.		
226	226	(1)	Ardeshir Babegan bin Sasan, or Artaxerxes.
240	238	(2)	Shappuhr, Shahpur or Sapor, captured Valerian.
273	269	(3)	Hormuzd or Hormisdas.
274	271	(4)	Baharam or Varanes I.
277	274	(5)	„ „ II.
294	291	(6)	„ „ III, Segan Shah.
294	291	(7)	Narse or Narses, conquered Armenia and Galerius.
303	300	(8)	Hormuzd or Hormisdas II.
310	308	(9)	Shapuhr or Sapor II.
381	380	(10)	Ardeshir or Artaxerxes II.
385	383	(11)	Shapuhr or Sapor III.
390	389	(12)	Baharam or Varanus IV. Kerman Shah.
404	399	(13)	Yezdegird or Isdegirde I.
420	420	(14)	Bahram Gaur, or Varanes V. visited India.
448	440	(15)	Yezdegird or Isdegirde II.
458	457	(16)	Hormuzd or Hormisdas III.
458	458	(17)	Firuz or Perose, allied with Khakan of Huns.
484	485	(18)	Balas, Palash or Balasces.
488	491	(19)	Kobad or Caodes.
498	498	(20)	Jamasp (Kobad recovers Kingdom 502).
531	531	(21)	Khosru, Kesri (Nushirvan) or Chosroes.
579	571	(22)	Hormuzd or Hormisdas IV. deposed by his general Varanus VI. A. D. 590 : M. ; A.D. 591.
591	591	(23)	Khosru Parvez, Kesri or Chosroes II. put to death by
628	623	(24)	Kobad Shiruyieh or Siroes.
	629	(25)	Ardeshir III. Anarchy.
	629	(26)	Shariar or Sarbazas.
	629	(27)	Puran Dukht.
	631	(28)	Azermi Dukht.
	631	(29)	Ferokhzad Bukhtyar.
	632	(30)	Yezdegird or Izdegirde III. overthrown by Mahomedans 641.

This monarchy commenced in Persia, in the year 226 A.D. when Artaxerxes overthrew the Parthian dynasty, and it continued until itself overturned by the mahomedan khalifs in the year A.D. 632. The founder of the Sassanian dynasty died in 240. In his latter days a certain Arpog was king of China, one of whose sons, Mamkon by name, fled from home on account of a charge brought against him, and took refuge in Persia. The last race of the fire-worshipping monarchs of Persia was the Sassanian dynasty, commencing with Ardeshir Babegan, the descendant of Sassan, who expelled the Ashkawi, about A. D. 226. His son Shapoor obtained several important victories over the Romans, and at length captured the emperor Valerian.—*Prin. Ind. Ant. p.* 13 ; *Thomas' Prinsep, Vol.* I, *p.* 302 ; *Yule Cathay, Vol.* i, *p.* 84. See Khiraj, Kadesia, Greeks of Asia, India, Kara-oghlan, Khoosroo Parwez.

SASTRA, Hind. An order, a command, a scripture, a religious work, Dharma Sastra the Code of Manu or any book on law or science, religious books of the hindoos in general, and more especially certain philosophical systems, six in number.

SAT, Set, a grain measure of Siam, weighing 3⅝lbs. and holding about 3½ pints.—*Simmond's Dictionary.*

SAT. See Gayatri.

SATA. Minnagar or Manhabari, is the city Thatha situated in a low swampy valley, miles from the western bank of the Indus, d 4 miles above the separation of the gar, or western branch, from the Sata or in stream of the river. The site of Thatha elf is admitted to be modern, but those of innagar and Kalyan-kot are said to be of at antiquity. Lieutenant Wood remarks t the site of Thatha is so advantageous for mmercial purposes that it is probable that a rt has existed in its neighbourhood from earliest times.—*Cunningham's Ancient og. of India, pp.* 288-289.

SATADEVA, the youngest Pandava.

SATADRU, in position, corresponds almost actly with the large city of Sarhind. The esent ruins of Sarhind consists almost enely of mahomedan buildings of a late riod; but it must have been a place of some nsequence in the time of the hindoos, as it s besieged and captured by Muhammad ori, the first mahomedan king of Delhi. The me of Sarhind, or "frontier of Hind," or rhaps northern Hind, is popularly said to ve been given to the city at an earlier riod, when it was the boundary town tween the hindoos and the later mahomedan ngdom of Ghazni and Lahore. But the me is probably much older, and seems to an Northern India, as the astronomer araha Mihira mentions the Sairindha immeiately after the Kuluta, or people of Kullu, d just before Brahmapura, which according the Chinese pilgrim Hwen Thsang, was e capital of the hill country to the north of urdwar. But the geographical list of Vara Mihira is copied almost verbatim from that f the still earlier astronomer Parasara, who s believed to have flourished not later than the irst century after Christ. The town called Band, or Bando, was probably the contracted form of Bhatasthala, and General Cunningham is inclined to think that Sarhind must be the place indicated by the pilgrim as the capital of the ancient district of Satadru.—*Cunningham's Ancient Geog. of India, pp.* 145-147.

SATAN, an evil spirit, of the jews, christians and mahomedans. Shaitan, the Sathanos or Satan of Europe, was recognised by the Chaldees.

SATANI. A class of religious mendicants in Southern India, who worship Permalu, an incarnation of Vishnu. They perambulate the street morning and evening, and accept alms from all but the lowest castes, often exacting the same by threats of burning themselves with a lamp. They are a mendicant caste of Sudras, worshippers of Vishnu, practising music.

SATAPASPA, Sans. Aniseed, Pimpinella anisum.

SATARUPA is the wife of Brahma, (or the first Menu, or Swayambhuva,) and is declared to be the same with Prakriti, or Nature; a title generally given, not to Saraswati, the consort or sacti of Brahma, but to Devi, sacti of Mahadeva.—*Moor, p.* 127.

SATAS, see India.

SATASANDA, Singh. Aristolochia indica, *Linn., Roxb.*

SATAVARI, or Pillipichara, Tel. Asparagus racemosus, *Willd., R.* ii, *p.* 151.

SATA VIRYA, Tel. White dub-grass.

SATAWAR, Hind. Asparagus racemosus.

SATAWAR, Hind. Asparagus racemosus.—*Linn., Roxb.*

SAT BALON, Hind. Polygonum nepalense.

SAT BARGE, Hind. Cavagana tragacanthoides.

SAT BIROZA, Hind. Pinus longifolia.

SAT-DHARA, said to mean, literally "the hundred streams" is a group of buddhist topes on the left bank of the Besali river, just below the junction of the Ghora-pachar river. The topes are two miles W. S. W. of the small village of Ferozpur. See Bud'dha, Topes.

SATGARHA, an ancient city in the Panjab.

SATGHAR GROUP, see Karli.

SAT GILO, Hind. Tinospora cordifolia.

SATGURBA, see Burabur caves.

SATHAGATA, an appellation of Sakya. See Lama, Sakya muni.

SATHA-KUPPAI, Tam. Anethum sowa, *Roxb.*

SATHAM, Tam. Food.

SATHI, Sans. Curcuma zedoaria, *Roxb.*

SATHI, Hind., a variety of coarse rice having a red skin.

SATHI, Hind. Salvia plebeia.

SAT'HNAMI, a saiva sect who profess to adore the true name, the one God, but they nevertheless recognize the whole hindoo pantheon, and pay reverence to what they consider manifestations of his nature visible in the avatars, particularly Rama and Krishna. The Sad or Sadh, on the other hand, utterly reject all kinds of idolatry, are pure deists with a simple worship. Between these unitarian sects and such as adore every deity, there is the utmost diversity of theory and practice. The Sathnami of Raepore and Belaspur have been inclined to accept christianity.

SAT'HPURA, a range of mountains in Central India. Nothing can be a greater contrast than the desolate wilds and jungles of the western Sathpoora hills and parts of the country extending from them to the Vindhya with their savage inhabitants, the

Bheel tribes, who abhor field, or, indeed, any other manual labour, and the adjoining richly cultivated plains of Malwa, extending, with occasional intervening tracts of hill and jungle, from the Mhye on the west, to Bhilsa on the east, a stretch of close on 200 miles, and from the crest of the line of the Vindhya to Mundissore and Oomutwarra, a distance of from 100 to 120 miles, and populated by a thrifty, agricultural people. This is succeeded by the more hilly and jungly land of Oomutwarra, Seronje and Keechiwarra, with their scanty population. Northwards, towards Gwalior, the country becomes more open, except on the wild border tracts of Kotah of Bundlecund till we come to the carefully cultivated plain of Gwalior, stretching for a distance of 140 miles between the Chumbul, Pahooj and Sind rivers. A vast portion of Bundlecund is hilly and unproductive, forming the northern slope of the table-land of the Vindhya ; but the scenery is strikingly grand.—*Ann. Ind. Adm., Vol.* xi, *p.* 341. See Satpura.

SATHUNG of the Lepcha. Hystrix longicauda, *Marsden.*

SATI, SANS. Good, pure, hence Suttee, a good woman who immolates herself with the body of her deceased husband. The term is applied to a true and chaste wife. The ancient Aryan custom was to transfer a widow to the brother of the deceased. The Scythians killed the favourite wife in order that she might accompany her husband to the land of spirits. The Thracians slaughtered the widow—the next of kin destroying her at the grave of her dead husband. The burning or self-immolation of hindoo widows, with the bodies of their deceased husbands was generally done at the sangam or confluence of rivers. The Sankalpa, or declaration of the Sati, is as follows : Having first bathed, the widow dressed in new and clean garments, and holding some kusa grass, sips water from the palm of her hand : holding in her hands kusa and tila, she looks towards the east or north, whilst the brahmin utters the mystic word O'm. Bowing to Narayan, she next declares, on this month, (naming the time) I (naming herself and family), that I may meet Arundhate, the wife of the Rishi Vasistha and reside in Swerga —that the years of my stay may be numerous as the hairs on the human body : that I may enjoy with my husband the felicity of heaven, and sanctify my maternal and paternal progenitors, and the ancestors of my husband's family : that, lauded by the upsarasa, I may be happy through the regions of fourteen Indra : that expiation may be made for my husband's offences, whether he have killed a brahmin, broken the ties of gratitude or murdered his friend :—I ascend my husband's fune pile. I call on you, ye guardians of the ei regions of the world, sun and moon, air, f æther, earth, and water, my own soul ! Ya day, night, and twilight, I call you to witne I follow my husband's corpse to the fune pile.

The Danish north-men of Europe reta ed the recollection of the Sati, in the story Balder, one of the sons of Odin, who was sl by a branch of mistletoe, and Odin hims descended and obtained a promise from guardians of the dead, that Balder should restored if all created nature would weep him. All wept but one old crone whom L had possessed, so Balder could not be m to live again, and his faithful Nanna, refusi to survive her beautiful lord, perished on funeral pile. After much discussion, duri which raja Ram-mohun Rai made great effo in the cause of prevention, Sati was at l legally abolished in British India, by Lo William Bentinck, and though it is still occ sionally performed, all who engage in it severely punished. It is rare in Kashmir b still current in Bali. The first recorded S in the Mahabharata, was performed by Mad the second wife of Pandu, Kunti the elder w contested the point, but the brahmans w were present gave it in favour of Madri, w accordingly perished on her husband's fune pile. The idea of Sati, was connected wi a future state ; when the ancient Scythi buried a king, they strangled one of h concubines and buried her with him, togeth with his cup bearer, cook, groom, waiting ma messenger and favourite horses, (Herod, 71,) to serve their master in the next wor Amongst the Thracians with whom poligan prevailed the wife decided to be the be beloved was slain, by her next of kin, ov the grave of her husband (Herod, v, 5) a buried with him. On the occasion of burni the body of Kichaka, whom Bhima had sla to avenge an insult to Draupadi, the deceased relations wished to burn her with the bod but she was saved by Bhima. Just before t town of Dwarka was overpowered by a stor wave, king Vasudeva died, and four of h wives burned themselves on his funeral pi Krishna also was slain by a Bhil hunter, in t forest. Ayuna then conducted the flyi multitude to Kurukshetra where four Krishna's widows burned themselves, and t rest of the widows assumed the devotee dre and retired to the jungle.—*Colebrook in A Res., on the duties of a faithful wife, Vigne, p.* 87 ; *Dr. Vaughan, p.* 192 ; *Herod* iv, 71 ; v, 5. See Sat'hi, Suttee.

SATI, a hindoo goddess, Siva's first wife, a daughter of Daksha. "The gods whom

Sati contained in her womb, burst out; her limbs were scattered all over the world, and the places where they fell are become sacred. Her breasts fell near Jalandar in the Punjab; the yoni into Assam; and the guhya (podex) into Nepal, where they are most devoutly worshipped to this day: the last is a small cleft in a rock, with an intermitting spring; it is called Guhyast'han." The servants of Cuvera, the deformed deity of riches, are called Guhyaca; and into such beings the dark souls of men, addicted in this world to selfish gratifications, transmigrate.——*Wilford on Mount Caucasus, As. Res., Vol.* vi. *p.* 477; *Moor, p.* 108. See Inscriptions Hindoo Sati.

SATILLER, the half of a sooco in Bencoolen and some parts of the Eastern Archipelago.—*Simmond's Dictionary.*

SATIN, Eng., Fr.

Atlas,	Ger.	Atalas, Intalas,	Malay.
Raso,	It.	Setim,	Port.

A silken fabric manufactured in Europe.

SATIN SPAR, see Calcareous spar.

SATIN WOOD; the Swietenia chloroxylon furnishes this cabinet wood, well-known for its glossy yellow shades. It is hard and when polished, is very beautiful with a satiny lustre, it is much used for picture frames, rivalling the birds eye maple of America. It is occasionally used by cabinet makers for general furniture, but it is liable to split. Satin wood grows chiefly in mountainous districts of southern India and Ceylon. It is abundant in the hills of the Vizagapatam and Ganjam circars, though logs seldom exceed eight inches diameter, it is well adapted for naves of wheels, for mallets, &c., a superior description for furniture is occasionally imported from Ceylon. Very fine satin wood occurs at Kutapatti, in the Tengrikottah talook of Salem. It is used for the naves of gun carriage wheels and is the best suited of all the Indian woods for fuses. The price is nearly the same as that of teak and blackwood. Colonel Frith mentions a satin wood of Penang, of a straw colour and a beautiful wood for ornamental furniture, &c.: but, it is not known what satin wood tree grows there. The best variety is the West Indian, imported from St. Domingo, in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 in. diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 in. square; the wood is close, not so hard as box-wood, but somewhat like it in colour or rather more orange; some pieces are very beautifully mottled and curled. It was much in fashion a few years back for internal decoration and furniture, it is now principally used for brushes, and somewhat for turning, the finest kinds are cut into veneers, which are then expensive; the Nassau wood is generally used for brushes. Satin wood of handsome figure was formerly imported in large quantities from the Island of Dominica. The wood has an agreeable scent, and is sometimes called Yellow Saunders wood.—*M. E. J. R.*; *Mr. Rohde MSS.*; *Dr. Cleghorn's Conservator's Report* 1859-60, *p.* 15; *Col. Frith*; *Tredgold.* See Swietenia chloroxylon.

SATISARAS, see Kashmir.

SATKARINI, see Inscriptions, Junagurh.

SATNAMI, literally, true name, a hindoo unitarian sect who profess to adore the true name alone, the one God, the cause and creation of all things, Nirgun, or void of sensible qualities, without beginning or end. Their notions are borrowed from the Vedanta philosophy. With them, worldly existence is illusion, or the work of Maya, the primitive character of Bhavani, the wife of Siva. See Sat'hnami.

SA-TOO, Duk. Hordeum hexastichon, *Linn, Roxb.*

SATPURA. This name is now generally applied to the great range or table-land which, commencing eastward at Amarkantak, runs nearly up to the western coast, though the appellation seems to have been formerly restricted to that portion of the range which divides the Narbada and Tapti valleys. The Satpura mountains are thus described by Mr. Blandford of the Geological Survey. "This range is well defined to the westward, and from Rajpipla to A'sirgarh consists of a belt of mountainous country, forty or fifty miles in breadth, and of an average height, at the crest of the chain, but little under 2,000 feet above the sea, while many peaks rise above 3,000, and some (and even some table-lands, as Turan Mal) are as high as 4,000 feet. Nearly the whole of this range, both hills and valleys, consist of trap; but towards the west, along the northern boundary of Khandesh, a series of craggy peaks are met with, such as are but rarely seen in the trap region. Elsewhere the summit of the range is more or less a table-land. Just east of A'sirgarh there is a break, through which the railway from Bombay and Khandesh to Jabalpur passes, the highest part of which is only 1,240 feet. It is worthy of notice that this break leads from close to the junction of the two alluvial plains in the Tapti and Purna to a flat tract lying between the two Narbada plains. East of this break the trap hills continue till south of Hoshangabad, where sandstone and metamorphic rocks emerge and form a great portion of the hills of the Pachmarhi and

Betul country. There is a table-land of considerable extent round Betul, which extends far to the eastward beyond Chindwara and Seoni, and joins the high plateau of Amarkantak. Upon this plateau trap still predominates and a great spur from it extends between the Tapti and the Purna, forming the northern boundary of Berar as far as the confluence of those rivers. This range is also of considerable height, in places nearly 4,000 feet. Like most other ranges, it has no definite name, and is generally looked upon as a portion of the Satpura. Accepting Amarkantak as the eastern boundary, the Satpura would have a range from east to west of about six hundred miles, and in their greatest depth would exceed one hundred miles from north to south. The shape of the range would be almost triangular. Satpura hills divide the valleys of, and form the water-shed between, the Tapti and Nerbudda. The Satpura plateau is the true barrier between Northern and Southern India and is the line on which the settlers from Hindustan met the emigrants from the Dekhan and Maharashtra, each of them pressing the prior races into the great natural fastnesses of Central India; the Satpura mountain range, extending from Rajpiplah to Asirgarh, and forming a great belt of mountainous country, 40 or 50 miles in breadth with an average height of 2,000 feet. In Gondwana there are now only two millions of aborigines, out of a total population of nine millions. The remaining seven millions almost amount to a microcosm of the people in India, and justice is administered in the Central Provinces in five different languages, viz., Urdu, Hindi, Marathi, Uriya and Telugu. In round numbers the seven millions may be thus classified :—1½ millions speak Marathi, 1½ millions speak Uriya, and 5 millions speak Hindi. Dr. W. W. Hunter gives the following as the languages peculiar to Central India :—

Ho (Kol),	Mundala,	Naikude,	Khond,
Kol (Singhbum),	Rajmahali,	Kolami,	Savara,
	Gondi,	Madi,	Gadaba,
Santali,	Gayeti,	Madia,	Yerukala,
Bhumij,	Rutluk,	Kuri,	Chentsu.
Uraon,		Keikadi,	

He arranges the races and tribes speaking these into Kolarian and Dravidian, viz. :—

1. The Kolarian,	2. The Dravidian or people of the Tamil tongue,
Santal,	Oraon,
Kol,	Gond,
Mundah,	Khond and S. Peninsula aborigines.
Korku,	
Bhil,	
Bhumia,	
Bhui,	
Mair.	
Mina,	

The committee include as Kolarian,

Bhilalah,	Binjwar,	Bhil,	Kawar,
Bygah,	Bhumiah,	Dhangar,	Nahur.
Bhunjia,	Korku,	Gudba,	Manji.
	Kol,		

Kolarian tribes occupy the broad belt of hilly country that runs almost continuously across India from the Santal tracts to the Kurku settlements. The Santal in the east and the Kurku in the west, speak a language substantially the same.

The Kolarian tribes of the Central Provinces are :—

Kol,	Bhonjiah,	Gudba,	Mahto,	doubtful.
Kurku,	Bhumiah,	Kawar,	Soura,	
Bhil,	Bygah,	Napun,	Goli,	
Binjwar,	Dhangar,	Manji,	Aguriah,	

The Dravidian tribes of the Central Provinces are :—

Gond.	Durweh Gond,	Khond,	doubtful.
Bhuttra Gond,	Khutalwar ,,	Dhunwar,	
Maree-Gond,	Aguriah ,,	Nahur,	
Maria or Gotawar.	Hulbah,	Punkah,	
	Koy,		

The occupants of the Central Provinces are :—

Bhil,	Byga,	Kunbi,	Tiling Komati,
Korku,	Parwar,	Relee,	Mahratta,
Gond,	Kachi,	Ooryah,	Mariah,
Lodhi,	Chamar,	Kond,	Jharia.

with a sprinkling of rajputs, brahmins and mahomedans, in almost every district.

In the extreme west, in Nimar; are the Bhil.

From thence, going to the North East, we find along the Satpura range the Kurku and Gond,—the Kurku belonging to the Kolarian family, and the Gond to the Dravidian. The Kurku are not numerous, and are chiefly to be found in the hilly part of the Hushangabad, and the adjoining northern part of the Chindwara districts. In these localities, they meet with the Gond, and a few Kurku are also found in Baitool.

The Gond are numerous in the plateau district of Seone, and in the south of Jubbulpur, and they are found also in the hilly parts of Jubbulpur.

The Gond, Byga and Kol form a large section of the population of Mandla, and the Gond and Bygah are also in the hilly parts of Balaghat, south of Mandla.

The Ooriya occupy entirely the Sumbulpur district.

The Khond dwell in the country surrounding the Ooriya in Sumbulpur and to the south.

Gaoli or Goli people have been settled from time immemorial along the Satpurah range, and once ruled the hill country round Baitul. The Gaoli of Seoni have many sub-divisions. They are generally robust fair men. On a spur of this range near the Nerbuddah is a colossial Jain figure cut in relief nearly 80 feet high.—*Campbell, p.* 7; *Hunter.*

SATRAP also Kshatrapa, Sans. Although wholly unknown as a sovereign title to modern hindoos and not to be found in their books, this term is familiar to the reader of

Grecian history of ancient Persia, with ...ely a softening of the initial letter, as ...trapa ΣΑΤΡΑΠΗΣ, the prefect of a pro...ce under the Persian system of Govern...t. It is an obsolete Persian title for the ...ernor of a province. In Sanscrit it ...ifies the ruler, feeder, or patron of the ...atra or military class, and now that we ...w the ancient language of Persia east of Euphrates to have been a new dialect of Sanscrit, we may conclude that satrapa the same signification in Arabia. The ...minate Persians, at a very early period ...e in the habit of governing their numerous ...tary provinces by mercenary troops. The ...e system and the same denomination of ...rap, was adopted and retained by the ...cedonian conquerors, alike when Greek or ...ive officers were employed. And instances frequent enough of the satraps assuming themselves independence and a regal title. ...e satrapies of the ancient Persian monarchy not supposed to have extended across the ...us. It was in Alexander's time this limit first transgressed, it was not long prior ...he time when the Bactrian Greeks or the ...rthians made themselves masters of Sindh, ...ch and Gujarat.—*Prin. Ind. Ant., Vol.* ...p. 64. See Greeks Kabul.

SATRAWALA, HIND. Cuscuta reflexa.

SATRINGA. Palit'hana, see Kashbin.

SATROGHANA, see Rama.

SATR-SOWA. Myrtus communis the ...rtle; its leaves are eaten with black pepper ...cure emissions that occur from debility.—...*l. Med. Top., p.* 152.

SATRUN, HIND. Quercus dilatata.

SATRUGHNA. Viswamitra, a ksha...a warrior, in the time of the maharaja ...saratha, retired to a cave, and by the ...ctice of austerities, became a brahmin ...ge: at his request, Dasaratha sent his sons ...ma and Lakshmana, Bharata and Satrughna conquer the South of India.

SAT-SUKI, see Japan.

SATTA-KUPPA, SINGH. Anethum sowa, ...rb. Dill seed.

SATTAGUDAI of Herodotus, the same Thatagush of Darius

SATTAMANSI, SANS. Spikenard.

SATTAN, a name of the hindoo god Aye...r, and not identical with Satan of the Bible.

SATTAPANNI, or Srotaparni, a cave at ...ajagriha.

SATTARAH, a town south of Poonah, in ...e southern mahratta districts. It was, ...tterly the town in which the rajah of ...ttarah dwelt. See India, Mahratta Govern...ents in India, Peshwa, Sevaji.

SATTATHAVAN, a vaishnava sect of ...e south of India, who, according to Wilson, are said to be communists as to their wives and to have no caste distinctions.

SATTEE, a hindoo woman who immolates herself along with her husband's remains on his funeral pile. See Sati, Suttee.

SATTEL, GER. Saddles.

SATTRANJI, HIND. A fibrous striped cotton carpet made in India.

SATTU, TEL. Zinc.

SATUREJA HORTENSIA, *Wight.* Summer savory.

SATUREJA MONTANA, *Wight.* Winter savory.

SATURI, HIND. Rue.

SATURN, in the sidereal theology, was represented by Bel. See Brahma, or Hiranyagharbha, Lead, Sani, Saraswati, Singalese, Vahan.

SATURNIA, *Schrank.* A genus of insects belonging to the order Lepidoptera and the family Bombycidæ. The antennæ are fringed in the male; the head is small; the wings are very broad and entire; the palpi and trunk are wanting. The genus Saturnia includes now the Pavonia of Hubner, the Phalæna attacus Linnæus, and part of the genus Bombyx of Fabricius. To this genus, also, some of the largest of the Lepidoptera belong, but S. Atlas, the Giant Atlas Moth, which has wings measuring 7 or 8 inches across is now named the Attacus atlas. This species also, with S. Cercropia and A. Lunula, have their wings produced into a tail. The cocoons of A. Cynthia and S. Mylitta are used in India for the production of silk. Latreille states that these are the wild species of silk-worm of China. A. Cynthia is the Arrindi Silk-Worm of India. S. Promethea, a North American species, forms its cocoon within the leaf of a sassafras-tree, having previously fastened the stalk of the leaf to the stem by a strong silken web, whereby it is prevented from falling with the other leaves, Westwood.—*Roxburgh, Linn. Trans., Vol.* vii; *Eng. Cyc.*

SATURNIA GROTEI, *Moore.* A moth of Darjeling, nearly three inches in expanse.

SATURNIA PYRETORUM, *Boisduval.* A moth of China.

SATURYUN, YUNANI. Eulophia virens, *R. Br., V. Ic.*

SATWARI, gardeners of Guzerat.

SATWIN, HIND. MAR. Alstonia scholaris, *R. Br., Don.*

SATYA, see Vamana, Yug or yuga.

SATYABHAMA, or Satyavama, one of Krishna's mistresses.

SATYANASA, HIND. Argemone mexicana.

SATYAVAMA, and Lakshmi, wives of

Balaji, an incarnation of Vishnu. These two as his sacti are generally seen with him as well as in his avatara of Krishna. See Baljajee, Tripati, Vishnu.

SATYAVRATA, see Brahmadica, Yama, Dharmarajah.

SATYOMBA, a pergunnah on the edge of the plateau of Chota Nagpore overlooking the valley of the Damudah river.—*Dalton, p.* 153.

SATYR, of Isaiah, xiii, 21 ; xxxiv, 14 is a goat, see Rama.

SATYRA CORNUTA, see Tragopan.

SATYRIUM CUCULLATUM, *Thunb.*

S. bicorne, *Thunb.* | Orchis bicornis, *Linn.*

A plant of the Cape of Good Hope introduced into Bengal.

SAT ZARRA, HIND. Asphodelus fistulosus.

SAUBATA GUDDA, see Semetic races.

SAUBATA KENNA, see Semetic race.

SAUBWA, see Karen.

SAUCE. Out of eighteen red sauces submitted by Dr. Hassell to examination in 1852, no less than sixteen contained Bole Armenian, and this usually in immense quantities.—*Hassell.*

SAUDHO-DANI, see Buddha.

SAUD, or Sad'h, a hindoo sect whose chief seats are Delhi, Agra, Jayapur, and Farrakhabad, but there are several of the sect scattered over other parts of the country. The Sauds utterly reject and abhor all kinds of idolatry, and the Ganges is considered by them not to be a sacred object, although the converts are made chiefly, if not entirely, from among the hindoos, whom they resemble in outward appearance. Saud, the appellation of the sect, means, they say, "servant of God ;" its real meaning is pure, from sad'ha pure. They are pure deists, and their form of worship is most simple. The Sauds resemble the Quakers, or Society of Friends in England, in their customs in a remarkable degree. Ornaments and gay apparel of every kind are strictly prohibited. Their dress is always white. They never make any obeisance or salutation. They will not take an oath, and they are exempted in the courts of justice, their asseveration, like that of the Quakers, being considered equivalent. The Sauds profess to abstain from all luxuries, such as tobacco, betle, opium, and wine. They never have exhibitions of dancing. All violence to man or beast is forbidden ; but, in self-defence resistence is allowable. Industry is strongly enjoined. Their nuptial rite is simple, all unnecessary expenses being scrupulously avoided. Polygamy is never allowed, and even widows are forbidden to unite with a second husband.—*Cole. Myth., Hind.*

SAUDIKAI MARAM, TAM. Myristic cinerea.

SAUERK-LEESAURE, GER. Oxal acid.

SAUGOR, a town, and province in Centr India. The Central Provinces is a term which, under a Resolution of the Govern ment of India, during Lord Canning's rul the provinces of Nagpore and the terri tories of Saugor and Nerbuddah were unit under a Commissioner. The Central Pro vinces consist of perhaps the grandest plate on the face of the globe, more than half which is covered by the densest jungle, whe the wild beast finds its lair and the Gond sava a precarious subsistence. The plateau is the very centre of the peninsula. From it, a focus, radiate the great rivers of the Decca To the north flow the Sone into the Gange the Cane, the Betwa, the Sind and th Chumbul into the Jumna. To the west a the Taptee and Nerbudda, and to the east th Wein Gunga, Wurda and Pein Gunga, whic form the Godavery. What the Kuen-L mountains are to the river system of Centr Asia, and the Himalaya to Northern Indi that is the Mahadeo range to the Deccan. I is true that the Godavery and Nerbudd series of rivers are little more than mounta torrents, but engineering science could do muc for their navigation, and railways with the feeders will supplement them. On this va tableland there is soil of surpassing fertility wood, whether useful like teak or ornament like ebony, which, with proper conservatio is inexhaustible, and such mineral resource as coal, iron, precious stones and gold. Here but for the want of population, all the emigrant of England for the next decade might settl and grow rich. The area is 111,238 sq. mile of which 47,299 are unculturable, and in 186 about half of the remainder was under cultiva tion ; in 1862, they yielded 80 lakhs a yea but, in 1867, the revenue had increased t 120 lakhs. The Satpura range runs 60 miles, with an average breadth of 45 mile The Chouradadur plateau is 100 sq. miles an the Nowagaon lake is second only to th Deybur lake in Oodeypoor.

The Nagpore province and the Saugur an Nerbudda territories occupy almost the ol territorial division of Gondwana and wer re-united under the designation of the Centra Provinces containing nineteen districts :—

Saugur and Dumoh are on the Vindhya table land.

Mandla, Jabulpur, Narsinghpur, Hoshunga bad and part of Newar are in the Nerbad valley.

Baitool, Chindwarah, Seoni and Balagha are on the Satpura table land.

Nagpore, Warda, Bhandara and Chanda, are on the Nagpore plain, in the valleys of the Warda and Wain-Ganga.

Raipur and Bilaspore are on the Chatisgarh plain, and Sumbulpor is in the valley of the Mahanuddy.

Upper Godavery, on the left bank of that river.

The principal ranges in the Saugor and Nerbudda territories are the Mahadeo hills, and the Kymore and Bundair ranges ; between the Mahadeo and Kymore ranges are the plutonic and crystalline rocks to which Mr. Medlicott applied the name of Sub-Kymore. The hills form the northern base of the Nagpore territories, and far beyond the present limits of the Nagpore territory stretch between the inaccessible country between Baitool and Chindwarra to the Nerbudda river, with wild recesses. They extend in a direction from north to south between the parallels of 21° and 22° north latitude, presenting a bold and well defined outline. Between Chindwarra and Mooltye they attain a height of more than five thousand feet. Amongst their wild gorges, and deep glens, their precipitous waterfalls and abrupt sides, their steep acclivites and numerous fissures, much wild and picturesque scenery is to be found. The principal rock strata of this range are composed of sandstone shales. The sandstone is often seen striped with dark ferruginous bands, which give it an appearance not unlike that of the Kymore sandstone in the vicinity of Jukehi, or the sandstone in the Nagpore District. From the very few fossil remains that have yet been discovered, it has, as yet, been impossible to fix the age of these hills. Only a few vegetable fossil stems have as yet been discovered. There are few or no traces of any mollusca or crustaceæ. Like the Kymore, it has been usual to ascribe these rocks to the era of the formation of the new red sandstone. From the fossil indications that we possess, that era appears to be too ancient ; the upper sandstone which forms the mass of the Mahadeo hills, and of so many others of less elevation appears to be more recent. While the plant beds underlying are decidedly not more recent than jurassic, and are probably a transition between the lias and jura transitions ; the coarse arenaceous beds themselves that are frequently characterized by the ferruginous bands already mentioned, are to be classed among the upper members of the cretaceous series. There is some doubt as to the true position of some of the shales that are ranked as under the plant beds. Between the Mahadeo sandstone ranges and the Kymore and Bundair hills are to be seen the granitic and schistose hills of the Nerbudda basin. Still, it is not alone in the Nerbudda basin that the granitic, crystalline and schistose rocks are found between outlying ranges of sandstone and limestone. This peculiarity is also seen in the Nagpore districts. It adds another illustration to M. Pallas' theory. While examining the mountain chains of Siberia he laid it down as a general rule, that in the formation of mountain chains, granitic associated with schistose rocks will be found in the centre, while outlying them will be seen the great sandstone or limestone ranges. It is thus in the Saugor and Nerbudda country. To these ranges Mr. Medlicott gives the name of Sub-Kymore, and supposes that they may be a continuation, downward, of the Vindhyan group subsequently altered. Still, until further discoveries have been made ; until fresh links have been added ; and until more certain fossil indications have been found, no reasoning from mere analogy will enable us definitively to fix their era. When their age has once been definitively fixed, there will be a greater simplicity in the classification of the Indian rocks, a classification which as has been suggested would appear in the following order ;

1. Mahadeos with sub-group of Lemata beds.
2. Rajmehals.
3. Upper Damudas of Jubbulpore and Central India.
4. Lower Damudas.
5. Talchirs.

The Saugor and Nerbudda territories at present embrace the districts of Jubbulpore, Saugor, Dumoh, Mundla, Seonee, Baitool, Nursingpore and Hoshungabad. Mr. Blandford's synopsis of the Damuda, Talchir and Panchet, gives the following result:—

Names.	Description of beds.	Fossils.	Thickness in feet.
I. Upper Panchet ...	Coarse Sandstones and conglomerates.	Unfossiliferous.	500
II. Panchet Group.......	Coarse Sandstones, very false bedded, &c., red clays, greenish and grey shales.	Ferns distinct from Damuda forms. Tœniopteris, Sphenopteris, Schizoneura, Reptilian and fish remains.........	1,500
III. Damuda Groups.....	Coarse and fine sandstones mostly false bedded and felspathic, shales, coal seams. The latter continuous over considerable areas.	Vertebraria Trizygia, glossopteris, Pecopteris, Schizoneura, Phylotheca, all plants.........	5,000

Names.	Description of beds.	Fossils.	Thickness in feet.
b. Lower Damudas..	Coarse conglomerates; white Sandstones; mineral coal seams of very irregular character.	Glossopteris, Vertebraria, &c.	2,000
IV. Talchir Groups....	Coarse Sandstone, fine Sandstone composing; undecomposed felspar........	Very rare, a few stems and seeds...............	800

—*Cal. Rev. No.* 73, *Sept.* 1861, *pp.* 132, 133

SAUGOR ISLAND, is in the entrance of the Hoogly river, the western mouth of the Ganges, and is one of the islands of the Sunderbuns. It extends north and south, from lat. 21° 35' N., to 21° 56' N., and bounds the great entrance of the Hoogly on its eastern side. It is 21 miles in length and 6 in breadth, and is low, but as it lies upon the extreme edge of the Deltaic basin, it is consequently higher than the centre of the Delta. The remains of tanks, temples and roads are still to be seen, showing that it was once more densely populated than it is now, and native history informs us that Saugor Island had been inhabited for centuries. During the operation of clearing Saugor Island in 1822 to 1833, and later when clearing away the jungle for the Electric Telegraph in 1855-56, remains of buildings, tanks, roads and other signs of man's former presence were brought to light. Again, upon the eastern portions of the Sunderbuns, where the country has been cleared of forest, mud forts are found in good numbers, erected most probably by the then occupiers of the soil, to ward off the attacks of the Mug, Malay, Arab, Portuguese, and other pirates who, in times gone by, that is, about A. D. 1581, depopulated this part of the country. The Mug pirates even advanced so far to the westward as to depopulate the whole country lying between the river Horinghatta and the Rabnabad Channel, but we know of no trace of the land having been occupied further to the westward of the Horinghatta. Saugor Island, is still largely resorted to by pilgrims. The Delta is intersected from north to south by many broad rivers, and by endless creeks running one into the other filled for the most part with salt water when near the sea. This tract of land, occupies approximately 28,080 square miles of superficial area, or double the area of the Delta of the Nile; measuring from west to east, or from the right bank of the Hooghly river opposite to the Saugor tripod on the South-west point of Saugor Island, to Chittagong, it is 270 miles in width; presenting to the Bay of Bengal a series of low, flat, mud banks, covered at high water and dry at low water; a few miles from low water mark commence mangrove swamps; a little further inland trees appear, and lastly cultivation; the nearest cultivation in the central portion of the Delta being forty-seven miles from the sea. In the sea front of the Delta there are nine principal openings having a head stream, that is having water flowing direct from the Ganges, or from the Megna or Brahmapootra, they are 1, the Ganges; 2, the Megna or Brahmapootra; 3, Horinghatta; 4, Pussur; 5, Murjatta or Kagga; 6, Barapunga; 7, Mollinchew; 8, Roymungul or Juboona; 9, Hooghly. Besides these large rivers there are numerous openings having no head stream, being mere salt water tidal estuaries; these openings or headless rivers are the deepest as no silt or deposit is poured into them from the higher lands. The tides in the Hooghly run with a rapidity in the springs of seven miles an hour, between Saugor and Calcutta. At Calcutta it is high water about 2h. 30m. on full and change of the moon. The bore is of not unfrequent occurrence in this branch of the river.—*Cal. Rev.* See Earthquakes.

SAUL, or Sal, HIND. Shorea robusta. Saul tree dammer, is obtained from Shorea robusta and other species. The Vatica tumbuggaia grows to a limited extent on the west coast, but yields little if any of the dammer collected there. The dammers of the northern and eastern districts of the Peninsula of India occur in sticks much resembling in shape the black dammer but differing widely in colour and consistency. In colour it varies from light yellow to a dark brown. The two colours being very frequently found in the same lump and giving it the appearance of having a regular "grain," it is friable and differs from the white dammer of the western coast in its inferior hardness, opacity and its peculiar form, and from the black dammer in its colour. There are extensive tracts of Saul jungles in the Goomsur and Cuttack provinces. The Khond and Woodia living in and near these jungles, wound trees in several places. The resin issues and is collected when sufficiently solid. The dammer collected from the decayed parts of the tree is of a dark colour: the tree is called Guggilam in Telugu and tala gotso in Urya. The Khond and Urya make the leaves into the plates from which they eat their food and also roll up tobacco in them to smoke like a cheroot. In time of famine the above tribes live on broth made from the fruit of this tree. See Dammer, Sal, Shorea robusta, Syn. of Vatica robusta.

SAULAVANGAPATTA, TEL. Cinnamon.

SAUL FOREST STAG. Cervus affinis.

SAUL TALLAREA, *Roxb.* Syn. of Vatica laccifera, *W. & A.*

SAUL TUMBAGAIA, Roxb. Syn. of Vatica tumbuggaia, *W. & A.*

SAUM, Ar. The hot wind known as the Simoom; it prevails over a large portion of Asia, and of its fatal effects there are many accounts. It was Mr. Rich's opinion, the result of a long course of inquiries, that the hot wind kills by exhaustion, and not by any poisonous quality in itself.—*Ed. Rich's residence in Kurdistan,' Vol.* ii.*p.* 195.

SAUMAR, a name of the Ahom race in Upper Assam.

SAUMAY, Tam. Panicum miliaceum ?

SAUMYA, one of the nine divisions of India.

SAUNDAUNG, a Burmese long-measure, of 22 inches, the 7th part of the bamboo.

SAUNDERS WOOD.

Sudun,	Arab.	Sandal-holz,	Ger.
Sundal-Ahmir,	,,	Ruttunjee,	Guz., Hind.
Rakta chandana,	Beng.	Sandalo roso,	It.
Honnay,	Can.	Sundul-surkh,	Pers.
Sandal-hout,	Dan.	Buckum,	,,
Lal-chandun,	Duk.	Ruct-chandan,	Singh.
Red wood,	Eng.	Rakta-chandana,	Sans.
Ruby wood,	,,	Ranjana,	,,
Red sanders wood,	,,	Sigapoo shandanum,	Tam.
Santale rouge,	Fr.	Ku-chandanum,	Tel.

The Sanders wood or Red Sanders wood of commerce is the product of a large useful timber tree, the Pterocarpus santalinus, found in Malabar, Mysore, Ceylon, near Madras in the Pulicat and Tripaty hills Timor and Malay Peninsula. The wood is extremely hard, of a fine grain, and a bright garnet red colour, which brightens on exposure to the air. It is employed to dye lasting reddish-brown colours; the concentric circles being divided by dark lines. It communicates a deep-red to alcohol, but gives no tinge to cold water, it is principally shipped to England from Calcutta in logs from 2 to 10 inches diameter, generally without sap, and sometimes in roots and split pieces, it is very hard and heavy, it is very much used as a red dye wood, and often for turning. The logs are often notched at both ends, or cut with a hole as for a rope, and much worn externally from being dragged along the ground; other woods, as also indeed ivory tusks, are sometimes thus perforated for the like purpose. With different mordants, it yields various shades of red, these are said to be little permanent. This wood is largely exported from, but little used in, Madras. The Madras exports for 1854 amounted to 47,431 cwts. value 59,570 Rupees.—*M. E. J. R.*; *Tredgold.*

SAUOLA MARA, Can. Cedrela toona, *Roxb., Cor., W. & A.*

SAN-PU. The Tibetans do not recognize a continuous chain of mountains running parallel to the Himalaya; nor are they acquainted with "Kouenlun" as the name of any mountain range. They are familiar with the Himalaya, on one hand, and call it "Kangri," which simply means Snowy region, and they know that the country of the Mongols, or Mongolia, lies parallel to it, on the other hand. A great distinguishing feature in the physical geography of Eastern Tibet is the Yaroo river or Sanpoo of English maps. Thus characterized, in popular estimation—which is not founded on the physical features of the country, on its natural productions, or on political divisions of territory, separately or jointly,—Eastern Tibet is bounded on the north-west by the Kangtisee range of mountains. The highest portion of the Kangtisee range is supposed to be the "Kylas," of Strachey and a greatly elevated tract of country extending from the base of this range; on the north by Mongolia; on the east by the Sifan and Sechuen provinces of China, and on the south by the Himalaya, from the point at which it is pierced by the Burhampootur on the east, to the meridian of the Mansarowar and Rawan Rud Lakes on the west. The general direction of the Kangtisee range is north and south, and it is said to connect the Himalaya and Mongolia, as by a cross-bar. It runs to the east of the Mansarowar and Rawan Rud Lakes, its highest point is said to exceed in elevation any portion of the Himalaya, and four large rivers have their sources in different parts of the range, viz., the Singh-ka-bab or Indus, the Langehoo ka-bab, &c.

SAUNF, Hind. Fœniculum vulgare.

SAUR, Duk. Bombax malabaricum.

SAURA, is supposed to be derived from Surya, identical with Sol, the sun.

SAURA. See Chameleons, Sauria.

SAURA. A drink in use in the Nicobars, obtained from one of the palms.

SAURA, see Saorah.

SAURAPATA or Saura; Hindu worshippers of Suryapati, the sun god. A sect of limited extent and total insignificance.

SAURASHTRA, an ancient name of the peninsula of Guzerat. The name of Gurjjara in the time of Hwen Thsang, was confined to western Rajputana and it was still a distinct country from Saurashtra in A. D. 812, when Karka raja of Lateswara recorded a grant of land. Between this date and A. D. 1310, there is a gap of five centuries, during which period we have no mention of Gurjjara in any contemporary records. General Cunningham has a strong suspicion, however, that the movement of the Gujar race towards the peninsula must have been connected with the permanent conquest of Delhi, Kanoj and Ajmer by the mahomedans, which rejected the Chohan and Rathor tribes from northern Rajputana and the Upper Ganges, and thrust them towards the south. The Rathor occu-

pied Pali to the east of Balmer in the Samvat year 1283, or A. D. 1226. This settlement of the Rathor must have driven the great body of the Gujar from their ancient seats and forced them to the south towards Anhalwara Pattan and Eder. This was actually the case of the Gohil, who being expelled from Marwar by the Rathor, settled in the eastern side of the peninsula, which was named after them Gohilwara. In the time of Akbar the Gujar had certainly not penetrated into the peninsula, as Abul Fazl does not name them in his notice of the different tribes which then occupied the Sirkar of Surat. But even at the present day there is no large community of the Gujar in the peninsula, so that we must look for some other cause for the imposition of their name on a large province which they have never completely occupied. From an old inscription of the kings of the Gurjjara tribe, we learn that in S. 380, or A. D. 458 the Gujar had pushed their conquests as far south as the banks of the Narbada. In that year, and subsequently in A. D. 463, their king Sri Datta Kusali made several grants of land to certain brahmans in the district of Akrureswara, near Jambusara which General Cunningham believes to be Aklesar, on the south bank of the Narbada, opposite Baroch. But before s. 394, or A. D. 472, the Gujar race must have been driven back to the north, as far at least as Kambay, because the Chalukya prince Vijaya made several grants of land to the same brahmans in the town of Jambusara which lies between Baroch and Kambay. It is certain, therefore, that the Gujar race had occupied the country to the north of the peninsula as early as the fifth century of the Christian era. But two centuries later they had already lost their power as Hwen Thsang found a Kshatriya prince on the throne of Gurjjara. They must still, however, have continued to form the bulk of the population of the countries to the west and south of Mount Abu; and as Alaf Khan, the first mahomedan conqueror, under Ala-ud-din, Khilji, fixed his head quarters at Nahrwara, or Anhalwara, in the very heart of the Gujar country, General Cunningham thinks it probable that the name of Gujarat was then first applied to this new province of the Delhi empire; and as the peninsula of Saurashtra formed a part of the province it was also included under the same general appellation. He therefore looks upon the extension of the name of Gujrat to the peninsula as a political convenience rather than an ethnographical application. Hamilton mentions that the greater part of Malwa and Khandes was formerly called Gujarat; and this is borne out by Marco Polo, who distinguishes between the peninsula, which he calls Sumenat (Somnath) and the kingdom of Gujarat, which he places on the coast to the north of Tana; that is, about Baroch and Surat. Even at the present day the name of Gujarat is not used by the natives of the peninsula itself, who continue to call their country Surath and Kathiawar, the latter name having been a recent adoption of the Mahrattas. As Karka Raja, was reigning in A. D. 812, his grandfather's accession must have taken place in the third quarter of the seventh century, that is, between A. D. 650 and 675, which agrees with the actual date of A. D. 658, assigned by the native historians for the destruction of Balabhi, and the extinction of the Balabhi sovereignty in the peninsula of Gujarat. An ancient capital of Saurashtra, (Surat and Guzerat) was Balabhipura, the dynasty being named the Balabhi, Balhara, or Bala-Rais dynasty. The Jain chronicles of Jai-Sinhi, consulted by Colonel Tod, trace the ancestry of Keneksen, the founder of the Mewar family, up to Sumitra, the 56th descendant from Rama B. C., 2029, Jones ; 950 Buchanan, and 1100 Tod. Solar worship first prevailed, afterwards the Jain 252. In A. D. 523, Siladitya was slain, and Balabhi was destroyed by the Parthians in 524. In A. D. 727 Buph or Bappa, seized Chitor from the Mori tribe, and founded the Gohila or Gehlote dynasty of Newar. But the Persian historians name Noshizad, son of Noshirvan, or Maha Banu, daughter of Yesdejird, for the origin of the Sesodia race of Mewar, in A. D. 531. Saurashtra means the region of the Saura, an ancient tribe of sun-worshippers, whose origin is lost in the darkness of ages. At what epoch this peninsula was subjected by the Saura race, we are ignorant; but from Justian, Strabo, Ptolemy, and both the Arrians, we can trace their way to a period coeval with Alexander the Great. The conquests of Menander and Apollodotus in the land of the Συρον or Saura, have given rise to much disquisition by the learned Bayer, and the annotators on the French translation of Strabo, who finding Συρον coupled with Φωνικον, were for transferring the Syria of the Indian Sea to the Syria and Phœnicia of the Mediterranean. It was, however, an easier task for the kings of Bactria, even with the deteriorated remnants of the Phalanx, to which, no doubt, they drilled their Indo-Getic subjects, to pass from Aria and Arachosia, down the valley of the Indus, into Saurashtra, than to penetrate through the desert lands or hostile tribes which would intervene in their wide march to Syria. In the terms Surastrene and Syrastrene, employed by the ancient authorities to designate

the Indian Syria, we have Saurashtra without any variation. Colonel Tod says that Balhara was the title assumed by the succesful sovereigns of Saurashtra. Saurashtra or Soreth, the peninsula of Guzerat, is almost cut off from the main land by two rivers. It is almost 150 miles long, the same in breadth and contains an area of 22,000 square miles. Its mountain features are the Burda Hills ending in the south in the Alich range and the Oshum. The lofty and holy mount of Girnar overlooks the ancient fortress of Junagarh (old fort) and a tract in the south, called the Geer, which stretches 40 miles east and west, and 30 miles north and south and consists of ridges and hills covered with dense forests, trees and jungles and full of almost inaccessable fastnesses which for ages have given shelter to robbers, out laws and the Aghora a sect of wild fanatics reputed to be cannibals. During the seventh century in A. D. 770, Wullubhipur, the present Wulleh which had the most brilliant court in India, fell before an eruption from the north, supposed by Mount Stuart Elphinstone to be Persians under Naosharwan the Great, by Colonel Tod to be Scythians, and by another authority to be Indo-Bactrians, and the inhabitants fled and founded new cities in Malwah. The old temple of Somnath is in the city of Deo-Pattan. Mahmood left Ghazni, on his expedition against it in Sept. A. D. 1024, his numerous army was accompanied by crowds of volunteers, the flower of the youth of Turkistan. Ajmir and Anhilwara fell before him. Advancing upon Somnath, for two days, his most devoted followers were beaten headlong back by the valour of the Rajpoots fighting for hearth and altar. On the 3rd day, Mahmood led a furious charge in person, five thousand hindoos lay dead and the day was won. When he entered the shrine of Som-Iswara, he beheld a superb edifice of hewn stone, its lofty roof supported by pillars curiously carved and set with precious stones. In the adytum to which no external light penetrated, and which was illuminated only by a lamp suspended from the centre by a golden chain, upreared the symbol of Som-Iswara—a stone cylinder which rose nine feet in height above the floor of the temple and penetrated six feet below it. Two fragments of this object of idolatrous worship were at the king's order broken off, that one might be thrown at the threshhold of the public mosque and the other at the court gate of his own palace of Ghazni. Other fragments were reserved to grace the holy cities of Mecca and Medina. While Mahmood was thus employed a crowd of brahmans offered an enormous ransom if the king would desist from further mutilation. Mahmud hesitated; but after a moments pause, he exclaimed that he would be known by posterity not as the idol seller but as the "destroyer." The work of destruction then continued and was rewarded by the discovery in the vaults below the adytum of untold treasures. Thus fell Somnath. Its gates were taken to the mosque of Ghazni from which they were removed when the British Indian army retired from the occupation of that country in 1842, and Lord Ellenborough, Governor-General, issued a Procalmation, to the Princes and Chiefs, and People of India. "My Brothers and my Friends he said, our victorious army bears the gates of the temple of Somnauth in triumph from Affghanistan, and the despoiled tomb of sultan Mahmoud looks upon the ruins of Ghuznee. The insult of 800 years is at last avenged. The gates of the temple of Somnauth, so long the memorial of your humiliation, are become the proudest record of your national glory—the proof of your superiority in arms over the nations beyond the Indus. To you, Princes and Chiefs of Sirhind, of Rajwarra, of Malwa, and Guzerat, I shall commit this glorious trophy of successful war. You will, yourselves, with all honour, transmit the gates of sandal-wood through your respective territories, to the restored temple of Somnauth. The Chief of Sirhind shall be informed at what time our victorious army will first deliver the gates of the temple into their guardianship, at the foot of the bridge of the Sutlej. My Brothers and my Friends.—I have ever relied with confidence upon your attachment to the British Government. You see how worthy it proves itself of your love, when, regarding your honour as its own, it exerts the power of its arms to restore to you the gates of the temple of Somnauth, so long the memorial of your subjection to the Affghans. For myself, identified with you in interest and in feeling, I regard with all your own enthusiasm the high achievements of that heroic army, reflecting alike immortal honour upon my native and upon my adopted country. To preserve and to improve the happy union of our two countries, necessary as it is to the welfare of both, is the constant object of my thoughts. Upon that union depends the security of every ally, as well as of every subject, of the British Government, from the miseries whereby, in former times, India was afflicted; through that alone has our army now waved its triumphant standards over the ruins of Ghuznee, and planted them upon the Bala Hissar of Cabul. May that good Providence, which has hitherto so manifestly protected me, still extend to me its favour, that I may so use the power now intrusted

to my hands, as to advance your prosperity and secure your happiness by placing the union of our two countries upon foundations which may render it eternal."—

The mahomedans who had only gained a partial authority over the Peshwa, the Gaikwar, and the Rajputs of Kattiawar, were succeeded by the Mahrattas in 1755, who could only collect the revenue by means of troops, in mulkgiri or circuits. But, in 1808, Colonel Alexander Walker, then Resident at the Gaikwar's court, was able to arrange for payment to the Gaikwar from the Rajput Chiefs of a certain fixed sum as suzerainties. When the Peshwa was overthrown in 1817, the British succeeded that power in the chief control. The gross revenues are estimated at a million sterling, but out of that £100,000 is paid as annual tribute in the proportion of two-thirds to the British Government and one-third to the Gaikwar. The population is 1½ millions. The tributaries are called talukdars, of whom there are 224, and each of whom possesses exclusive jurisdiction in his own district, and only the Grassia and Mul Grassia are allowed to litigate with their ruling chiefs. These are sprung either from cadets of the ruling tribe are from proprietors of lands which they have originally seized and now defend with all the proverbial tenacity of the Rajput, who freely gives and takes life for acres. The principal talukdars are their Highnesses the Nawab of Junagarh,—the Jam of Navanaggar, and the Rawal of Bhownaggar, also the Rana of Porebandur, the Raj of Draugdra and the Thakur of Murvi. Junagarh, the most important is held by a descendant of Sher Khan, Babi, a soldier of fortune who seized it in the general anarchy which preceded the subversion of the Moghuls. See Inscriptions, Kattiyawar, Khengar, Krishna, Mewar, Stevenson.—*Cunningham's Ancient Geog. of India, pp.* 318-320-322 ; *Thomas' Prinsep, p.* 253 ; *Tod's Travels, pp.* 252–53.

SAUREE, the low castes of the Punjab, are the Sauree, Bouria and Hurni.

SAURIA, the Lizard Order of Reptiles, which naturalists arrange as under:

THE ORDER OF LIZARDS—SAURIA.

I. Crocodiles—Crocodilidæ.
II. Water Lizards—Varanidæ.
III. Land Lizards—Lacertidæ.
IV. Cordyles—Zonuridæ.
V. Skinks—Scincidæ.
VI. Acontiads—Acontiadidæ.
VII. Sand Lizards—Sepsidæ.
VIII. Geckos—Geckotidæ.
IX. Agames—Agamidæ.
X. Chameleons—Chamæleonidæ.

FIRST SUB-CLASS, REPTILIA PROPER.

The order of Tortoises—Chelonia.

SAURIA.

I. Land Tortoises-Testudinidæ.

Testudo elegans, *Schöpff*......Peninsula of India, Ceylon.
horsfieldii, *Gray*............Affghanistan.
elongata, *Blyth*............Gamboja, Arakan, Mergui.

II. Fresh-water Tortoises—Emydidæ.

Manouria emys, *M. & Schl.*..Pinang, Arakan, Tenasserim
Cuora amboinensis, *Daud*....Eastern India.
flavomarginata, *Gray*......China, Formosa.
trifasciata, *Gray*...........China
Cyclemys oldhami, *Gray*.....Mergui, Gamboja.
Pyxidea mouhotii, *Gray*.....Cochin-china.
Notochelys platynota, *Gray*..Singapore.
Geoemyda spinosa, *Gray*....Tenasserim, Pegu.
grandis, *Gray*..............Gamboja.
Emys ocellata, *D. and B.*....Tenasserim, Pegu.
bealii, *Gray*.................Southern China.
thurgi, *Gray*...............Bengal, Penang.
mutica, *Cantor*.............Chusan.
nigricans, *Gray*............Southern, China.
sinensis, *Gray*.............Canton, Formosa.
crassicollis, *Gray*..........Mergui, Malayan Peninsula Gamboja.
reevesii, *Gray*..............Cochin-china, Southern China.
trijuga, *Schweigg*...........Peninsula of India, Ceylon.
macrocephala, *Gray*........Siam, Gamboja.
hamiltonii, *Gray*...........Lower Ganges.
Pangshura tecta, *Gray*......
tentoria, *Gray*.............Deccan, Indus.
flaviventer, *Gthr*............Bengal?
smithii, *Gray*...............Punjab?
Batagur baska, *Gray*.........Ganges, Irawaddy. Penang.
lineatus, *Gray*.............Nepaul, Moulmein.
ellioti, *Gray*................Kistna River.
affinis, *Cantor*..............Malayan Peninsula.
dhongoka, *Gray*............Nepal, Assam.
Platysternum megacephalum, *Gray*..........China, Pegu.

III. Fresh-water Turtles—Trionycidæ.

Emyda granosa, *Schöpff*......Hindostan, Sikkim, Bengal.
ceylonensis, *Gray*..........Ceylon.
vittata, *Peters*..............Goa.
Trionyx sinensis, *Weigm*.....China, Chusan, Formosa.
gangeticus, *Cuv*............Ganges, Penang.
javanicus, *Schweigg*........Ganges, Deccan, Penang.
ornatus, *Gray*..............Siam, Gamboja.
subplanus, *Schweigg*........Singapore, Penang.
guntheri, *Gray*.............
Chitra indica, *Gray*..........Ganges, Malayan Peninsula.

IV. Marine Turtles—Chelonidæ.

Caouana olivacea, *Eschsch*...Coasts of S. E. Asia.
Chelonia virgata, *Flem*.......Coasts ,,
Caretta squamata, *L*.........Coasts ,,
Dermatochelys coriacea, *L*...Coasts ,,

THE ORDER OF LIZARDS—SAURIA.

I. Crocodiles—Crocodilidæ.

Crocodilus palustris, *Less*....Ganges, Peninsula of India, Ceylon.
siamensis, *Schneid*.........Siam, Gamboja.
porosus, *Schneid*...........All rivers.
pondicerianus, *Gray*........Pondicherry.
Gavialis gangeticus, *Gm*......Ganges.

II. Water Lizards—Varanidæ.

Varanus flavescens, *Gray*....Ganges, Indus, Penang.
dracæna, *L*..................From Bengal to Ceylon.
lunatus, *Gray*..............
nebulosus, *Gray*............Bengal, Siam.
Hydrosaurus salvator, *Laur*..China, Siam, (Ceylon.)

III. Land Lizards—Lacertidæ.

Tachydromus sexlineatus, *D*..Rangoon.
meridionalis, *Gthr*..........Southern China.
septentrionalis, *Gthr*.......Northern China.
Cabrita leschenaultii *Rwd*.....Coromandel.
Ophiops jerdoni, *Blyth*.......Mhow.
Acanthodactylus cantoris, *G*..Ramnuggar.
nilgherrensis, *Jerd*.........Coonoor.

IV. Cordyles—Zonuridæ.

Pacseudopusgracilis, *Gray*....Khasya.

V. Skinks—Scincidæ.

Tropidophorus microlepis, *G*..Chartaboum.
cochin-chinensis, *Cuv*......Cochin-china.
aspris berdmori, *Bly*........Mergui.
Euprepes chinensis, *Gray*....China.
rufescens, *Shaw*.............From Afghanistan to China.
monticola, *Gthr*............Sikkim.
olivaceus, *Gray*............Malayan Peninsula.
macularius, *Blyth*..........Rungpore?
trilineatus, *Gray*...........Carnatic.
Mabouiaquadrilineata, *Blyth*..Hongkong.
chinensis, *Gray*............China.
maculata, *Blyth*............Assam.

Eumeces bilineatus, *Gthr*.....Neilgherries.
himalayanus, *Gthr*.........Himalayas.
schlegelii, *Gthr*............Sikkim.
modestus, *Gthr*............Ningpo.
reevesii, *Gray*..............China.
ladacensis, *Gthr*...........Tibet.
formosus, *Blyth*............Mirzapore, Wuzeerabad.
indicus, *Gray*..............Sikkim.
taprobanensis, *Kelaart*.....Ceylon.
Eumece chalcides, *L*..........Penang, Siam, Hongkong.
siamensis, *Gthr*.............Siam.
bowringii, *Gthr*.............Hongkong.
albopunctatus, *Gray*........Nellore, Mergui.
hardwickii, *Gray*...........Peninsula of India.
punctatus, *L*...............Peninsula of India.
isodactylus, *Gthr*..........Gamboja.
Hagria vosmaerii, *Gray*......Bengal.
Chiamela lineata, *Gray*......
anguisme lanosticta, *Merr*..Coromandel.

VI. Acontiads—Acontiadidæ.

Acontias layardi, *Kelaart*....Colombo.
Nessia burtonii *Gray*........Ceylon.
monodactyla, *Gray*........Ceylon.

VII. Sand Lizards—Sepsidæ.

Sphenocephalus tridactylus, *B.* Afghanistan.

VIII. Gecko—Geckotidæ.

Gecko guttatus, *Daud*........From Southern India to China.
stentor, *Cant*...............Penang.
smithii, *Gray*...............Prince of Wales' Island.
monarchus, *D. & B.*........Malayan Peninsula, Ceylon.
japonicus, *D. & B.*.........China, Chusan.
swinhonis, *Gthr*............Northern China.
subpalmatus, *Gthr*.........Chikiang.
Ptychozoon homalocephalum,
Creveldt.................Penang, Singapore.
Hemidactylus triedrus, *Daud*. Ceylon, Peninsula of India.
maculatus, *D. & B.*........From Ceylon to China.
sykesii, *Gthr*...............Deccan.
frenatus, *D. & B.*..........From Ceylon to Siam.
leschenaultii, *D. & B.*......Madras.
punctatus, *Jerd*............Tellicherry.
coctaei, *D. & B.*.............Penang, Bombay, Ceylon.
Leiurus berdmorei, *Blyth*....Mergui.
Peripia peronii, *D. & B.*......Penang, Ceylon.
cantoris, *Gthr*..............Penang.
Nycteridium schneideri, *Shaw*. Ceylon, Bengal, Assam, Siam, Penang.
Phelsuma andamanense, *Bly*. Andaman Islands.
Gymnodactylus triedrus, *Gr*.. Ceylon.
pulchellus, *Gray*...........Penang, Singapore.
frenatus, *Gthr*..............Ceylon.
kandianus, *Kelaart*........Ceylon.
mysoriensis, *Jerdon*........Bangalore.
indicus, *Gray*...............Neilgherries.
malabaricus, *Jerdon*........Malabar.
littoralis, *Jerdon*...........Malabar.
deccanensis *Gthr*...........Deccan.
variegatus, *Blyth*...........Moulmein.
Naultinus fasciolatus, *Blyth*. Subathoo.
Pentadactylus borneensis, *G*.. Borneo.
felinus, *Gthr*.................Singapore.
duvaucelii, *D. & B.*..........Bengal.
Puellula rubida, *Blyth*........Andaman Islands.
Eublepharis hardwickii, *Gray*. Peninsula of India.

IX. Agames—Agamidæ.

Draco volans, *L*...............Penang, Singapore.
reticulatus, *Gthr*...........Philippine Islands.
timorensis, *Kuhl*...........Timor.
cornutus, *Gthr*..............Borneo.
fimbriatus, *Kuhl*............Java.
maculatus, *Gray*............Siam, Penang, Tenasserim.
spilopterus, *Wiegm*.........Manilla.
dussumieri, *D. & B.*.........Peninsula of India.
quinquefasciatus, *Gray*.....Penang.
taeniopterus, *Gthr*..........Siam, Tenasserim.
haematopogon, *Boie*........Java.
bimaculatus, *Gthr*...........Philippine Islands.
lineatus, *Daud*..............Amboyna, Celebes.
rostratus, *Gthr*.............Borneo.
Otocryptis bivittata, *Wiegm*.. Ceylon.
Lyriocephalus scutatus, *L*.....Ceylon.
Ceratophora stoddartii, *Gray*. Ceylon.
tennentii, *Gthr*..............Ceylon.
aspera, *Gthr*.................Ceylon.
Cophotis ceylanica, *Peters*....Ceylon.
Japalura variegata, *Gray*....Sikkim.
swinhonis, *Gr*...............Formosa.
polygonata, *Hallowell*......Loochoo.
Sitana ponticeriana, *Cuv*.....Western India.
minor, *Gthr*..................Madras, Ceylon.
Dilophyrus grandis, *Gray*....Rangoon.
Bronchocela cristatella, *Kuhl*. Malayan, Peninsula.
smaragdina, *Gthr*...........Gamboja.
jubata, *D. & B.*..............Pondicherry.

Calotes versicolor, *Daud*......Ceylon, Continent of India.
nemoricola, *Jerd*...........Neilgherries.
mystaceus, *D. & B.*.........Pegu, Siam, Mergui, Ceylon.
rouxii, *D. & B.*.............
ophiomachus, *Merr*........Ceylon, Southern India.
platyceps, *Blyth*............Cherra, Punji.
nigrilabris, *Peters*..........Ceylon.
emma, *Gray*................Mergui.
maria, *Gray*.................Himalayas.
Salea horsfieldii, *Gray*.........Neilgherries, Ceylon.
Oriocalotes minor, *Gray*.......Himalayas.
Acanthosaura armata, *Gray*.. Eastern India.
capra, *Gthr*.................Chartaboum.
coronata, *Gthr*.............Chartaboum.
Oriotiaris ellioti, *Gthr*........Sikkim.
Tiaris tiara subcristata, *Blyth*. Port Blair.
Physignathus cochinchinensis, *Cuv*...................Cochin-china.
mentager, *Gthr*.............Chartaboum.
Liolepis guttatus, *Cuv*........Eastern India, China.
Uromastix hardwickii, *Gray*. Hindostan.
Charasia dorsalis, *Gray*......Southern India.
Stellio tuberculatus, *Gray*....Upper Hindostan, Himalaya.
Trapelus megalonyx, *Gthr*....Afghanistan.
Phrynocephalus tickelii, *Gr*.. Afghanistan.
caudivolvulus, *Pall*........Tibet.
brachysaura ornata, *Blyth*.. Saugor.

FAMILY OF CHAMELEONS—CHAMÆLEONIDÆ.

Chamæleo vulgaris, *Daud*.... Penin. of India, Ceylon.

SAURURACEÆ, *Lindl.* an order of plants comprising, 1 Gen., 1 Sp., of Houttuynia.

SAUSSUREA GOSSYPINA. In East Nepaul, at the summit of the Wallan Choon pass, at an elevation of 16,748 feet, above the sea, the plants gathered by Dr. Hooker near the top of the pass were species of Compositæ, grass, and Arenaria ; the most curious was Saussurea gossypina, which forms great clubs of the softest white wool, six inches to a foot high, its flowers and leaves seeming uniformly clothed with the warmest fur that nature can devise. Generally speaking, the alpine plants of the Himalaya are quite unprovided with any special protection of this kind ; it is the prevalence and conspicuous nature of the exceptions that mislead, and induce the careless observer to generalise hastily from solitary instances ; for the prevailing alpine genera of the Himalaya, Arenarias, primroses, saxifrages, fumitories, Ranunculi, gentians, grasses, sedges, &c., have almost uniformly naked foliage.—*Hooker, Him. Journ. Vol.* i, *p.* 225.

SAUTPOORA MOUNTAINS, form a mountain range which divide the Nerbudda from the Taptee valleys, extending from 21° and 22°, and 73° 40′ to 78°, when it becomes confounded with the Vindhya. The average elevation, supposed 2,500 feet : Aseerghur hill fort, 1,200 feet. They form the northern base of the Deccan table-land. The southern declivity towards Taptee, is abrupt ; N. towards Nerbudda, gentle. The mountains rise into peaks.

SAUVADY MARAM, TAM. A timber of Coimbatore, *Dr. Wight.*

SAUVIRA, SANS. Sulphuret of Antimony.

SAUVIRA, or Sophir a district in W. India.

SAVA, or Saveh, a town in Persia lying between the towns of Kazvin and Ispahan.

This is supposed to be the ancient Saba, whence the three magi took their departure when they proceeded to adore the infant Jesus at Bethlehem.

SAVA, eldest son of Rama, the ancestor of the Balla, a Surya Vansa race of Rajputs.

SAVAI, a fish of Lake Thalesap cured with the ashes of the palm tree.

SAVANORE, or Sanore, its chief is a pathan whose ancestor, in 1750, was one of the three pathan mahomedans who conspired against Nassir Jung.

SAVARA, see Inscriptions.

SAVARA, or Suar, the Suari of Pliny, and Sabaræ of Ptolemy.

SAVARA SAKA, according to Manu, one of the outcaste military tribes. The China is a race alluded to by ancient Sanscrit writers, as dwelling on the extreme east, but further into India than at present, and Mr. Hunter, (p. 28) considers that the aboriginal races of the eastern peninsula, Burmah and India north of the Vindhya range derived their speech from a source common to themselves and the Chinese.

SAVARY KEERAY, TAM. Greens, which grow in the southern parts of the peninsula and are eaten by the people.—*Ainslie's Mat. Med.*, *p.* 256.

SAVE, CAN. Samulu, TEL. There are two sorts of this grain, viz., Hari Save and Hejjane. Poor people use them in food.—*M. E. of* 1857.

SAVEL KURUNDU, SINGH. Cinnamon.

SAVENDRUG, in lat. 12° 55′ ? N., long. 77° 16′ E. in Mysore, W. of Bangalore, a hill station 4,005 feet above the sea, *G. T. S.*

SAVI, GUZ., HIND. Maccaroni, Vermicelli.

SAVI CHINA WARI, HIND. Panicum miliaceum.

SAVIRELA CHETTU, TEL. Pæderia fœtida, *L.*; *W. & A.*, 1,300; *R.*, i, 683. SANS., syn. of Prasarine.

SAVITI MUNNU COPPU, TEL. Soda.

SAVITREE RIVER, rises in the western Ghauts, in lat. 18° 17′ long. 73° 27′ runs S. E., into Indian Ocean.—Length 70 m.

SAVITRI, wife of Satyavana.

SAVITRI a word in the Gaetri mantram meaning the sun. See Gayatri, Surya, Hindoo, Zonar, or Zennaar.

SAVITRI VRATA, a feast observed by hindoo women, about the 16th June. On this occasion they worship the Indian fig tree, to preserve them from widowhood.

SAVITTA MANNU UPPU, TEL. Soda.

SAVON, FR. Soap.

SAVORRA, IT. Ballast.

SAVORY. Satureja hortensis, and S. montana, aromatic herbs, now fallen into disuse, used to flavour soups, &c.

SAVU ISLAND, its S. E. point is in 10° 37′ S. long., 122° 0′ E., and is 18 m long.

Savu and Rotti, are small islands to west of Timor, and very remarkable possessing a handsome race, with good featu resembling in many characteristics, the produced by mixture of the hindoo or A with the Malay. They are certainly dist from the Timorese or Papuan race and m be classed in the western rather than eastern division of the Archipelago.—*W lace, Vol.* ii, *p.* 277. See Rotti, Sum Timor laut.

SAWA. The Kariang, the Sawa, the and the Chong, are wild and migratory ra the first and second being the same pe but inhabit various portions of the Bur dominions. The Ka, a term which, in Siamese language means slave, but who called by the Kambojans, Pa-nong, inhabit mountains of Lao, bordering upon Kamb The Chong, a more industrious and set people than the rest of this class, inhabit hilly country on the eastern side of the g of Siam, between the eleventh and twe degrees of North latitude. The Samang, a diminutive race of savage negroes, dwell in the mountainous regions of the Mala Peninsula.—*Crawfurd, Embassy, p.* 449.

SAWA, MALAY., artificially irrigated fields.

SAWAH, Pokka sawan and kacha sa HIND of Multan, are terms used of indigo certain stages of manufacture.

SAWAL, HIND. Potamogeton crisp also Amarantus anardana.

SAWALI, HIND. Alnus *sp.* also Pota geton gramineus.

SAWANK, HIND. Oplismenum frumentaceum; also the wild species of Panicum colonum, used on fast days by hindoos.

SAWAN MULL, made many canals i Mooltan.

SAWARA, see India.

SAWFISH, species of Pristis, see Fishes.

SAWIGHT, See Kyans.

SAWIL KODI, TAM. Rubia cordifolia *Linn.*

SAWITE, see Kyan.

SAWNAN, HIND. Fraxinus floribunda.

SAWS.

Seies,	FR.	Garaji, graji,	MALAY.
Sagen,	GER.	Gargaji,	"
Kurwuttee, GUZ.,	HIND.	Serras,	PORT.
Ara,	"	Pili,	RUS
Seghe,	IT.	Sierras,	SP.

Implements of various sizes, for cutting wood, iron, and other hard substances.—*Faulkner.*

SAW-LEAVED CENTAURY, ENG. Centaurea behen.—*Linn.*

SAWUH, MALAY. Anchor.

SAWUL, a river near Purah or Peorah in Almorah.

SAWUR, MALAY. A very beautiful and useful wood of Java : the colour resembles that of mahogany, but the grain is closer, and it is more ponderous : its chief use is for handles of tools for carpenters and other artificers, for machinery, especially for the teeth of the wheels of mills, and other purposes where a hard and durable wood is required. On account of its scarcity, it is uniformly cut down in Java before it arrives at the necessary size for cabinet work. Forests of it grow on the hills of Bali, opposite the Javan shore, whence it is brought over by boat-loads for sale.

SAXÆ, see Kelat.

SAXICAVA, a genus of molluscs.

SAXICOLA ŒNANTHE, the Wheatear of Europe, W. Asia, plains of Upper India, N. Africa, Arctic regions, Greenland! migratory. There are several other Indian Wheatears, all of which are different from those of Europe excepting S. leucomela ; but S. stapazina is replaced in India by S. atrogularis and S. leucura by S. leucuroides (opistholeuca of Strickland) which occurs likewise in N. E. Africa.—*Blyth* ; *Jerdon.*

SAXICOLA RUBICOLA, *Sykes.*

Pratincola indica, *Blyth.*	P. saturatior, *Hodgson.*
Indian-bush-chat, ENG.	Steinshmatzer, GER.
Jungle bramble bird, ,,	Schwarz-kehliger, ,,
Stone-chatter, ,,	Saltabastone, IT.
,, -smith, ,,	Zompacardi, ,,
,, -clink, ,,	Saltinpolo, ,,
Moore-Titling, ,,	Adavikampanalinclu, TEL.
Traquet Rubicole, FR.	Adani ka.npa jitta, ,,
Moteux Traquet, ,,	

It is found in Russia, Germany, France, Provence, Italy, Smyrna, Japan, the Deccan, the banks of the Ganges, the mountains of Upper Hindustan, Senegal, and South Africa (Cape), England, Ireland, and Scotland. Jerdon names also, of the genus Saxicola, S. leucuroides, S. picata, S. leucomela, and S. deserta.—*Jerdon, Vol.* ii, *p.* 124 ; *English Cyclopædia, p.* 687.

SAXIFRAGACEÆ, *DC.* The Saxifrage tribe of plants comprising 8 Gen., 34 species, viz., 6 Hydrangia ; 1 Ciamitis ; 1 Adamia ; 21 Saxifraga ; 1 Chrysosplenium ; 1 Tiarella ; 1 Astilbe ; 2 Vahlia. These Saxifraga genus of flowering plants are mostly natives of Britain with white, yellow, or pink flowers, S. umbrosa, the London pride, is a pretty flower, the species are easily cultivated from seed in any garden soil.—*Riddell.*

SAXIFRAGA FLAGELLARIS, a plant of Melville Island. See Saxifraga stenopylla.

SAXIFRAGA LIGULATA, *Wall.*

Bat pia, JHELUM.	Saprotri, RAVI.
Popal wat phula, KANGRA	Til kachalu, ,,
Shaprochi, CHENAB.	Shiblack.
Kurgotar dharposh, ,,	Makhan, BEAS.
Banpatrak, ,,	

SAXIFRAGA STENOPHYLLA, *Royle.*

Mu i pari, PERS.	Fairy-hair, ENG.

So named from its numerous thread-like stolons, in which and its general appearance it closely resembles the Saxifraga flagellaris of Melville Island.

SAXIFRAGA CILIARIS, see Chamærops khasiana.

SAXIFRAGE.

Shih-hu-wei, CHIN.	Ngo-puh-shih-ts'au, CHIN.

This acrid plant grows near water ; it has small yellow flowers. It is recommended in all diseases of the senses and great orifices of the body ; it acts as an emetic and diaphoretic.

SAYA, HIND., PERS. Shade, a shadow. A shade, a ghost.

SAYA, TAM. Hedyotes umbellata.—*Lam., R. Br.*

SAYA, MAHR. Tectona grandis.

SAYA DE MALHA, a group of Madreporic islands, S. E. of the Maldives, *Figuier.*

SAYA ELLE, TAM. Salvia Bengalensis.

SAYAN, or Sayammul, SINGH. Hedyotes umbellata.—*Lam., R. Br.*

SAYANA ACHARYA, a man of high station and a deservedly celebrated scholar, who wrote a commentary of the Vedas. He was brought up at the court of Vira Bukka Raya, raja of Vijianugger in the 14th century of our era. See Madhava, Veda.

SAYANAN, see Sayana, Vedas.

SAYAWER— ? Hedyotis umbellata.

SAYER, ARAB. Literally, travelling : but in the fiscal system of India, applied to the transit duties levied on goods passing from one district or one territory to another. It was finally abolished in 1834, 1837 and 1844 in the three presidencies of Bengal, Bombay and Madras. The transit duties in Madras alone amounted to £310,000 sterling a year.

SAYJBUND, HIND. Silk cords, with gold or silver tassels, for fastening the bedding or mattrass to the bedstead.

SAYL, DUK. Tambara, MALAY. Cyprinus, *species.*

SAYL KUNDE, TAM. Cyprinus, *species.*

SAYMBU KAZHANGU, TAM. The root of Caladium esculentum. Saymbu kire are the greens.

SAYMI-KI-PHALLI, HIND. Lablab vulgaris.

SAYND, BENG., HIND. Euphorbia nivulia. Ch'apal send is the prickly pear.

SAYNDI, HIND. The juice or toddy of the date tree : Tari is the sap of the Tar or palmyra tree, Borassus flabelliformis ; Narelli is from the narel or cocoanut tree, cocos nucifera.

SAYNDI KA JHAR, DUK. Elate sylvestris.

SAYND-KA DOODH, DUK. Nara shij, HIND. Euphorbium.

SAYUR KALADI, MALAY. Sayur is the generic term for vegetables. Kaladi is the Arum colocasia of Roxburgh with a large leaf and an edible root. It grows in marshy ground and is much used by the Chinese for food for their pigs.—*Jour. Ind. Arch., No.* 11, *Vol.* v.

SAYWIAN, HIND. Vermicelli which the natives usually prepare between the hands instead of using a press. Sayweean-ka-tukhta, a board for making sayweean on. Vermicelli is also prepared by being run through sieve holes into hot water.

SAYYID MAJID, see Somal, Beer-us-somal.

SAZANKI, HIND., PSHTU. 'The stinger,' Urtica, *species*.

SAZPOSH, HIND. Lavatera cachemiriana.

SBANGJA, HIND., TIB. Moss tea, a substitute for real tea.

SCABBARD. For these, the people of the East Indies set a great value upon the skin of a fish which is rougher than a seal-skin. Upon the back of the fish there are six little holes, and sometimes eight, somewhat elevated, with another in the middle, in the form of a rose. They make scabbards for swords of the skin; and the more those holes grow in in the form of a rose, the higher value they put upon them; Tavernier had seen ten thousand crowns given for a skin.—*Tavernier's Travels, pp.* 151-152.

SCABIOSA ELEGANS. This genus of flowering plants, with the scent of honey, are well adapted for ornamenting the flower garden, they are propagated by seed, and grow readily in any good soil, the seed may be sown in pots at the close of the rains, and the plants removed when a few inches high. —*Riddell.*

SCABRITA SCABRA, *Vahl.*, also Scabrita triflora, *L. Mant.* Syns. of Nyctanthes arbor-tristis.

SCABRIUSCULA, see Collinsia.

SCÆVOLA BELA-MUDAGUM, *Linn.*

SCÆVOLACEÆ, *Lindl.* An order of plants of 1 gen. and 3 species.

Bela mudagam, *Mal.*	Scævola taccada, *Roxb.*

A shrub, cultivated in gardens, with dark shining green leaves.

SCÆVOLA TACCADA, *Roxb.*

Scævola bela mudagum, *Linn.*

S. taccada and S. kœnigii grow in Ceylon and on the shores of the islands of the Eastern Archipelago.

SCALARIA, a genus of molluscs.

SCALIE, of Cuttack, the fibre of a gigantic twining plant, common throughout the forest jungles of the province. It is used for cordage, and is made into twine for mat-making and roofing purposes.

SCALLOP.

Jula, HIND.	Kashkul, PERS.

The fakir's dish, made of a half sea-cocoanut shell: speaking of a child of unknown parentage the phrase is, fakir-ke-jhulay may tukra kon dala, who threw the portion into the fakir's scallop.

SCALPING. Abbe Domenich relates a conversation between two warriors. Is it a chief who speaks to Mahto-totia? See the scalp which hangs from the bit of my horse, answered the Scheyenne. The scalp fastened to the extremity of a pole, is placed in the conqueror's cabin: and on days of parade or battle, in front of the cabin. The chiefs suspend it to their horse's bridles. Scalping is a practice that originated in High and North-eastern Asia. The words of the Father of History are as follows:—"Of the first enemy a Scythian sends down, he quaffs the blood; he carries the heads of all that he has slain in battle to the king; for when he has brought a head, he is entitled to a share of the booty that may be taken—not otherwise; to skin the head, he makes a circular incision from ear to ear, and then; laying hold of the crown shakes out the skull, after scraping off the flesh with an ox's rib, he rumples it between his hands, and having thus softened the skin, makes use of it as a napkin; he appends it to the bridle of the horse he rides, and prides himself on this, for the Scythian that has most of these skin napkins is adjudged the best man, &c., &c. They also use the skulls for drinking cups." The under-lying ideas were doubtless the natural wish to preserve a memorial of a foeman done to death; and at the same time to dishonour his hateful corpse by mutilation. Fashion and tradition regulate the portions of the human frame preferred. Scalping is generally but falsely supposed to be a peculiarly American practice. The Abbe Em. Domenech (Seven Year's Residence in the Great Deserts of North America, xxxix,) quotes the decalvare of the ancient Germans, the capillos et cutem detrahere of the code of the Visigoths, and the annals of Flude, which prove that the Anglo-Saxons and the Franks still scalped about A. D. 879.

SCALY ANT-EATER, ENG. Ant-eater.

SCAMMONEA, IT.

SCAMMONEE, FR. Scammony.

SCAMMONY.

Sukmoonia,	ARAB.	Sakmoonia,	GUZ., HIND.
Scammonee,	FR.	Scammonea,	IT.
Skammonien,	GER.	Escamonea,	SP.

This is found in the bazars of India ; it is the roduct of Convolvulus scammonia, a native f Syria, the Levant, and Guzerat, and is iice of the plant when dried. The scammony f Aleppo occurs in fragments, voluminous, y, light, spongy, friable, pulverulent, with ll fracture of blackish grey, but covered ith grey powder resulting from the reciprocal iction of the pieces, slightly transparent i small flakes, which become white and ther adherent when rubbed with a wet iger ; odour disagreeable, taste weak, acrid, tter, and repulsive, powder greyish white. he species of scammony is often adulter-ed with concrete juices of a similar kind, ith flour, chalk, sand and earth. Good ammony consists of resin 60, gum 3, ex-act 2, and earthy and vegetable impurities 5 per 100. The most abundant harvest f scammony is in Smyrna and Aleppo. here are several modes of collection, which ve rise to corresponding commercial varie-s. The neck of the root being laid bare divided transversely, and shells are placed ound the edges to receive the juice as it udes. This subsequently thickens in the r. The drug collected in this mode is lled shell scammony. This occurs in small rous masses, sometimes smooth, of red-ish or whitish grey colour ; of waxy frac-re, yellowish and half-transparent, in thin yers, of disagreeable taste and smell ; on ying it becomes adhesive. Instead of ells the leaves of the chesnut tree are some-mes used, and a flattened scammony of good uality collected. If the roots be cut in suc-essive layers, the scammony is inferior, but ill esteemed. It is dried either over a slow re or before the sun, and then moulded into tamped pastiles, of a whitish colour. This variety is very rare in commerce. Lastly, an extract is prepared from the expressed juice of the roots and stalks, this is moulded into ound masses, of black, vitreous and resinous racture. The Arab name of this drug, Ul Sug-moonia, signifies the purgative. Several old preparations called "diagredium" (διακρηδιον,) are mixtures of scammony with sulphur and liquorice, and are now no longer used.—*O'Shaughnessy, pp.* 500, 501. See Convol-vulus scammonia.

SCANDA, see Vedas.

SCANDENT LOMARIA, Lomaria scan-dens. See Ferns.

SCANDINAVIA. Amongst the Arian races who went to the north-west, there is no grounds for the belief that the Saxons con-tinued to offer human sacrifices after their settlement in Great Britain, but in their own land the immolation of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor and Frea. Its periodical festivals were ac-companied by different degrees of conviviality and license, in which human sacrifices were rarely wanting, varied in their number and value by the supposed exigency. In some cases even royal blood was selected that the imagined anger of the gods might be appeased. In Scandinavia, the authority of the priest was much greater than it would appear to have been among the Anglo-Saxons. It was his word, often, which determined where the needed victims should be found. It was his hand that inflicted the wound, and his voice which said, "I send thee Odin," declaring the object of the sacrifice to be that the gods might be propitiated, that there might be a fruitful season or a successful war. In no point does resemblance more attach between the ancient German and Scandinavian tribes, and the martial Rajpoot or ancient Gete, than in their delicacy towards females. See India, Sacrifice, Sanscrit, Yug.

SCANSORES, an order of birds of the class, Aves comprising,

ORDER I.—Scansores.

Fam. Psittacidæ.

Sub-Fam. Cacatuinæ, 2 gen., 5 sp., viz., 1 Calyp-torhyncus, 4 Cacatua.

Sub-Fam. Psittacinæ, Parrots, 3 gen., 13 sp., viz., 1 Coracopsis, 2 Tanygnathus, 10 Palæornis.

Sub-Fam. Platycercinæ, Ground Parakeets, 2 gen., 2 sp., viz., 1 Aprosmictus, 2 Platycercus.

Sub-Fam. Loriinæ, Lories, 4 gen., 1 sub-gen. and 13 sp., viz.,

Section i, *tongue not filamented.*

2 Eclectus, 3 Loriculus.

Section ii, *tongue filamented.*

3 Lorius, 4 Eos, 1 Trichoglossus.

SCARDO, the chief town of Balti, is 7,255 feet above the sea. See Iscardo, Shigar.

SCARIDÆ, a family of insects of the order Homoptera which may be shown as under :

ORDER Homoptera *Latr.*

Fam. Cicadidæ, *Weswt.*	Pœciipotera, *Latr.*
Dundubia, *Am. & Serv.*	*Fam.* Membracidæ, *Wlk.*
Cicada, *Linn.*	Oxyrhachis, *Germ.*
Fam. Fulgoridæ, *Schaum.*	Centrotus, *Fabr.*
Hotinus, *Am. & Serv.*	*Fam.* Cercopidæ, *Leach.*
Pyrops, *Spin.*	Cersopis, *Fabr.*
Aphæna, *Guer.*	Ptyelus, *Lcp. and Serv.*
Elidiptera, *Spin.*	*Fam.* Tettigoniidæ, *Wlk.*
Fam. Cixiidæ, *Wlk.*	Tettigonia, *Latr.*
Eurybrachys, *Guer.*	*Fam.* Scariæ, *Wlk.*
Cixius, *Lotr.*	Ledra, *Febr.*
Fam. Issidæ, *Wlk.*	Gypona, *Guar.*
Hemisphærius, *Schaum.*	*Fam.* Iassidæ, *Wlk.*
Fam. Derbidæ, *Schaum.*	Acocephalus, *Guar.*
Thracia, *Westm.*	*Fam.* Psyllidæ, *Latr.*
Derbe, *Fabr.*	Psylla, *Goff.*
Fam. Flattidæ, *Schaum.*	*Fam.* Coccidæ, *Leach.*
Flatoides, *Guar.*	Lecanium, *Illig.*
Ricania.	Coccus.

SCARITIDÆ, a family of coleopterous insects belonging to the section Geodephaga,

which corresponds to the Carabus and Cicindela of Linnæus. Siagona atrata is met with in Nepal and various parts of India : a specimen from Egypt, if not the self-same, is so exceedingly alike in size and sculpture, that it is very difficult to distinguish. The Scaritideæ abound in both hemispheres. Sapterus of India is represented by Oxystomus in the Brazils, and in Africa by Acanthoscelis. Morio and Clivina will, perhaps, be found in both the Old and New World ; the latter, indeed, is common to all temperatures ; the former may eventually occur in Europe, perhaps in Sicily.—*Hope, M. L. J., July* 1840, *p.* 115.

SCARLET, is a colour forbidden to mahomedans, but many of them wear it.

SCARLET CLERODENDRON, Eng. Clerodendron squamatum.

SCARLET CLOVER, Eng. Trifolium incarnatum.

SCARLET IXORA, Eng. Ixoira coccinea, *Linn.*

SCARLET OLEANDER, Eng. Nerium coccineum.

SCAVENGER, the lowest class of menials in British India, are the scavengers. They profess mahomedanism and hinduism. They are styled Lal-Begi, Halal-khor, Mehtar ; the women are styled Latcheè, or Lakshi from the hindoo goddess Lakshmee.

SCAVIOLA LOBELIA, a glaucous green plant of the Eastern Archipelago.

SCEPACEÆ, *Lindl.* A family of plants, comprising 3 genera and four species, viz., 1 Lepidostachys ; 2 Scepa and 1 Hymenocardia, of the Khassya and Burmah mountains.

SCEPTRE, the Ch'hari of the hindoo rulers, a long rod with an iron spike on it, often placed before the gadi, or throne. "Chhari muzboot t'ha," his rod was strong, is a familar phrase, which might be rendered his sceptre is firm.—*Tod's Rajasthan, Vol.* i, *p.* 410.

SCEURA MARINA, *Forst.* Syn. of Avicennia tomentosa, *Linn.*

SCHADA-VELI, Maleal. Asparagus sarmentosus.

SCHADIDA-CALLI, Maleal. Euphorbia antiquorum.

SCHÆNUS ACUMINATUS and Schænus graminifolius, in making cordage. The generic name is derived from "schoinos," a cord, plants.

SCHAFRAN, Rus. Saffron.

SCHAGRIM, Rus. Schagrin, Ger. Shagreen.

SCHAKERI-SHORA, Hind. Cucurbita maxima.

SCHALEN, Ger. Shawls.

SCHANGA-CUSPI ? Clitorea ternatea.

SCHARLACHBEEREN, Ger. Kermes

SCHAVALOS, Sp. Shawls.

SCHEDUDII, Rus. Acorns.

SCHEEPS-BESCHUIT, Dut. Biscuit.

SCHELESO, Sans. Iron.

SCHELK, Rus. Silk.

SCHEMBRA-VALLI ? Maleal. Vitis indica.

SCHEM-PABITI ? Maleal. Hibiscus rosa-sinensis.

SCHENA, or Karuna— ? Amorphophallus campanulatus.

SCHERNOWOI KAMEN, Rus. Mill-stones.

SCHERUBALA, Maleal. Ærua lanata

SCHERUKATU - VALLICANIRAM ? Maleal. Strychnos colubrina.

SCHERU-PULA ? Maleal. Ærua lanata.

SCHERU-SCHUNDA ? Maleal. Solanum indicum.

SCHETTI ? Maleal. Ixora coccinea.

SCHETTI-CODIVELI ? Plumbago rosea.

SCHIEFER, Ger. Slate.

SCHILPAD, Ger. Tortoise shell.

SCHINKEN, Ger. Hams.

SCHINUS BENGALENSIS, *Herb., Buch.*, Syn. of Icica indica, *W. & A.*, also of Canarium sylvestre, *Gærtn.*

SCHINUS NIARA, *H. B.*, also S. saheria, *H. B.* Icica indica, *W. & A.*

SCHITELU, *Rheede.* Sesamum orientale.

SCHIZANDREÆ, *Bl.*, a family of plants comprising Kadsura japonica, *Dun.*, of Nepal, Khassya and Japan : also Sphærostema propinqium and S. grandiflorum of Nepal, *Voigt.*

SCHIZANTHUS GRAHAMI. This is one of the Scrophularineæ, a genus of pretty showy annuals, colours of the flowers are crimson, white and variegated, and should be grown and treated as the Scabius.—*Riddell.*

SCHIZOPETALON WALKERI. This is one of the Cruciferæ, a singular plant with curiously cut petals, and a strong tapering root, and should be grown and potted like the Eschscholtzia.—*Riddell.*

SCHLAGENTWEIT, three learned brothers, Herman, Robert and Adolphe, who were employed from the year 1855, to report on the physical geography of India. They collected and published a vast amount of information. Adolphe the youngest was murdered at Kashgar by its fanatic ruler, Wali-Khan. It was generally thought for some time, that he had been betrayed by his servants ; and that he had fallen in a battle between the Chinese and Tartars, under the walls of the city of Yarcand. Such however was not the case, the lamented philosopher was murdered suddenly and almost without excuse at

Kashgar. Mr. T. H. Thornton personally examined Murad, M. A. Schlagentweit's Jew servant, and reviewed the correspondence on the subject from the Panjab Secretariat, he has collated also, with great pains, the evidence of the three servants, Mahomed Amin, Abdulah and Murad, and got Dr. Smith to report on the skull which the latter asserted he received from a Toorkee barber as that of the murdered man, but which Dr. Smith decided belonged to a native of the country. A. Schlagentweit having arrived at Sageit, wished to proceed to Kokund viâ Yarcand, a city within the confines of Chinese Tartary, which had but lately been conquered from the celestials by the Kokandese. His servants dissuaded him from making the attempt, because of the disturbed state of the country. He however did not listen to them, although he appears to have been fully cognizant of the perils and dangers awaiting him if he proceeded. He alludes to the probability of his death in a promissory note which he gave to Murad, for 3,000 Rs. on account of 300 Siklow or "white fur skins," and which in the event of death was made payable from the treasury at Kangra. He also sent back his papers and his heavy baggage viâ Ladakh. These were received and forwarded to his family in Germany. One march from Sageit, all his horses were stolen. His servants managed to recover eleven, and the rest were afterwards obtained on application to a minor chief named Haji, in Kargalik. This man was one of Wali Khan's adherents, and was cured by the traveller of a rather severe sabre cut. His gratitude was fervent, under its influence he desired to manifest his friendship for the sahib, by putting the horse-thieves to death but pardoned them reluctantly on the entreaty of the man they had injured. At the time of M. Schlagentweit's journey, Yarcand was occupied in force by a Syud, chieftain of one of those predatory bands with whom the Chinese are continually at war, named Dil-Khan or Zullat-Khan. Soon after reaching the city, Dil-Khan met with a severe defeat from the Chinese forces, and was obliged to retire. A. Schlagentweit finding himself disappointed in this direction took the resolution of going to Kashgar, at that time occupied by another Syud chieftain, named Wali-Khan. This man was possessed of considerable power on the borders, and was honored by the title of Peer or Saint. On arrival near the camp of this redoubtable chief, our traveller pitched his tents at the distance of a coss and sent forward Mahomed Amin to notify his advent. In a little time a person came over who forthwith proceeded to take an inventory of the traveller's property. His arms were also demanded, and surrendered. He was then compelled to go to Wali-Khan's camp, and on remonstrating appears to have been summarily beheaded with a sword. This was about the 26th August 1857. The promissory note given to Murad, the Jew, has been sanctioned by the Panjab government. Murad, with the other servants, were seized, they were soon released, but he being a Jew had to turn mahomedan before he could accomplish his freedom. Mahomed Amin went to Kokand, where he is still residing.

SCHLEGEL, FR. A Sanscrit scholar who, in 1808, published an essay on the language and wisdom of the Indians.

SCHLEGEL, A. W. von, a Sanscrit scholar, who in 1823 published an edition and Latin version of the Bagavad Gita, and in 1829–38 two volumes of the Ramayana, with a translation of the first.

SCHLEICHERA, *species*. In Tenasserim, the fruit of a species of this tree resembles the wild rambutan in everything except that it is covered with prickles half an inch long. It is rarely seen in market but would be a valuable addition to the desert. The tree grows among the hills of Tavoy. There are four species of Schleichera in Burmah, all undetermined, viz. :

Kyet mouk,	BURM.	Thaka peu sai ghau,	BURM.
Hsen kyet mouk,	,,	,, ,, ,, htoæ kau,	,,

SCHLEICHERA TRIJUGA; *Willd.*; *Roxb.*; *W. & A.*

Melicocca trijuga, *Juss.*, *DC.*	Schleichera pubescens, *Roth.*
Stadmannia ,, *Spreng.*	Melicocca ? ,, *DC.*
Cassambium pubescens, *Buch.*	

Samma,	BEAS.	Puvu maram,	TAM.
Koon,	BENG.	Pu maram,	,,
Gyo,	BURM.	Mayi,	TEL.
Saguri mara,	CAN.	Posuku,	,,
Goosum,	of Kamaon.	Poosku,	,,
Kusoomb,	MAHR.	Rotangha	,,
Koosoombh,	,,	Yelim burika,	,,
Jamoa,	RAVI.	Kola-koosoomoo,	URIA.
Cong-gass,	SINGH.	Ghuntiah ,,	,,
Æmbul kon,	,,		

This tree grows in the warmer parts of Ceylon, up to an elevation of 2,000 feet; it grows, also, in Coimbatore, is common in Canara and Sunda, though most so below the ghats where it reaches the size of a large tree; it is not uncommon in the Dundele forest and in the forests of the South Konkan, and is common in those of the North Konkan; it is said to be very abundant in the Godavery forests, two trees in the Ganjam district are termed Koosoomoo, the Kola koosoomo and Ghuntiah koosoomo, the former of which abounds and is larger and more useful than the latter which is not so common, (but that either of these are the S. trijuga requires confirmation.) It grows in all the valleys and outer ranges of Kumaon. It occurs rarely, wild,

in the Siwalik tract up to the Beas, and on the eastern verge of the Punjab. It attains an extreme height of 50 feet with a circumference of 4½ feet. The height from the ground to the intersection of the first branch is 9 feet. It produces a red, strong, hard and heavy wood, which is used to make pestles, spokes for bandy wheels and other purposes where much strength in small space is required, and as crushers for sugar, rice and oil mills, screw rollers for sugar mills, cotton presses, &c., and the axletrees of bandies and ploughs; the seeds yield an oil which is used for burning, and from the young branches a considerable quantity of lac is gathered, which, in Ganjam, is in request among native jewellers. It is one of the heaviest woods known in Burmah, where it is common in the plains as well as on the hills, and is there used for cart wheels, the teeth of harrows, the pestles of oil mills, &c., &c. A cubic foot there weighs lbs. 70. The trunk of a full-grown tree on good soil attains an average length to the first branch of 25 feet, and its average girth measured at 6 feet from the ground is 12 feet. O'Shaughnessy says the oil from the seeds is edible. The bark is astringent and is used rubbed up with oil by the natives to cure the itch.—*Drs. Roxb., Voigt, Wight, Gibson & Brandis*; *Thwaites, Captain Macdonald, p.* 58; *Major Pearson*; *Mr. Thompson*; *Cal. Cat. Ex.* 1862; *Mr. Rhode.*

SCHLOPU, Rus. Hats.

SCHLOSSER, Ger. Locks.

SCHMACK, Ger. Sumach.

SCHMALZ, Ger. Smalt.

SCHMELZ, Ger. Enamel.

SCHMIDELIA, a genus of plants of the order Sapindaceæ its species known to occur in the E. Indies are:

acuminata, *Thw.*, Ceylon.	serrata, *DC.* Penin. of India, Bengal.
aporetica, *Roxb.*, Sylhet.	villosa, *Wight*, Chittagong.
dentata, *Wall.*, Assam.	
glabra, *Roxb.*, Chittagong.	

SCHMIDELIA ACUMINATA, *Thw.* A small tree of Galagama, in Ceylon, on the banks of streams, at an elevation of 2,000 to 3,000 feet.—*Thw. En. Pl. Zeyl., p.* 55.

SCHMIDELIA ALLOPHYLLA, *DC.* A small tree, a variety of which grows at Ambagamowa and Hinidoon districts of Ceylon, up to an elevation of 3,000 feet, another variety grows in the Central Province, at an elevation of 2,000 to 5,000 feet. —*Thw. En. Pl. Zeyl., p.* 55.

SCHMIDELIA COCHINCHINENSIS has its leaves on long petioles, with serrated leaflets, terminal racemes, pilose, small petals. The flower is small and white. It is a native of Cochin-China, on the banks of rivers. The leaves are used as cataplasms in contusions. —*Don. Dichlamydeous' plants*; *Lindley, Flora Medica in Eng. Cyc.*

SCHMIDELIA HISPIDA, *Thw.* A small tree, grows in the Ambagamowa district of Ceylon at an elevation of 1,000 to 2,000 feet.—*En. Pl. Zeyl.*, i, *p.* 55.

SCHMIDELIA SERRATA, *DC.*; *W. & A.*

Ornitrophe serrata, *Roxb. Cor. Pl.*

Rakhal phul ka jhar, Hind.	Tantisa, Tel.
Korra chettu, Tel.	Tavatike, „
Taulika, „	Tualike, „

A straggling shrub, or small tree, with ternate leaves. It grows in the peninsula of India and Bengal. Timber very small, its fruit is eaten by the natives. Its root is used in diarrhœa by the Teling physicians. Its small red ripe berries are eaten, and the astringent root is employed to check diarrhœa.—*Voigt.*; *M. E. J. R.*; *O'Shaughnessy, p.* 241.

SCHNUPF-TABACK, Ger. Snuff.

SCHO, Ter. Arenga saccharifera, the Gomuti tree.—*Labill.*

SCHŒNANTHUS ESCULENTUM.

Sa ba len, Burm.	Ta yu khlau meeda, Burm.

SCHOENEN, Dut. Shoes.

SCHOKOLAD, Rus. Schkolate, Ger. Chocolate.

SCHOLASTIKOS, the Thebœan, travelled in India, a few years before the Chinese missionary Fa Hian, and was detained a prisoner for six months in the pepper districts of Malabar. Some account of his journey is given by Palladius.

SCHOOL, Eng. A term employed in the south-sea whale fisheries for a shoal of whales.

SCHORIGENAM—? Tragia involucrata.

SCHORL, or black tourmaline, is found in Madura, in great abundance, also in quartz near the mouth of Tavoy river on the east side, and also at the foot of the eastern mountains, near the head-waters of the Dahgyaine, north-east of Maulmain. In both localities in Tenasserim, the crystals are numerous, and in Tavoy they are large, but not so handsome as seen in foreign specimens. Green Tourmaline, cannot be distinguished by the eye from beryl. Beryl scratches quartz, but tourmaline is scratched by quartz. White jewels of an inferior quality are often offered for sale in Maulmain under the name of Ceylon diamonds, but they are usually made from green tourmaline. White tourmaline, is a rare mineral, but the green variety being common, the jewellers by exposing it to heat expel its colour and it becomes white.—*Mason.*

SCHOTT and Endlicher, authors of Meletemata botanica.

SCHOVANNA ADAMBOE, Maleal. Ipomœa pes-capræ.

SCHOVANNA MODELA-MUCCU, Maleal. Polygonum glabrum.

SCHPIAUTER, Rus. Spelter.

SCHREBERA ALBENS, *Retz.* Syn. of Elæodendron glaucum, *Pers.*

SCHREBERA SWIETENIOIDES, *Roxb.*

Weavers' beam tree, Eng.	Makadi, Tel
…ka, Hind.	Makadoo chettu, ,,
…eva-linga maram, Tam.	Makkam, Tel., of the Nalla Mallai?
…ga ,, ,, ,,	
…kodi, Tel.	

A large timber tree, a native of the valleys of the mountainous parts of the Rajahmundry circars, the Nalla-mallai range, the Balaghat mountains, the Thull ghat near Bhewndy, Jowar, the Central Provinces and the Hala mountains, west of the Indus. Its wood is of a grey or yellowish colour, very close grain, heavy and durable. It is much employed by weavers for beams and for many other purposes of their looms. It is said not to be liable to warp or bend: and was recommended by Roxburgh as a substitute for box, in the scales of mathematical instruments.—*Roxb. Fl. Ind., Vol.* I, p. 109; *Captain Beddome*; *Mr. Latham*; *Mr. Rohde, MSS.*; *Major Pearson.*

SCHREIB-FEDREN, Ger. Writing pens.

SCHTSCHETKI, Rus. Brushes.

SCHTSCHETINA, Rus. Bristles.

SCHUHE, Ger. Shoes.

SCHUH-SCHWARZE, Ger. Blacking.

SCHULISTAN, named from the Schul, who formerly occupied it, as we learn from the Tarikh-i-Guzideh.

SCHUMAMBU VALLI? Mal. Vitis latifolia.

SCHUNDA PANA? Mal. Caryota urens.

SCHWAMM, Ger. Sponge.

SCHWARZEN PFEFFER, Ger. Black pepper.

SCHWARTZ NEISSWARGEL, Ger. Helleborus niger.

SCHWEFEL, Ger. Sulphur.

SCHWEFEL ANTIMON, Ger. Sulphuret of Antimony.

SCHWEFELEISEN, Ger. Pyrites.

SCHWEFEL-SAURE, Ger. Sulphuric acid.

SCHWEFELSAURES EISEN, Ger. Green copperas; Sulphate of Iron.

SCHWEFELSAURES EISENTOXYDUL, Ger. Sulphuret of Iron.

SCHWEFELSAURES KUPFER, Ger. Blue stone, Sulphate of Copper.

SCHWEFELSAURES ZINKOXYD, Gr. Zinci sulphas, White vitriol, Sulphate of Zinc.

SCHWEFELSAURES NATRON, Ger. Soda.

SCIADOPITYS VERTICILLATA, *S. and Z.* A tree of Japan.

SCIARAPPA, It. Jalap.

SCIÆNA, a genus of fishes: S. aquila (maigre of the French, and umbrina of the Romans), &c., is found in the Mediterranean. S. pama or Bola pama of Buchanan resembles the "maigres," but has a singular natatory bladder. When twelve or fifteen inches long, it is called whiting at Calcutta, and furnishes a light and salubrious diet. It is caught in great abundance at the mouths of the Ganges, but never ascends higher than the tide.

SCIENCE.

Ailm, Ar., Hind., Per.	Scienza, Scienzia, It.
Science, Fr.	Sciencia, Lat.
Kunst, Kenntnisse, Ger.	Ciencia, Span.

The sciences have been arranged as under:

Classificatory Sciences, Botany and Zoology.

Chemical Sciences, Chemistry, Mineralogy, Electro Chemistry.

Sciences which consider bodies according to the elements of which they are composed are chemistry which analyses them, and mineralogy which classifies them with a view to their analysis.

Sciences which attend to the structure, the symmetry and the functions of living beings are Anatomy; Comparative Anatomy; Morphology; Biology.

Palætiology is the past history of the world by studying the causes of change, amongst which we may especially notice Geology or the History of the material Earth; and Ethnography or Glossology, the History of Languages.

Palæontology is the history of creatures now found fossil.

Deduction obtains consequences from principles.

Induction is the inference of a true theory from phenomena by philosophical sagacity: Deduction of consequences from hypothesis by direct reasoning.

Logic defines the methods of strict reasoning.

At School, boys should learn Arithmetic and Mensuration, *i. e.*, the practical rules of finding, from the necessary data, the areas of triangles, pyramids, cylinders, spheres.

Mathematics are disciplinal studies: Mathematics are of two kinds, Analytic and Geometric. The portions of Mathematics that may most properly be added to Elementary Geology are Solid Geometry (in 11th and 12th books of Euclid) Conic Sections; Mechanics; Hydrostatics, Optics and Astronomy.

Geometry sets out from certain fixed principles, viz.: Axioms and Definitions. The 1st six books of Euclid contain the essential portion of Geometry, and is a portion of Mathematics.

Mechanics is a branch of Mathematics. Mechanics, Hydrostatics, apparent Astronomy, and optics are the four branches of philosophy.

Mensuration is the Rules for determining the magnitude, in numbers, of lines, spaces and solids, under given conditions.

Algebra is the calculation of numerical questions by symbols.

The Algebra of Curves, is the calculation of the properties of curves by the symbols of their co-ordinates.

The Differential Calculus, is the calculation of the properties of curves by the symbols of their changes of such quantities.

SCIGLE, Fr. Rye.

SCILLA, Lat., also Cipollo Marina, It. Squill.

SCILLA, a genus of plants of the family Liliaceæ, of the South of Europe, and North Africa, and two species, S. coromandeliana, *Roxb.*, and S. indica, *Roxb.*, are natives of India, the former on sand hills on the Coromandel Coast, and S. indica on the sandy shores of both Concans. Its root is bitter and nauseous like that of squill.—*Voigt.*

SCILLA INDICA, *Roxb.*

Iskil,	Arab.	Indian squill.	
Kanda,	Beng.	Jungle Piaz.	
Koondree,	,,	Nurri vungajum,	Tam.
Pa-daing-khyet-thwon,	Burm.	Adavi tella-gadda,	Tel

This plant occurs on the sea-shores of the Indian Peninsula; leaves numerous, radical, sub-bifarious, ensiform, nearly flat, smooth on both sides, six to eighteen inches long. When in blossom, the plant is entirely destitute of leaves: the bulbs are round, white, the size of an orange; inodorous, nearly tasteless, and devoid of any medicinal properties but possibly this may have proceeded from their having been collected from an unfavourable locality, or at the improper season, as few plants are so much influenced by climate and circumstances as the squill, instances being known on the Spanish coast of its being quite inert in one locality, while as active as usual at the distance of a few miles. It is already extensively used in place of the officinal squill.—*O'Shaughnessy, p.* 663.

SCILLA MARITIMA, *Linn.*

Urginea maritima, *Steinh.*	O. squilla, (a) *B. M.*	
Ornitho-galum maritinum, *Tourne.*	Iskil,	Arab.

This European plant furnishes the squill used as medicine. It is used as a diuretic but there is every reason to suppose that the East Indian species, S. coromandeliana and S. indica possess the same medicinal qualities.

SCINCIDÆ, the Skinks, a family of reptiles of the order Sauria or lizards, and subclass Reptilia; the family may be thus shown:

Skinks—Scincidæ.

Tropidophorus microlepis, *Gthr.*	Chartaboum.
„ cochin-chinensis, *Cuv.*	... Cochin-china.
Aspris berdmorei, *Bly.*	... Mergui.
Euprepes chinensis, *Gray.*	... China.
„ rufescens, *Shaw.*	... From Affghanistan to China.
„ monticola, *Gthr.*	... Sikkim.
„ olivaceus, *Gray.*	... Malayan Peninsula.
„ macularius, *Blyth.*	... Rungpore?
„ trilineatus, *Gray.*	... Carnatic.
Mabouia quadrilineata, *Bly.*	... Hongkong.
„ chinensis, *Gray.*	... China.
„ maculata, *Blyth.*	... Assam.
Eumeces bilineatus, *Gr.*	... Neilgherries.
„ himalayanus, *Gthr.*	... Himalaya.
„ schlegelii, *Gthr.*	... Sikkim.
„ modestus, *Gthr.*	... Ningpo.
„ reevesii, *Gray.*	... China.
„ ladacensis, *Gthr.*	... Tibet.
„ formosus, *Blyth.*	... Mirzapore, Wuzeerabad.
Eumeces indicus, *Gray.*	... Sikkim.
„ taprobanensis, *Kelaart.*	... Ceylon.
„ chalcides, *L.*	... Penang, Siam, Hongkong.
„ siamensis, *Gthr.*	... Siam.
„ bowringii, *Gthr.*	.. Hongkong.
„ albopunctatus, *Gray.*	... Nellore, Mergui.
„ hardwickii, *Gray.*	... Peninsula of India.
„ punctatus, *E.*	... Peninsula of India.
„ isodactylus, *Gthr.*	... Gamboja.
Hagria vosmærii, *Gray.*	... Bengal.
Chiamela lineata, *Gray.*	
„ anguismelanosticta, *Merr.*	Coromandel.

See Adda, Eurylepis.

SCINDAPSUS OFFICINALIS, *Schott.*

Pothos officinalis, *Roxb.* | Guj peepul, Beng.

Grows in Calicut, Bengal, Burmah, Cochin-China. It is cultivated for its fruit, which is cut into transverse pieces and dried, and is used medicinally.—*Voigt.*

SCINDAPSUS, a genus of plants of the family Araceæ, section Calleæ.

giganteus, *Schott.*, Penang and Singapore.
decursivus, *Schott.*, Sylhet.
caudatus —— ? Penang.
glaucus, *Schott.*, Paras, Nepal, Khassya.
peepla, *Endl.*, Sylhet.
pertusus, *Schott.*, Coromandel, South Concan.
pinnatus, *Schott.*, Malayana.

SCINDAPSUS, *Schott.* A genus of plants of the order Araceæ, sect. Calleæ, Subsect. Callinæ. The following are East Indian species:

caudatus—? Penang.
decursivus, *Schott*, Sylhet.
giganteus, *Schott*, Penang.
glaucus, *Schott*, Khassya, Paras. Nepaul.
officinalis, *Schott*, all British India, Burmah.
peepla, *Endl*, Sylhet.
pertusus, *Schott*, Coromandel, South Concan.
pinnatifidus, *Roxb.*
pinnatus, *Schott*, Malayana.

SCINDAPSUS OFFICINALIS, *Schott.*

Pothos officinalis, *Roxb.*

Officinal scindapsus,	Eng.	Ati tipili,	Tam.
Gaj pipal,	Beng., Hind.	Gaja pippali,	Tel.
Ouna tipili,	Maleal.		

This perennial plant grows at Calicut, in Bengal, the Monghir mountains, Rangoon, Maulmein, Cochin-China, its dried fruit is used in these countries medicinally, and it is

cultivated for this purpose at Midnapore.—*Roxb.*, *Voigt*, *Mason*, *W. Ic.*

SCINDAPSUS PERTUSUS, *Schott.*

Pothos pertusus, *Roxb.* | Iletadi maravara, MALEAL.

A climbing plant growing on the Coromandel mountains and on the Western coast of India, in the S. Concans. The pericarp is used in leprosy and scabies.—*Roxb.*, *Voigt.*

SCINDE, a country on the lower part of the Indus river. See Sind'h.

SCINDIAH, the regal title usually given to the Mahratta sovereign whose capital is Gwalior, and who has the title of Maharajah. Scindiah was defeated by General Goddard on the 5th April 1780. The territories over which the maharajah Scindiah rules form part of what the British term Central India. Their extent is 8,318 square miles, with a population of 576,000 and an annual revenue of £330,000. See Central India, Gwalior.

SCINDIAH, the ruling title of a hindoo family whose capital is Gwalior. A war was concluded with Scindiah on the 30th December 1803. The Contingent of Scindiah, of 5,000 cavalry, was arranged for by the treaty of Gwalior of November 1817.

SCIRPUS JUNCIFORMIS, *Nees.*

S. juncoides, *Roxb.*

One of the Cyperaceæ, grows in Bengal.

SCIRPUS KYSOOR, *Roxb.*

Keshar, BENG.

A plant of Bengal.

SCIRPUS, a genus of plants belonging to the order Cyperaceæ.

SCIRPUS CAPSULARIS.

Tang-sin-ts'au, CHIN.

This sedge is grown in Kiang-nan and Shen-si, in China, for making mats and lamp-wicks, for the latter purpose, the consumption is enormous, the Chinese watch the growth of the flower like snuff of lamps and candles, and draw ominous conclusions from the appearance. The stalks are steamed and the cuticle peeled off, leaving the central white pith which is used as a tent in surgery. It is used as a ptisan or menstruum for other drugs; its ashes are given to children to prevent them crying at night.

SCIRPUS DUBIUS, *Roxb.* Its root is used by the Tiling people for food.

SCIRPUS JUNCIFORMIS, *Nees.* S. juncoides, *Roxb.* A plant of Bengal.

SCIRPUS KYSOOR, *Roxb.* Keshar, BENG. A plant of Bengal.

SCIRPUS TUBEROSUS.

Pi tsi, CHIN. | Water chesnut, ENG.

This sedge has an edible root, used as food by the Chinese.

SCITAMINEÆ, *R. Br.* An order of endogenc plants, to which Rich and Lindley apply the name Zingiberaceæ. It comprises the East Indian genera,

Zingiber,	Elettaria,	Phœomeria,
Curcuma,	Hedychium,	Costus,
Dischenia,	Alpinia,	Globba,
Kæmpfera,	Gastrochilus,	Roscoea,
Amomum,	Monolophus,	

The order formerly embraced the Marantaceæ, with 1 anther-valve, and the Zingiberaceæ with 2 anther-valves. The separation of these orders is now generally recognised. Scitamineæ are abundant on the Khassia hills and extremely beautiful; Dr. Hooker collected thirty-seven kinds. The hat of the Lepcha in Sikkim is made of leaves of one of the Scitamineæ, placed between two thin plates of bamboo work.

SCIURIDÆ, a family of mammals of which several genera and many species occur in the East Indies. The Sciuridæ, belong to the order Rodentia—Molar teeth simple, with tuberculous crowns; five above, four below, on each side; the lower incisors very much compressed. Toes long, armed with sharp claws, four on the anterior and five on the posterior feet: thumb very short. Tail long and tufted. Cheek-pouches in some. In others the skin of the sides extended between the anterior and posterior limbs. The geographic range of the sciuridæ is very wide both in the Old and New World. They have been divided by some authors into two principal groups:—

A.—Squirrels with free limbs, viz., Tamias, Sciurus, Macroxus and Anisonyx.

B.—Squirrels with their limbs invested in the skin of the sides, viz., Pteromys and Sciuropterus.

Tamias or Ground Squirrels are found in Europe, Asia, and North America. Tamias palmarum is the Mustela africana of Clusius, Sciurus palmarum of Linnæus, and Le palmiste of Buffon. The genus Sciurus or True Squirrels have a slight depression of the frontal bones, and a very slight posterior projection of the same; profile of the face very nearly straight; cranial cavity as long as two-thirds of the face. No cheek-pouches. Tail distichous. The East Indian genera and species are as under:—

Fam.—SCIURIDÆ, or Squirrels.

Sciurus malabaricus, *Schintz.*

S. maximus, *Blyth.*, *Horsf.* | Jangli gilhri, HIND.

Malabar Squirrel of Malabar, Wynaad, Neilgherries, Travancore.

Sciurus maximus, *Schr.*, *Ell.*, *Bly.*

Kat berral,	BENG.	Karrat,	HIND.
Rasu, Ratuphar,	,,	Kondeng,	KOL.
Per-warsti,	GOND.	Bet-udata,	TEL.

Red Squirrel of Central India.

Sciurus elphinstonei, *Sykes.*
S. bombayanus, *Sch.*, *Ell.*
Kes-annalu, CAN. | Shekra, MAHR.
Red Squirrel of Bombay. |
Western Ghats, Malabar, Mahabaleshwur.

Sciurus macruroides, *Hodgs.*
S. bicolor, *var.* Indica, *Horsf.*, *Blyth.* | S. giganteus, *McLelland.*
Shingsham, BHOT. | Le-hyuk, LEP.
Black Hill Squirrel, ENG. |
S. E. Himalaya, Nepal, Sikkim, Assam, Burmah.

Sciurus macrourus, *Forst*, *Blyth*, *Horsf.*, *Hardw.*
S. ceylonensis, *Bodd.* | Grizzled Hill Squirrel, ENG.
Ceylon S. India.

Sciurus ephippium, *Muller*, Borneo.
Sciurus lokriah, *Hodg.*, *Blyth.*
S. subflaviventris, *McLelland.*
Zhamo, BHOT. | Killi, LEP.
Orange-bellied gray squirrel, ENG. | Killi-tingdon, ,,
| Lokria, NEP.
S. E. Himalaya, Nepal, Sikkim, Bhotan.

Sciurus lokrioides, *Hodg.*, *Blyth.*
S. lokriah, *Gray.* | Hoary-bellied gray squirrel.
S. E. Himalaya, Nepaul, Sikkim, Bhotan.

Sciurus Assamensis, *McLell.*, Sylhet, Dacca.
Sciurus ferrugineus, *F. Cuv.*, N. E. India.
Sciurus erythrœus, *Pallas*, N. E. India.
Sciurus erythrogaster, *Blyth*, N. E. India.
Sciurus hyperthrus, *Blyth*, N. E. India.
Sciurus chrysonotus, *Blyth*, N. E. India.
Sciurus hyperythrus, *Is. Geoff*, N. E. India.
Sciurus phayrei, *Blyth*, N. E. India.
Sciurus blanfordi, *Blyth*, N. E. India.
Sciurus atrodorsalis, *Gray*, N. E. India.
Sciurus palmarum, *Gm.*, *Bl.*, *Ell.*
S. penicillatus, *Leach.*
Beral, BENG. | Gil'hri, HIND.
Lakki, ,, | Kharri, MAHR.
Alalu, CAN. | Vodata, TEL.
Common striped squirrel. | Urta, WADDAR.
Peninsula of India.

Sciurus tristriatus, *Waterhouse.*
S. palmarum, *Ell.*, *Bl.* | S. kelaarti, *Layard.*
S. brodiei, *Layard.* |
Striped jungle squirrel of Ceylon and Peninsula of India.

Sciurus layardi, *Blyth*, Travancore Striped Squirrel of Ceylon, Travancore.

Sciurus sublineatus, *Water.*, *Blyth.*
S. delesserti, *Gervais.* | Neilgherry striped squirrel.
Ceylon, forests of S. India, Travancore, Neilgherry.

Sciurus insignis, *Horsf.* Java.
Sciurus McClellandi, *Horsf.*, *Blyth*, *Hod.*
S. chikhura, *Blyth.* | S. pembertoni, *Blyth.*
Small Himalaya squirrel, | Kalli gangdin, LEP.
N. E. India, Himalaya, Sikkim, Bhotan, Khasya.

Sciurus barbei, *Blyth*, Tenasserim.
Sciurus plantani, *Horsf.*, Java.

Sciurus berdmorei, *Bly.*, Mergui.
Sciurus europœus, *Linn.*, North and Central Asia, Europe.
Pteromys petaurista, *Pallas*, *Blyth.*
P. philippensis, *Ell.* | P. oral, *Tick.*
Brownflying squirrel, ENG. | Para-ohaten, MALAY.
Pakya, Mahr. of GHAT. | Orai of Kol.
Forests of Ceylon, peninsula of India, and Central India.

Pteromys inornatus, *Is. Geof.*, *Jacq.*, *Blyth.*
P. albiventer, *Gray.*
Rusi-gugar, KASHM. | White-bellied flying squir.
N. W. Himalaya at 6,000 to 10,000 feet.

Pteromys magnificus, *Hodg.*, *Bly.*
P. chrysothrix, *Hodg.* | Sciuropterus nobilis, *Gray.*
Red-bellied flying squir. | Biyom, LEP.
S. E. Himalayas, Nepal to Bhotan, Khassya Hills, Assam Hills.

Pteromys cinerascens, *Blyth*, Burmah.
Pteromys nitidus, *Geoff.*, Malay peninsula.
Pteromys elegans, *S. Muller*, Java.
Pteromys philippensis, *Gray*, Philippines.
Sciuropterus caniceps, *F. Cuv.*, *Gray*, *Blyth.*
Pt. senex, *Hodg.*
Grey-headed flying squir. | Biyom chimbo, LEP.
Nepal, Sikkim.

Sciuropterus fimbriatus, *Gr.*, *Blyth.*
P. leachii, *Gray.* | Gray flying squirrel.
N. W. Himalaya, Simla to Kashmir.

Sciuropterus baberi, *Blyth.* Affghanistan.
Sciuropterus alboniger, *Hod.*, *Blyth.*
S. turnbulli, *Gray.*
Piam; Piyu, BHOT. | Khim, LEP.
Black and white flying squirrel of Nepaul to Bhotan.

Sciuropterus villosus, *Blyth.*
S. sagitta, *Walker.* | Hairy-footed flying squirrel.
Bhotan, Sikkim, Assam at 3,000 to 6,000 feet.

Sciuropterus fusco-capillus, *Jerd.*, *Bly.*
Small Travancore flying squirrel.
Travancore.

Sciuropterus layardi, *Kel.*, *Blyth.* Ceylon.
Sciuropterus spadiceus, *Blyth.* Arracan.
Sciuropterus phayrei, *Blyth.* Pegu, Tenasserim.
Sciuropterus sagitta, *Linn.* Malayana.
Sciuropterus horsfieldii, *Waterhouse.* Malayana.
Sciuropterus genibarbis, *Horsf.* Malayana.
Sub-Fam. Arctomydinæ, Marmots.
Gen. Arctomys bobac, *Sch.*, *Bly.*, *Pal.*
A. tibetanus, *Hodg.* | A. caudatus, *Jacq.*
A. himalayanus, *Hodg.* |
Bhibi, BHOT. | Pot sammiong, LEP.
Lrin, KASHM. | Kadia-piu, TIBET.
Cho, LEP. |
Tibet Marmot, White marmot of E. Europe, Central Asia, Snowy Himalaya, Kashmere to Sikkim at 12 to 16,000 feet.

Arctomys hemachalanus, *Hody.* Red Marmot.
A. tibetanus, *Hodg.*
Chipi, BHOT. | Sammiong, LEP.
Drun, KASHM. |

Cashmere, N. W. Himalayas at 8 to 10,000 et.

In Macroxus, the frontal bones very much pressed: nasal bones but little elongated ; a ep depression between the cranium and the e. Tail round. No cheek-pouches. The ecies are natives of Sumatra, India, Africa, d South America.

In Pteromys, the posterior part of the nasal es a little convex ; the frontal bones ongly depressed in their middle and rising htly afterwards ; the posterior parts of head do not begin sensibly to curve downrds before the middle of the parietal bones ; ebral cavity small, only half the length of head. The species are natives of Asia, e Moluccas, the Philippine Islands and Java.

In Sciuropterus, the species differ from Pteomys in having the anterior part of the profile e of the head straight to the middle of the ntal bones, where it takes a curved direcn, very much arched, without any interdiate depression. Occiput projecting ; ntal bones elongated ; and the capacity of e cranium comprising three-fifths of the gth of the head. The species are found Northern Asia and North America.

Sciuropterus alboniger, *Hodgson, J. A. S.*, 231, Sc. Turnbulli, *Gray*. P. Z. S. 1837, 68, M. N. H., *n. s.* J. 68. Inhabits Nepal, kim, Bootan, and common at Darjeeling.

Sciuropterus baberi, *Blyth*. A species mingly allied to Sciuropterus fimbriatus, t one-fourth larger was figured by Sir Burnes as the Moosh-i-bolder of the untain districts of Nyrow, and identified him as the flying-fox of the translation of ber's Memoirs (p. 145.) A length of 2 et is assigned to it, whereas it is doubted rom examination of several specimens) if fimbriatus would ever exceed 19 inches the most. The colour of the upper parts represented as pale fulvescent ashy brown, rker on the limbs, tail broad and bushy, and pped with blackish under parts, dull white th a ferruginous margin to the membrane derneath. If verified it might rank as Sc. beri.

Sciuropterus caniceps, see Sciurus.

Sciuropterus fimbriatus, *Gray*, M. N. H. *s.*, vol. J., p. 84, from Simla. Inhabits the . W. Himalaya. The colour of the upper rts of this species resembles that of an Engsh wild rabbit.

Sciuropterus layardii, *Kelaart*, has a rachute.

Sciuropterus sagitta, *Linn.*

Pteromys sagitta, *Geoff.* | Sciurus sagitta, *Linn.*
Sciurus maximus volans, seu Felis volans, *Brisson.*
Le Taguan—Fr., Grand Ecureuil volant, *Buffon.*

This squirrel has a small rounded head ; cloven upper lip ; small blunt ears ; two warts at the utmost corner of each eye, with hairs growing out of them ; neck short. Length, from nose to tail, 18 inches ; tail, 15 inches, (*Pennant.*) It inhabits Java and others of the Indian islands. It leaps from tree to tree as if it flew ; and will catch hold of the boughs with its tail. It differs in size. Nieuhoff describes it under the name of the flying-cat, and says the back is black. Dr. Horsfield, in his 'Zoological Researches in Java,' describes two flying-squirrels (Pteromys genibarbis and P. lepidus), both nocturnal in their habits, nearly approaching to S. sagitta. He describes the first as living on fruits ; the second as found in the closest Javanese forests, where the height of the trees and the luxuriance of the foliage effectually conceal it. He enumerates 16 species of Sciuri, 4 of which were first described by himself. These do not include the flying-squirrels.

Sciuropterus turnbulli, see Sciurus.

Sciuropterus villosus, *Blyth, n. s.* referred to Sc. sagitta in Mr. Walker's Catalogue of Assamese mammalia.

Sciurus, the squirrel, of which several species inhabit India Proper, Ceylon, Assam, and the whole eastern coast of the Bay of Bengal down to the Straits of Malacca. (*J. A. L.*, xvi, 868, *et seq.*) There are no Sciuri more difficult to undertand than the group exemplified by Sc. modestus, *Muller*. Sc. lokriah and Sc. lokroides, *Hodgs.* Sc. griseopectus, *Blyth*, (xvi, 873), and of which Sc. chrysonotus is one of the species best distinguished from the rest. Three specimens from Darjeeling differ from all other examples of Sc. lokroides previously seen by Mr. Blyth, from that and other localities, in having the thighs externally of a bright ferruginous colour : in other respects they are quite similar to ordinary individuals of the species. Five species inhabit Ceylon.

Sciurus atrodorsalis, *Gray*. Mr. Blyth has no doubt now that this Tenasserim species was rightly identified, and that Mr. Gray's habitat of Bootan is erroneous. A third specimen is intermediate in its colouring to the two formerly described, having the under parts much lighter ferruginous than in the one, and considerably darker than in the other.

Sciurus barbei, *Blyth*. A small striped squirrel of Burmah, common in Mergui.

Sciurus berdmorei, *Blyth*. A small striped squirrel of Burmah and Tenasserim, nearly one-half larger than Sc. palmarum : the prevalent colour grizzled black and golden fulvous, with an obscure pale central dorsal streak, flanked by a blackish band: this again by a conspicuous yellowish-white

line from the shoulder to the croup ; then blackish again, with a second lateral whitish band ; below again dusky ; and the underparts yellowish-white, passing to ferruginous towards the vent and underneath the tail. Head tinged with ferruginous : and from what remains of the base of the tail in the specimen, this would seem to resemble in colouring that of Sc. layardi. Length of hind-foot from heel to tip of claws $1\frac{5}{8}$ inch. Rodential tusks, deep orange-brown. This species inhabits the Thoungyeen district.

Sciurus bicolor, *Sparrman, Blyth.* Sc. Tennenti, *Layard.* (J. A. S., xvi, 870) Mr. Blyth mentions six species from the Tenasserim provinces, common ; but the pale Malayan variety does not appear to have been hitherto observed, though the pale Malayan variety of Hylobates lar is there common. Resembles in size and colouring the common large species of the whole eastern coast of the Bay of Bengal, except that the caudal hairs are always largely tipped with white, save at the base and the extreme tip of the tail, there is no black moustachial mark nor black border beneath the eye, but a large triangular patch of black behind it and reaching upwards to the ear, also a rusty spot at the base of the ear posteriorly, and the auricle is well-fringed with hair, though less copiously than in Sc. purpureus,—finally there is much more fulvous white upon the limbs, leaving only the toes of the fore and hind limbs black. In the common Sc. bicolor, the posterior limbs are wholly black externally, and the anterior are wholly black behind, and more or less externally. In the Ceylon squirrel both fore and hind limbs are fulvous-white all round for the lower half, the extremities or toes alone black. This race has accordingly quite as good a claim to be distinguished by a separate name as either of the other large races of S. E. Asia ; and it is interesting to know that it co-exists in Ceylon with Sc. macrourus, though in a different region, the two never infringing on each other's territory. It also attains a much larger size than Sc. macrourus, being that of Sc. purpureus and Sc. bicolor : and it is wholly confined in its range to the Kandian country and the more elevated districts generally of the island.

Sciurus brodiei, *Blyth.* Distinguished by its having a very long pencil tuft ($3\frac{1}{2}$ inches) at the extremity of the tail, quite different from what is ever seen in Sc. tristriatus : beneath the tail, to near its tip, ferruginous. According to Mr. Layard, " this species is confined to the Palmyra-tree district, from Putlam to Jaffna. How much further round the coast is not known."

Sciurus chrysonotus, *Blyth*, common i Tenasserim.

Sciurus ephippium, *Muller.* Sc. javensi *Schreber*, var., from Borneo.

Sciurus griseopectus, see Sciurus.

Sciurus insignis, *Hors.* A small strip squirrel of the Malayan Peninsula.

Sciurus layardi, *Blyth, n. s.* Size o S. striatus and S. brodiei, but the colou very much darker, nearly as in Sc. trilineat (vel. Delesserti,) but inclining more to ash than to fulvous, except on the head and flanks lower parts ferruginous, paler on the breast middle of the back nigrescent with a strongl contrasting narrow bright light fulvous strea in the middle, reaching from between th shoulders to near the tail, and an obscur stripe on either side, barely reaching to th croup. Tail ferruginous along its centre, th hairs broadly marginal with black and finall with whitish, besides which is another an narrow black band on each hair towards it base, chiefly seen as the tail is viewed fro above ; tip black, forming a pencil-tuft 3 inche long. This handsome species is believed t be peculiar to the upland districts of Ceylo

Sciurus lokriah, see Sciurus.

Sciurus lokroides, see Sciurus.

Sciurus macrouroides, *Hodgs.* A giganti squirrel, abounds throughout the Burmes countries and Malayan peninsula, and north ward to the Assam Hills and those of Sikki and Nepal. It has a pale variety in the Mala yan peninsula.

Sciurus macrourus, *Forster*, The commo large squirrel of the western districts of Ceylon, also met with in Travancore and other neighbouring districts of continental India becomes extremely tame, chiefly perhaps remarkable for its singularly loud and harsh voice. Indeed, the voice would seem to be an excellent criterion of specifical distinction among the Sciuridæ. This animal carries its tail in the same peculiar manner, curled round on one side, as is observable in Sc. purpureus and Sc. bicolor, and doubtless all others of the same group.

Sciurus maximus, the Malabar Squirrel. Upper parts and external surface of the limbs bright chocolate-brown, which colour terminates abruptly, and is joined by the pale yellowish-brown on the under parts, fore-arms, and internal surface of the limbs. Front of the fore-legs, neck, throat, face, and head between the ears, lighter in colour : a broad darker patch on the rest of the upper part of the head extends from the forehead to the middle of the nose. Back and shoulders sometimes deepening into black. Ears short, covered with long tufted hairs, and brush-like ; from the longer part of each ear a narrow

line of deep-brown passes downwards and backwards in an oblique direction. Whiskers scanty, long and black. Claws incurved and strong, those of the anterior thumbs broad, short, and flattened. Tail distichous, the hairs expanding widely towards the extremity, bright chocolate-brown at the base, black in the middle, and chesnut in the extreme third part. Length about 33 inches, of which the tail measures rather more than one-half. It is a native of the Malabar coast. Sonnerat appears to have been the first zoologist who observed this richly coloured species, the largest of the true squirrels. It haunts among palm trees, and is stated to be very fond of the milky juice of the cocoa-nut, as well as of the solid part of the nut. In captivity, it is tame and familiar ; but it tries its teeth upon most substances that come within its power and should be guarded against accordingly.

Sciurus phayrei, *Blyth*. A Burmese squirrel.

Sciurus pygerythrus (?) *Is. Geoffroy*, var.? Tenasserim. A Burmese squirrel : a supposed variety of Sc. lokroides.

Sciurus rafflesii, *Vig.* and *Hors.* Sc. prevostii, *Desmarest*, is a larger squirrel than Sc. hippurus. It inhabits the Malayan peninsula. It is black above, deep rufo-ferruginous below and on the feet : a very broad white lateral band from mouth to haunch, extending over the outside of the thigh, and more or less greyish from cheek to shoulder : tail of a somewhat duller black than the back, and a little rufescent at tip.

Sciurus redimitus, *Vander Boon*. Sc. rufogularis, *Gray*, a squirrel of Borneo.

Sciurus rufoniger, *Gray*, probably a variety of Sc. redimitus.

Sciurus tristriatus, *Waterhouse*. This would appear to be the most common species of Palmist squirrel in Ceylon ; and there is no difference between Singhalese specimens and examples procured in the vicinity of Midnapore : one of the former is remarkable for having a strong ferruginous tinge on the upper part of the head. Mr. Layard mentions that "at Hambantotte he got a new Sciurus, like Sc. palmarum, only the head is much redder, the colour of the back and belly more blended, and the animal altogether smaller. This entirely replaces all the small Sciuri in that part of the country ; they are first seen at Tangalle, and he supposed extend round to Trincomallee."—*Blyth, Journ. Beng. As. Soc., Vol.* xvi, *pp.* 871, 873, 874, 1001, 1272; xvii, *p.* 345 ; *Cal. Journ. Nat. Hist., Vol.* iii, *p.* 266.

SCLAVONIC, see Sanskrit.

SCLERANTHACEÆ, *Lindl.* An order of plants with 1 sp. of Scleranthus, of no importance.

SCLERIA LITHOSPERMA, *Willd.*

S. tenuis, *Retz.* | Scirpus lithospermus, *Linn.*

A sedge of Ceylon, the peninsula of India and Bengal.

SCLERIA TESSELATA, *Willd.*

S. biflora, *Roxb.*

A sedge of Ceylon, peninsula of India, Bengal and Nepal.

SCLERIEÆ, *Nees.* A section of the Cyperaceæ or sedges, two species of Scleria occur in British India, one a very long sedge, grows by the water in the river Soormah near Sylhet and is used for thatching : boat-loads of it are collected for the Calcutta market, also immense rafts of bamboo 100 feet long.—*Hooker's Him. Jour., Vol.* ii, *p.* 327.

SCLERODERMA VERRUCOSUM, see Fungi.

SCLEROSTYLIS ATALANTIOIDES, *W. & A., Blume.*

Limonia bilocularis, *Roxb.* | Arawi-nim, Tel.

This small tree or shrub one of the Citraceæ is found in the Circars. Its wood is yellow, and is always very small, but is very hard and might be used as a substitute for box.—*Roxb., Voigt, Captain Beddome.*

SCLEROSTYLIS CEYLANICA, *W. Ill.*

Sclerostylis arnottiana, *Wight Ic.*
Rissoa ceylanica, *Arn. Pug., p.* 6, (324,) *c. p.* 1196.
Yucca-naara-gass, Singh.

A plant of the warmer parts of Ceylon, not uncommon.—*Thw. En. Pl. Zeyl., p.* 46.

SCLEROSTYLIS ROTUNDIFOLIA, *Thw.* A small and not common tree, growing in Ceylon, at an elevation of 4,000 feet and upwards.—*Thw. En. Pl. Zeyl., p.* 46.

SCLEROTIUM STIPITATUM, *Berk. et Curr.*

Puttu Kai or Putta Manga, Tam., from puttu, a white-ant hill, and manga, a mango ; and Kai, truits. Mail Manga, Tam., from mail, dry, like sticks, leaves, &c., and manga, a mango, neither the substance, nor its name is familiar to the natives of the Carnatic, to be accounted for by the great dryness of the climate and the absence of the moisture and heat so necessary for fungoid growths. On the western coast, where it rains for at least six months in the year, it is occasionally to be met with in dark crevices, and in the recesses of rocks and caves, also in old and deserted ant-hills, and frequently after the insects have become winged : they are found only in the peripheral and more superficial caverns, springing from their roof, occasionally from the floor, never from the cells occupied by the ants. Some grow with long stalks, others are sessile ; in those having

stalks, they can in a few be traced beneath the soil, while the sessile ones seem simply to lie over the soil. It attains its greatest perfection during, or immediately after, the rains. They take on a variety of forms, being oval, oblong, pyriform, irregularly round, &c. The external rind is black and slightly wrinkled; on cutting into it, the interior is found to be white and pithy, and is compared by the natives to the kernel of a tender cocoa-nut. It is tasteless and inodorous. The Malayalum Vythians believe it to be manufactured by the insects themselves, by a kind of accretive process, and that snakes are very fond of it and devour it greedily. Snake-charmers collect the Puttu Manga and take it round for sale, and they give out that they keep a supply always on hand with which to feed their snakes. The Vythians eagerly seek it, and use it as a remedy in cholera, syphilis, and a variety of other diseases. In cholera it is prescribed as a specific, by rubbing it up with a little water and fresh ginger-juice or country arrack; and the dose is repeated after every motion or act of vomiting. It is not commonly found in white-ant hills, but is met with in one out of every twenty or thirty on the western coast and Coimbatore district.—*Dr. John Shortt.*

SCOLOPACIDÆ, a family of Birds of the order Grallatores or Waders, comprising 16 genera and 33 species as under:

1 Ibidorhyncus,	1 Calidus,
4 Totanus,	1 Philomachus,
3 Actitis,	1 Strepsilas,
6 Tringa,	1 Phalaropus,
1 Terekia,	1 Scolopax,
2 Limosa,	1 Macrohamphus,
2 Numenius,	6 Gallinago,
1 Eurinorhyncus,	1 Rhynchæa.

This family of birds is interesting to the Indian sportsmen, from the circumstance of its species being largely sought after for amusement. The Woodcock is everywhere very scarce on the plains of India, but has now and then been met with near Calcutta; it is found on the Neilgherries, and occasionally on the plains of the peninsula. Some incline to the opinion that Woodcocks may not be so rare being commonly overlooked in their jungle-haunts. The Woodcocks seen at the dinner-table are generally Greenshanks (Totanus glottis) and occasionally the Black-tailed Godwit (Limosa ægocephala)—birds of very different Scolopaceous genera. Two distinct species in the Himalaya are commonly confounded under the name 'Solitary Snipe,' and both are very different from the Gallinago major of Europe and Northern Asia, which has not been observed in the East Indies. Of the other Indian kinds, one Gallinago solitaria of Hodgson, is peculiar to the Himalaya, and to this species the designation 'Solitary Snipe' should be restricted. It is readily known by its white belly and yellowish legs—wings longer, straighter and more acuminated than in the other, and the upper plumage more minutely speckled, with the pale linear markings on the back narrower, and the tail also longer. Average measurement 12½ inches by 20 in expanse of wings; closed wing 6½ inches; and tail 3 inches. Weight 5 to 6 oz., or even more. The other, G. nemoricola of Hodgson, should be distinguished as the Wood Snipe, and is more of a Woodcock in appearance and habits, though keeping to the outskirts of the jungle. Though principally a Himalayan species, it is not rare in the Nilgiris, and it has been met with in various parts of the country, and once in the Calcutta provision-bazar. This species has blue legs, and the under-parts are uniformly barred throughout; the general colouring dark, and the markings bold; the wings more bowed and rounded than in the other, and the tail shorter. It is only found, remarks Mr. Hodgson, in the haunts of the Woodcock, with this difference in its manners, that it is averse to the interior of woods. Length 12½ inches by 18 in expanse of wings; closed wing 5½ inches; and tail 2¼ inches. Weight 5½ to 6½ oz. and upwards.

The 'Grass Snipe' also known as the Pin-tailed Snipe (G. stenura), is distinguished by a duller plumage than the common British snipe, and especially by the curious series of pin-feathers on either side of its tail; whereas the other has a fan-shaped tail, altogether different in form. The pin-tailed is the common Snipe of the Malay countries, but not of Australia, as has been stated; the Australian (G. australis) being a much larger bird, with intermediate form of tail, as in the Solitary and Wood Snipes of British India. In Bengal it is the more abundant species, early and late in the season, as the common or British Snipe is during the height of the cold weather; but so early as on the 30th August, one came from the bazar in a bundle of pin-tailed snipes, and subsequently the pin-tailed only, in considerable abundance. Nothing is more easy than to distinguish the two species by the shape of the tail, and a practised eye will generally tell them at the first glance; yet very few sportsmen in India are aware of the difference.

The little Jack Snipe, G. gallinula, is much later in its arrival, though numerous species of small Waders arrive from their breeding-haunts before the end of August. The Jack Snipe has a tail quite different from

that of any of the others; in brilliancy of plumage it excels all the rest.

There is a small and distinct species of Woodcock in the Malayan Archipelago, the Scolopax saturata of Horsfield.

The Woodcock, identical with the British, has been obtained in the Tenasserim provinces; it abounds in the Himalaya, is less common in the Neilgherries, and is considered a rare bird in the mountains of Ceylon. On the Bombay side it is said to be far from common in the Mahabaleshwar.

SCOLOPAX, a genus of birds of the family Scolopacidæ and sub-family Scolopacinæ or snipes: the East Indian genera and species of which are as under:

Gallinago gallinula, *Linn.*, *Sykes*, *Jerdon*, *Blyth*, *Gould.*

The Jack Snipe: it breeds in the Northern regions: it is found in most parts of India, in the cold weather coming later and departing earlier than the common snipe: it prefers thicker coverts, lying very close and is difficult to flush.

Rhynchæa bengalensis, *Linn.*, *Sykes*, *Jerd.*, *Blyth.*

R. capensis, *Linn.*	R. picta, *Gray.*
„ orientalis, *Horsf.*, *Hardw.*	

The Painted Snipe, is a permanent resident in some parts of India, breeding in June and July in thick marshy ground, but is found throughout Africa, British India, Ceylon, Burmah and Southern China.

Scolopax rusticola, *Linn*, *Jerd.*, *Blyth.*

S. indicus, *Hodgs*, *Gould.*		The Woodcock.	
Holt-sneppe,	DAN.	Beccacia,	IT.
Wood-cock,	ENG.	Sim-kukra,	of Kumaon.
Becasse,	FR.	Blom-rokke,	Norway.
Wald schnepfe,	GER.	Rutte; Krogquist,	„
Sim titar,	HIND.	Morkuna,	SW.
Tutatar,	„	Cyffylog,	WELSH.

The Woodcock, is a winter visitant to the more elevated wooded regions of India, all the higher ranges of the south of India, Coorg, Shevaroy, Pulney and Neilgherry Hills, and the Himalaya Mountains, and is occasionally seen in the plains of the Peninsula and Bengal, at Madras, Kulladghi and Masulipatam.

Scolopax saturata, *Horsf.*, Java.

Gallinago nemoricola, *Hodgs.*, *Jerdon*, *Blyth.*
Nemoricola nipalensis, *Hodgs.*

The Wood Snipe or solitary snipe, is rare but is occasionally found on the Himalaya, Neilgherries, Coorg, Wynaad, Ceylon, also in the Saharunpore district below Hurdwar.

Gallinago scolopacinus, *Bonap.*

S. gallinago, *L.*, *Sy.*, *Jer.*	S. burka, *Lath.*, *Bonap.*
S. uniclavus, *Hod.*, *Gould.*	

Chegga,	BENG.	Common snipe,	ENG.
Hosse gioeg,	DAN.	Becassine; Becasseau,	FR.
Ziege,	DUT.	Chevre volant,	„
Heer-schnepfe,	„	Watersnep,	FLEM.
Himels-ziege,	„	Bharka; Bharak,	HIND.
Chaha; Chahar,	HIND.	Hors-gjok,	SW.
Surkh-ab.?	„	Muku puredi,	TEL.
Beccacino; Pizzarda,	IT.	More ulan,	TAM.
Myr-snippe,	Iceland.	Ysnittan-y-fyniar,	WELSH.

The common snipe, breeds in the northern regions but is a winter visitant to India, arriving, in small numbers, in the N. of India early in August, and in numbers by the end of September and through October: they are occasionally seen in the Calcutta market early in August, and in that of Madras by the 25th of that month. In Upper Burmah, Dr. Jerdon noticed them towards the middle or end of July. Dr. Adams says it breeds there, which Dr. Jerdon doubts. They frequent marshes, rise with a hissing call, fly against the wind and occasionally alight in a ploughed field.

Gallinago solitaria, *Hodgson*, *Blyth.*

The Himalaya Solitary Snipe,

Found as yet only in the Himalaya, in winter up to 3,000 to 6,000 feet, but probably belongs to Tibet.

Galinago stenura, *Temm.*

S. gallinago, *Jerd.*	S. biclavus, *Hodgs.*
S. heterura, *Hodgs.*	S. horsfieldii, *Gray.*

The Pin-tailed Snipe.

This so closely resembles the common snipe that sportsmen and even naturalists often mistake it.—*Jerdon on Birds of India*; *Horsfield & Moore Cat.*; *The Indian Field.*

SCOLOPENDRIUM. Many of the Filices or Ferns are still used in medicine in India. The rhizomes, or dried leaves of Scolopendrium, are sold under the altered name, Iskoolikundrioon. Those of Polypodium are called bulookunboon. The Asplenium radiatum, mohrpunkhee, or peacock's fan, is employed by the natives probably as an anthelmintic.—*O'Shaughnessy.* See Ferns.

SCOLYMUS MACULATUS, *Linn.*

S. pectinatus, *Cass.*	S. angiospermos, *Gærtn.*

A plant of Europe, cultivated in the East Indies.

SCOMBER PELAMYS, *Linn.* The Bonito, one of the mackerel tribe, inhabits the southern seas, and is often caught by hook and line. Its flesh resembles raw beef and when cooked is not inviting.

SCOMBER THYNNUS, *Linn.* The Albicore is in length from 3 to 6 feet, is an inhabitant of the southern seas, the back is bright purple with a golden tint: eyes large and silvery, belly silvery, with a play of iridescent colours.—*Voigt*, 427; *Bennett*, *p.* 22.

SCOMBRIDÆ, a family of fishes of the section Acanthopterygii, of which the common mackerel may be regarded as a type: the Tunny, Sword-fish, Dory, Boar-fish, Pilot-fishes and the King-fish, also belong to this group. The body is generally covered

with small scales; the tail is usually very powerful and deeply cleft: in most of the species the pectoral fins are long, narrow, and pointed; the dorsal fins are two in number, the foremost of them being composed of bony rays; the hinder dorsal is chiefly supported by soft rays, and is often divided into numerous small false fins. They are provided with numerous cœca, and these are often united in clusters. The Sword-fish, Xiphias gladius, *Linnæus*, is an inhabitant of the Mediterranean and Atlantic, occasionally visiting the British coast. It measures from 10 to 15 feet in length. Its body is lengthy and covered with minute scales, the sword forming three-tenths of its length. On its back it bears a single long elevated dorsal fin; there are no central fins. The tail is keeled. The lower jaw is sharp; the mouth without teeth. The upper part of the fish is bluish-black merging into silver below. The sword-fish is said to attack the whale, wounding it with its beak. There are many well-authenticated instances of the planks of ships being perforated by the upper jaw of this powerful creature, which, it has been supposed, occasionally attacks the hulls of ships by mistake for the whale. Specimens of ships' timber penetrated by its sword are preserved in many museums. The Xiphias is mentioned by Aristotle ('Hist Anim,' viii, 19), who notices the fact of its striking vessels. The young fish is said to be good eating. When very young the body is covered with small tubercles, which disappear before it attains the length of three feet. Naturalists arrange the family Scombridæ as under:

FIRST GROUP.—Scombrina.		
12 Scomber,	13 Thynnus,	5 Pelamys,
12 Auxis,	9 Cybium,	1 Naucrates,
1 Elacate,	10 Echeneis,	1 Hypsiptera.
SECOND GROUP.—Nomeina.		
1 Gasterochisma,	2 Nomeus,	2 Cubiceps,
1 Neptomenus,	1 Platystethus,	1 Ditrema.
THIRD GROUP.—Cyttina.		
6 Zeus,	2 Cyttus,	? Oroeosma.
FOURTH GROUP.—Stromateina.		
9 Stromateus,	3 Centrolophus.	
FIFTH GROUP.—Coryphænina.		
6 Coryphæna,	4 Brama,	1 Taractes,
4 Pteraclis,	3 Schedophilus,	1 Diana,
1 Ausonia,	1 Men	1 Lampris.

—*Eng. Cyc.*

SCOPARIA DULCIS, *Linn.* Native of every part of the world within the tropics, common in India, particularly near the sea.—*Voigt, p.* 507.

SCOPE, IT. Brooms.

SCOPIMERA GLOBOSA, a crab of Korea, quickly hides itself in the moist sand. —*Adams.*

SCOPOLIA ACULEATA, *Ser.*

Toddalia aculeata, *Pers.*	Molakarunnay, TAM.

This has a small white root, about the third part of an inch in diameter, the bark of which is bitter and sub-aromatic and is considered an stomachic and tonic. It is given in a weak infusion to the quantity of half a tea cupful in the course of the day.—*Ains. Mat. Med. p.* 89.

SCOPOLIA PREALTA, *Dun.*

Belenia prealta, *Dne.*

Sholar Bajarbang, CHENAB.	Lang. Tang, LAD.
Nandru,	Khardag, TRANS-INDUS.
Dandarwa, ,,	

Common in waste ground in parts of the Chenab basin from 6,800; to 9,500 feet, in Zanskar and Spiti, and to 16,000 feet in Thibet, and apparently found sparingly in Trans-Indus, in the plains, and perhaps the same plant in one place near Lahore. In the hills the leaves are applied to boils, and are also said to be poison, the mouth swelling from their touch, and the head and throat being affected when they are eaten. A man was poisonously affected by eating the plant gathered in the Lahore habitat, and the Negi of Lahoul, when at Le in 1867, suffered from its narcotic effects for two or three days, some of its leaves having been gathered by mistake with his sag or greens. At the same time they can hardly be very poisonous to all animals, for in Lahoul they are browsed by cattle. Dr. Christison states that this has the same property of dilating the pupils as Belladonna.—*Dr. Stewart, Powell's Hand-book.*

SCOPS ALDROVANDI, 'Scops-eared Owl' of Europe, Asia Minor, N. Africa: migratory. In India replaced by affined species; more especially Sc. bakkamœna (the Scops sunia et pennata of Hodgson) which seems to be generally diffused all over the country. Sc. Aldrovandi is said to be from Nepal and Tibet refers doubtless to a grey specimen of the bakkamœna.

SCORPION, ENG., FR.

Kuzhdam,	ARAB.	Bichu,	HIND.
Aqraba, Am-aryat,	AR., PERS.	Scorpio,	IT., TAT.
		Escorpion,	SP.
T'siuen-hieh,	CHIN.	Teru,	TAM.
Okrab,	HEB.	Telu,	TEL.

The scorpion is one of the Arachnida, eight-legged, air-breathing, articulate animals, comprising nutes, spiders, scorpions. The scorpion has a curved sting at the end of a tail. If the sharp point of the sting be cut off, the animal cannot wound or hurt. Scorpions inhabit the hot countries of both hemispheres, live on the ground, conceal themselves under stones and other substances, most commonly in ruins, dark and cool places, and often in houses. They run with considerable swiftness, curving the tail over the back—this they can turn in every direction, and use for the purposes of attack and defence. With their forceps they seize various insects, on which they feed after having pierced them with their sting. They

are particularly fond of the eggs of spiders and insects. The wound occasioned by the species found in the southern parts of Europe (Scorpio europæus), is not usually dangerous ; but according to the experiments of Dr. Maccary, made upon himself, the sting of some other and larger species produces serious and alarming symptoms, and the older the animal the more active seems to be the poison. The remedies employed are the volatile alkali, chloroform used externally and internally, and, externally, ipecacuan in form of a paste. The young scorpions are produced at various intervals, and are carried by the parent for several days upon her back, during which time she never leaves her retreat. The pain suffered from the scorpion's sting seems to depend more upon the temperament of the sufferer than any other cause ; some suffering much agony, occasionally terminating in death, while others become only slightly agitated. The favourite remedy now in the United States is the "whiskey cure," which, under the form of arrack, combined in the case of a scorpion sting with a poultice of chewed tobacco, was known for the last fifty years to the British soldier in India. Buthus afer, *Linn.*, the great black scorpion of Ceylon, is as large as a little cray-fish, its sting occasions a little inflammation. In some parts of the Dekhan scorpions are very numerous in open plains, living in holes about nine lines in diameter. On one occasion, the plain at the Gor-Nuddi, used as a parade ground for the Poona Horse, was found pierced in every direction with scorpion holes ; perhaps not a foot of ground but had one of these, and in every one was a scorpion. It was a very curious sight, perhaps not rare in India, though unseen or unnoticed. The boys tapped the ground near, to cause a few particles of sand to fall down on the scorpion, on which it would appear at its opening, and the sharp end of a deer horn was thrust below to prevent its retreat : they were then tied together and made to fight. It is said that a scorpion if surrounded by fire so as to be prevented escaping, stings itself to death. Infested spots seem to have been common in Palestine and Mesopotamia, as in Numbers, xxxiv, 4 : Joshua, xv, 3 : Judges, i, 36 : I, Maccabees, v, 3.—*Eng. Cyc.* ; *Burton, the City of the Saints, p.* 193.

SCORPION SPIDER. Species of the genus Galeodes or scorpion spiders, occur in Central Asia, Tartary and in the Himalaya. The Lycosa or Tarantuloides singoriensis (or Aranea tarantula of Pallas), and the Scorpion-spiders common on the steppes, are the Galeodes aranoides (Phalangium aranoides of Pallas). The latter—or a congener common in Affghanistan, was there mistaken for the 'Tarantula' by Elphinstone. Both, but more especially the Galeodes (or Solpuga), are celebrated for their bites, reputed to be envomed ; but this is now denied by naturalists. This very formidable and most voracious 'Tiger of the Spider class,' is a terrible pest in some parts, as especially on the Astrakan steppe, where its bite is much dreaded by the Kalmuks, who call it the 'black widow' (belbussan charra). They harbour chiefly under the tufts of wormwood, and about the bones which are always to be found near a Kalmuk habitation, and also at the mouth of the deserted nests of the Spermophilus citillus, where they collect a sort of bed of leaves. A Kalmuk had been bitten on the back in his bed, by one of these creatures. The back was swollen to a considerable distance round the part, and water trickled from his mouth. A camel's body becomes exceedingly swollen by the bite of one of these poisonous spiders. Camels seem to suffer most from these spiders, because they are most addicted to lying on the ground.

Galeodes vorax, *Hutton*, an extremely voracious spider of Northern India, which feeds at night on beetles, flies, and even large lizards, sometimes gorging itself to such a degree as to become almost unable to move and remaining torpid and motionless for about a fortnight. A sparrow, as also a musk-rat (Sorex indicus) put along with it were killed by it. This Galeodes vorax was seen to attack a young sparrow half-grown, and seize it by the thigh, which it sawed through, then caught the bird by the throat, and put an end to its sufferings by cutting off its head. Dr. Baddeley confined one of these spiders under a glass wall-shade with two young musk-rats (Sorex indicus), both of which it destroyed. Neither in the instance of the bird, of the lizard, or the rats, did the galeodes devour its prey after killing it. Capt. T. Hutton, in the eleventh volume of the Asiatic Society's Journal, makes mention of a lizard bitten by one being allowed to escape, with only a severe wound on the side ; and as it lived for some days before being permitted to run off, the bite of the Galeodes would not appear to be poisonous.—*Gosse, pp.* 237-8. ; *Tenn. Sketches of Nat. Hist., Ceylon, p.* 470 ; *Capt. Hutton, in Jour. As. Soc. of Ben., Vol.* xi, *Part* ii, *p.* 860.

SCORPION, TAILLESS, three species of the tailless scorpions have been noticed in Ceylon, all with the common characteristics of being nocturnal, very active, very minute, of a pale-chesnut colour, and each armed with a crab-like claw. They are

Chelifer librorum, *Temp.*	Ch. acaroides, *Herm.*
„ oblongus, „	

The latter species has certainly been introduced from Europe, in Dutch or Portuguese books.—*Tennant's Sketches of the Nat. Hist. of Ceylon, p.* 476.

SCORZE DE LIMONE, IT. Rind of Citrus limonum, *Risso.* Lemon Peel.

SCORZONERA HISPANICA, *Linn.*, it is an annual from the South of Europe, it should be sown either in beds, broad-cast, or planted out in rows at a distance of a foot apart, has a long milky-juiced root, grows without any difficulty after the rains. The root when boiled and dressed is rather a delicate vegetable. It comes to perfection in three or four months. Salsafy—is the black Scorzonera, and requires the same treatment. In China, the Meh-men-tung, is a species of Scorzonera, called vipers-grass, its root is eaten as a vegetable.—*Jaffrey* ; *Smith.*

SCOTOPHILUS COROMANDELIANUS, *Fr. Cuv.* This very small bat occurs in Ceylon, not much larger than the humble bee, and of a glossy black colour, it is sometimes to be seen about Colombo.—*Tennent's Sketches of the Natural History of Ceylon, p.* 20.

SCOURING-LEAVES of the Actæa aspera of China, are used for cleaning pewter vessels.

SCOURING RUSH of China, Actæa spicata.

SCREW PINE.

Kaldera bush,	ENG.	Sithay nar,	TAM.
Umbrella tree,	„	Thaium,	„
Vacoa of Mauritius,	FR.	Thalay	„
Keora,	HIND.	„ Mazali,	„

The screw pine, the Pandanus odoratissimus of botanists, grows in Madagascar, Bourbon, the Mauritius, Ceylon, in the Peninsula of India, Burmah and Malayana, being very common along the sea coast. The leaves are used for making mats, baskets and hats ; there are extensive manufactories of these articles at Pulicat, Cuddalore and several other localities. The fibre of the leaf is white, soft, and pulpy, but possessed of little strength. It appears to be a good material for the preparation of paper but ill suited for cordage. The aerial roots are much used as coarse brushes for white-washing houses, when beaten with a mallet they open out like a soft brush.—*M. E. J. R.*

SCREW PLANT or Screw-Tree, Helicteres isora.

SCRIPTURE, a term in use in the English language to designate the sacred books of the christian religion. It is from the Latin scriptura, writing, and is also applied to the holy books of the hindoos, the Vedas, and the Puranas, the names of the sacred books of the hindoo religion. Veda is derived from vedali contracted vetti, he knows, one of the verbs most commonly used in Sanscrit and from which several words are derived of equally frequent occurrence, as vidya, learning ; vidivan, a learned man, &c. This verb, also, has been preserved in Greek, Latin, and Anglo-Saxon, as SANS., vidanti ; GREEK, eidonta, LAT., vident ; ANGLO-SAXON, witon ; and ENGLISH, wit. The sacred books of the christian religion are designated the Old and New Testament, or, collectively, the Bible ; the Old Testament inculcates monotheism and gives a history of the Hebrews for about two thousand years, to B. C. 500. The New Testament gives a history of John and of Jesus, the Christ, the Messiah or anointed, of his teachings, his doctrines and those of his disciples. In British India, the followers of Jesus Christ are a comparatively small number, the bulk of the people having accepted hinduism ; there are few buddhists, a small number of Jains, and about seventeen millions of mahomedans. The prevailing religion among Aryan and non-Aryan hindoos, and Chinese at present, is a spirit-worship of the most varied kind. It is laid down in the Gurooda Poorana and other hindoo scriptures, that, on the occurrence of a death, the son or other heir of the deceased must offer lump-offerings, and that if he neglect to do so the spirit passes into the state of goblin. If, after the fourth lump has been offered, the obsequies proceed no further, for example, if any cause occur to prevent cremation—the spirit, it is believed, remains a bhoot. Similarly, if six lumps only be offered, the spirit remains a pret. For twelve days the soul, it is supposed, is seated on the eaves of the house in which it had parted from the human body. At sunset, therefore, the compassionate relatives place upon the roof for its substance a vessel of water and another of milk. Other accounts fix the residence of the soul, during this calamitous period, at the place of the funeral pile ; or at cross-roads ; and some admit that it dwells alternately in the elements of fire, air, and water, and in the house which was its home. One lump-offering should be made daily, until the fourth day from the day of decease, for the construction of a new body for the pret. The body, at the end of that time, attains to the size of the upper joint of a man's thumb. On the tenth day a lump should be offered for the purpose of satisfying the hunger and thirst which the pret now begins to feel. The common practice in Goozerat, at the present time, is to make the lump-offering ten times on the tenth day. Sradha must be performed on the tenth, eleventh, twelfth, or thirteenth day succeeding the decease, and afterwards monthly on the day of the month on which the death occurred, and yearly on its anni-

versary. Sradha must be performed beside a reservoir or on the banks of a river. The sacrificer shaves his face, and, holding in his hand a copper cup containing water, with sesamum and sacrificial grass, he repeats the name of his progenitors, both paternal and maternal, sprinkling water as he repeats each name. The heir now forms an image of the deceased with sacrificial grass, washes it, and strews it with flowers. A similar representation of a Viswa Dev, is also made to witness the performance of the rite. The sacrificer sprinkles these, muttering a charm which has been taught him by his family priest, and which is supposed to call the Dev and the soul of the deceased into the figures. A salagrama stone is placed beside them to represent Vishnoo, and the three are worshipped with the usual ceremonies. Food is then set before the grass figures and the salagrama, and the heir, sprinkling them once more, repeats the charm which is supposed to dismiss their inhabitants. The grass is thrown before a cow to be eaten. The rites performed, the relations and neighbours of the deceased are entertained, and brahmins feasted according to the means of the sacrificer.—*Kennedy on the origin of Languages, p.* 210 ; *Ras Mala, Hindoo Annals, Vol.* ii, *pp.* 374–75.

SCROPHULARIACEÆ, *Lind.* The figworts, a natural order of plants belonging to the dicarpous group of monopetalous exogens. The Scrophulariaceæ are very widely diffused over the surface of the earth, being found in the whole range of climate between the poles and tropics. Achimenes cochinchinensis when pickled, is much esteemed, as an article of diet. The figwort tribe of plants have 36 E. Indian gen., 166 sp., viz. :—

1 Vebascum,	12 Linaria,	5 Linderbergia,
1 Celcia,	1 Antirrhinum,	12 Stemodia,
8 Scrophularia,	5 Pterostigma,	7 Limnophila,
3 Mazus,	3 Bonnaya,	3 Buchnera,
3 Mimulus,	9 Vendellia,	1 Sutera,
5 Herpestis,	6 Torenia,	7 Buddlea,
3 Dopatrium,	2 Artanema,	1 Hemiphragma.
2 Peplidium,	8 Striga,	

SCULPTURES. Notes on the sculptures of British India are given under the headings Architecture, Antiquities, Caves and Inscriptions. The sculptures are innumerable : monuments, decorated buildings and sculptured texts have been the principal modes by which the various rulers of the territories now styled British India and their wealthy subjects have adopted to perpetuate their edicts, their names and fame. With the Egyptians of old, and with the hindoo and buddhist religionists now, the art of sculpture is the very pillar of their religion ; the priests in every temple first made (and still make) their god and then worshipped it ; as in Exodus, ch. xx, 4, the Egyptians worshipped figures of the sun as Ra, and of the stars as the other gods, as also statues of men, beasts, birds and fishes ; but the Jews were forbidden to make the likeness of anything in the heavens above or on the earth beneath, in order to bow down and worship it. (Herodotus, lib. ii, 36.) The history of the ancient races in the south of Asia is to be read in their sculptures.

The sculptures in Kashmere, at Sanchi, Benares, Amraoti, Madura, Trichinopoly, Tanjore, and Mahabalipuram have attracted much notice, as also have those in the cave temples at Ellora, Adjunta, Elephanta and the edicts of Asoka at Girnar and other places. The Amraoti sculptures belong to a period of three hundred years later than those of Sanchi, and the topes illustrate the faith at their date. In the Amraoti sculptures are thousands of priests and other signs of a clerical order segregated from the laity and of an established ritual. Sanchi is illustrative of the Hinayana buddhist philosophy, 500 years before the oldest buddhist book, and Amraoti illustrates the Mahayana philosophy, 800 years after its promulgation.—*Porter's Travels, Vol.* ii, *pp.* 159-60-61.

SCUTELLARIA, a genus of plants of the family Lamiaceæ, section Scutellarieæ. The Scutellaria, handsome plants when in flower, are adapted for the front of borders, the colours are purple, yellow, red or blue, the flowers resembling the Antirrhinum, and may be grown from seed in any good garden soil. Wight gives Scutellaria rivularis and S. violacea. S. viscidula is the Hwang-k'in of China ; its roots and seed are used medicinally.—*W. Ic., Riddell.*

S. colebrookiana, *Wall*, Peninsula of India.
S. discolor, *Colcb.*, Khassya and Nepal.
S. indica, *Linn*, Mahabaleshwar, China, Japan, Moluccas.
S. rivularis, *Wall.*, Nepal and China.
S. scandens, *Buch.*, Nepal and Kamaon.

SCUTIA INDICA, *Brogn*,, *W. & A. Ill.*

Rhamnus circumscissus, *Roxb.*, *Rh.*
„ myrtinus, *Burm.*
Ceanothus circumcissa, *Gærtn.*
„ zeylanica, *Heyne.*
Celastrus „ *Rotl.*
Gadda goru, TEL.

A small struggling shrub, with small greenish yellow flowers, a native of the Peninsula of India.

SCUTIA PANICULATA, *Don.*, syn. of Celastrus paniculata, *Willde, Roxb.*

SCYLAX. India was visited by Scylax, Ctesias, Megasthenes to Chandragupta, Diamachus to Mitragupta. Scylax, B. C. 550, was the first European who is known to

have visited India. He was sent by Darius to explore the Indus and wrote an account of his journey. The next historian of India was Ctesias, who lived for some years at the Persian court of Artaxerxes Mnemon B. C. 427. Herodotus, however, followed Scylax as an authority, but it was not until the expedition of Alexander, B. C. 327, that a body of able observers, trained in the school of Aristotle, were able to give accurate ideas to Europe of the condition of India, and of these writers, Megasthenes is far the most important. He lived at the court of Chandragupta, at Palibrotha, as an envoy from Seleucus I. According to him, the military force of Chandragupta consisted of 600,000 infantry, 30,000 cavalry and 9,000 elephants. India seems to have been known to the Greeks only as a country, that, by sea, was to be reached by the way of the Euphrates, and the Persian Gulf; and though Scylax had, by the order of Darius, dropped down the river Indus, coasted Arabia, and thence reached the Red Sea, this voyage was either forgotten or disbelieved, and in the time of the Ptolemies it seems probable that nobody thought that India could be reached by sea from Egypt, and Eudoxus of Cyzicus in Asia Minor came to Alexandria to persuade Euergetes to give him the command of a vessel for this voyage of discovery. A vessel was given him; and though he was but badly fitted out he reached by sea, a country, which he called India, and brought back a cargo of spices and precious stones. He wrote an account of the coasts which he visited, and it was made use of by Pliny. But it is possible that the unknown country, called India, which Eudoxus visited, was on the west coast of Africa, and Abyssinia was often called India by the ancients, and all east of the Euphrates was also known as Hind or India.—*Perry's Bird's Eye View of India, p.* 52.

SCYLLARUS, a genus of Crustaceans. S. rugosus, *Edwards*, occurs at Pondicherry, and S. squammosus, *Edwards*, at the Mauritius.

SCYPHANTHUS, pretty little yellow flowers, which require the same treatment as the Loasa.—*Riddell.*

SCYTHIA, Saca-dwipa, also Sakatai, the country of the Sakæ. According to Strabo (*lib.* xi) all the tribes east of the Caspian were called Scythic. The Dahæ were next the sea; the Massagetæ and Sacæ more eastward; and every tribe had a particular name. All were nomadic; but, of these nomades, the best known are the Asi, the Pasiani, Tachari and Saccarandi, who took Bactria from the Greeks. The Sacæ made irruptions in Asia, similar to those of the Cimmerians and possessed themselves of Bactria and the best district of Armenia called after them Sacasenæ. Of the first migration into India of the Indu-Scythic Geta, Tahshak and Asi, that of Sehesnag from Sehesnagdes (Takshac from Tacharisthan) six centuries before Christ, is the first noticed by the Pooranas. About the same period a grand irruption of the same races conquered Asia Minor and eventually Scandinavia, and not long after the Asi and Tachari overturned the Greek kingdom of Bactria. The Romans felt the power of the Asi, the Catti and Cimbri from the Baltic shore. Colonel Tod supposes the Asi and Tachari to be the Aswa and Takshac or Toorshka races of the Pooranas of Saca-dwipa; the Dahæ to be the Dahya, one of the 36 royal Rajput tribes, now extinct, and he supposes these to be the descendants of Baldeva and Yudishtra, returned under different appellations. The country on the east is still occupied by the Turkoman race. Scythians had their first abodes on the Araxes. According to Deodorus, (Book ii) their origin was from a virgin born of the earth, (Ella) of the shape of a woman from the waist upwards and below a serpent, (symbol of Buddha or Ella.) Jupiter had a son by her, named Scythes, who gave his name to the nation. Scythes had two sons, Palas and Nagas (the shepherd and snake-races of the Tartar genealogy), who were celebrated for their great actions, and divided the countries, the nations being called after them the Palians (Pali) and Nagians. They led their forces as far as the Nile in Egypt and subdued many nations. They enlarged the empire of the Scythians and as far as the eastern ocean and to the Caspian and lake Mœotis. They overran Assyria and Media, overturning the empire and transplanting the inhabitants to the Araxes under the name of Sauromatians. The Scythians had many kings, from whom sprung the Sacans (Sacæ), the Massagetæ (Gete or Jit) the Ari-aspians (Aswa of Aria) and many other races. They overran Assyria and Media, overturning the empire, and transplanting the inhabitants to the Araxes under the name of Sauro-Matians. Those tribes who inhabited, at a later period, that great tract of country which lies between the Oxus and Jaxartes, received from the ancients the general name of Scythians, and are now known to Europeans under that of Tartars. Though this country has been subject to a succession of warlike tribes, these have probably all been derived from one stock: for though known under many names, their

habits and character have always been the same. The Scythians of the Greeks differ in no essential degree from the Tartars of modern history. Before the time of Alexander, Transoxania was inhabited by a nation known by the generic name of Saca: and the Getæ and Massagetæ were powerful tribes of that nation. The appellation given in the history of ancient Persia to the country between the Oxus and Jaxartes is Turan; but oriental authors give us no names of particular tribes at this period of their history: and all those who dwelt beyond the limits of Turan, to the east and north-east, were considered as belonging to Chin and Khatai: which countries may be generally understood to designate that large tract which is known in modern geography as Chinese Tartary. We learn from every history, that from the most early ages to the present, the nomades or pastoral tribes of this region have been continually changing: they have, in their turn, subdued others, and been conquered themselves. We find them sometimes improving and extending their dominions: and at others, compelled to leave their pasture lands to the occupation of fiercer and more numerous hordes of barbarians; and forming as they proceeded into the fertile plains of Southern Asia, or of Europe, part of a great tide of violence and of rapine. The progress of the Tartar hordes is finely described in Scripture. Ezekiel, when prophesying of Gog and his people, says:—"Thou shalt ascend, and come like a storm; thou shalt be like a cloud to cover the land; thou, and all thy bands, and many people, with thee. And thou shalt say, I will go up to the land of unwalled villages; I will go to them that are at rest, that dwell safely, all of them dwelling without walls, and having neither bars nor gates. And thou shalt come from thy place, out of the north parts, thou, and many people with thee, all of them riding upon horses, a great company, and a mighty army."

Scythia was a term in use by the ancients of a very indefinite character, but it was generally understood to mean the territories occupied by the resident, but generally the nomadic tribes who roamed over the regions from the north of the Black and Caspian Seas, eastwards into the countries now known as Mongolia and Tartary. Ancient European literature further distinguishes Scythians into those of Europe and those of Asia; the former are supposed to have occupied the country from the Danube to the sources of the Dniester and the Dnieper in the neighbourhood of the Don and along the northern shores of the Black Sea. The portion between the Danube and the city of Carcinitis was called Old Scythia; and the peninsula (Taurida) to the Borysthenes was called Little Scythia: and in the time of Strabo, Little Scythia included the country as far as the Danube previously occupied by the Thracians. These European Scythi seem to have been colonists from Asia. The Asiatic Scythæ are supposed to have been the progenitors of the Turkoman, Tartar and Mongol races now occupying the regions in Central Asia extending from the Caspian and Aral Seas, eastwards into China. The Scythian races repeatedly emerged from their Asiatic plains in great masses, conquering to the east the west and south, and the Mantchu Tartar now rules in China, the Turk from Constantinople to the shores of the Persian Gulf and to the sources of the Nile and, after repeated inroads into the East Indies, along the Indus and Ganges rivers, the descendants of Timur, a Scythian, until the middle of the 19th century held nearly all the countries now known as British India. For about 1,000 years, from B. C. 700 to A. D. 300, a succession of Scythian tribes, belonging apparently to the same family as the Uralian tribes of Russia, and Fins, Laps and Hungarians of Europe, burst in from the Jaxartes and swept over all the western portion of the Continent of Asia, extending to India in one direction, and to Syria and Asia Minor in another. No doubt these left their impress, but except perhaps among the Brahui Baluch no traces of them in India can be seen. Farghana, the native territory of the father of Baber, lies on both sides of the Jaxartes, and is a portion of ancient Scythia. The manners of the Scythæ described by Herodotus are found still to exist amongst their descendants: a pair of slippers at the wife's door is a signal well understood by all Eimak husbands. The Scythian kings of Bactria followed the Greek kings, in adopting their forms of money. They coined similar pieces with superscriptions similar, and in the same languages, but inscribed on them their own names and titles, and varied the emblems and devices. Manes, B. C. 135, is supposed to have been a Scythian, the head of one of the tribes that broke into Bactria between 150 to 140 B. C., and he seems to have held communication with Azes. On the obverse, his coin contains the king with a trident, a Tartar war weapon, setting his foot on a prostrate enemy.

Azes, B. C. 130, the greatest of Scythian kings, on whose coins are bilingual inscriptions, with plain, distinct Greek characters, ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ, in Arian, Maharajasa Raja Rajasa Madatasa Ayasa. The figures on the coins are various. Professor Wilson thinks he was an Indian

buddhist king, about 50 B. C. Professor Lassen regards him as a Sacian Scythian, who conquered the Kabul valley in the time of the second Mithridates, and finally destroyed the kingdom of Menander and Hermæus in about 120 B. C. He considers he was succeeded by Azilises.

Sir H. Elliot states (p. 408) that Scythian barbarians from Sind expelled the Gehlotes from Balabhipura in the beginning of the sixth century. The Yuetchi established themselves on the Indus at the same time. The Abtelete or Ephthalites or White Huns, according to Cosmas, ruled on the banks of the Indus in his time, and the Sah dynasty were ruling in Saurashtra.

Among the many swarms that came from the cold regions of Scythia, the Turks, says Tindal, (p. vi,) were not the least noted, as the Persian annalists abundantly testify, as well as the famous author of the Othman Annals, Taj-ut-tuarich Saadi effendi, and what seems to be inserted from him in the Lexicon-Persico-Turcicum Niamatullah to explain the word Turk, where it is said, " by this name are called the inhabitants of Chata or Chuten, (Kitahia or Great Tartary) who inhabit the Kapchac plains. And because all of them have fair faces and black eyes and eyebrows, therefore the Persian poets call Lovers and Gallants, by comparison, Turks." But this name of Kapchac, peculiar to a tribe of the Tartars, was, after Jenghiz-khan's expedition, given by the Persians to the whole nation of Scythians, their conquerors, as appears by the testimonies of the Persian writers. Thus, the poet Saadi, in the preface of his Gulistan or Rosary, ascribes the cause of his leaving his country Chorasan to this effect. Since, therefore, it is manifest, the name of the Turks was known to all Asia long before Othman, and chiefly attributed to the Scythian tribes that followed Jenghiz-khan, and were dispersed over Persia and Asia Minor, it remains to show how this name came to be appropriated to the Othmanidæ. Soliman, father of the Othman race, prince of Nera, treading in the steps of the great Jenghiz-khan, came forth from his country with fifty thousand followers, the flower of the Scythian youth, and overran not only the neighbouring regions, but all Azerbejan and Syria, as far as Aleppo. When the news of these conquests was brought to the Persian Court, immediately the name Turk common to the Jenghiz-khan Scythians, was given also to this army. Soliman, prince of Nera, is by all the historians of his nation, and also by the more accurate christian writers, affirmed to be forefather of the Turkish emperors. Soliman was of the noblest Oguzian family among the Scythians, and head of a horde or tribe of Tartars near the Caspian Sea. By these, as well as by the neighbouring people, Soliman was proclaimed by the title of shah. The admission of a body of Scythians into the Kshetrya class, is asserted by Colonel Tod, and in part acceded to by a very able writer in the "Oriental Magazine." The union must have taken place within a century or two before the christian era, or at some later period. This is the supposition on which Colonel Tod has gone in some places. That there were Scythian irruptions into India before those of the Moguls under Chengiz Khan, is so probable, that the slightest evidence would induce us to believe them to have occurred; and we may be satisfied with the proofs afforded us that some of the Rajputs certainly did come from the west of the Indus. In support of this, it may be mentioned that the religion and manners of the Rajputs resemble those of the Scythians. The names of the Rajput tribes are Scythian. There were, by ancient authorities, Indo-Scythians on the Lower Indus in the second century. There were White Huns in Upper India in the sixth century, in the time of Cosmas Indico Pleustes. De Guignes mentions, on Chinese authorities, the conquest of the country on the Indus by a body of Yu-chi or Getæ, and there are still Jit on both sides of that river. On the other hand, the great tribe of Yadu, which is the principal, perhaps the only one, which came from beyond the Indus, is the tribe of Crishna, and of the purest hindoo descent. There is a story of their having crossed to the west of the Indus after the death of Crishna. If the religion and manners of the Rajputs resemble those of the Scythians, they incomparably more closely resemble those of the hindoo. Their language also is hindoo, without a Scythian word (as far as has yet been ascertained). The Scythian is short, square-built, and sinewy, with a broad face, high cheek bones, and long narrow eyes, the outer angles of which point upwards. His home is a tent, his occupation, pasturage, his food, flesh, cheese, and other productions of his flocks, his dress is of skins or wool; his habits are active, hardy, roving, and restless. The Rajput, again, is tall, comely, loosely-built, when not excited, languid and lazy. He is lodged in a house, and clad in thin, showy, fluttering garments, he lives on grain, is devoted to the possession of land, never moves but from necessity, and, though often in or near the desert, he never engages in the care of flocks and herds, which is left to inferior classes. According to Herodotus, the Scythic

Sacæ enumerated eight races with the epithet of royal, and Strabo mentions one of the tribes of the Thyssageta as boasting the title of Basilii. The Rajputs assert that in ancient times they only enumerated eight royal sac'-han or branches, viz., surya, soma, hya or aswa (qu. Asi ?) nima, and the four tribes of Agnivansa, viz., pramara, purihara, solanki, and chohan. Abulgazi states that the Tartars or Scythians were divided into six grand families. The Rajputs have maintained these ideas originally brought from the Oxus. The contrasted physical appearance of the respective races will decide this question. The aborigines of Rajputanah are dark, diminutive, and ill-favoured ; the Agniculas are of good stature, and fair, with prominent features, like those of the Parthian kings. The ideas which pervade their martial poetry are such as were held by the Scythian in distant ages, and which even brahminism has failed to eradicate ; while the tumuli, containing ashes and arms, discovered throughout India, especially in the south about Gowalcoond, where the Chohans held sway, indicate the nomadic warrior of the north as the proselyte of mount Aboo. Colonel Tod derives Scythes from Sacatai, 'Saca-dwipa,' and 'es' 'Lord': Lord of Sacatia or Scythia. Affinities in persons, customs and languages, connect ancient India with the Scythic races and, the southern boundary of the latter has immemorially approached the upper basin of the Indus, and has crossed it more than once since India was Arianized : it may be further assumed as probable that the latest great Indian formation, prior to the ultra-Indian and Arian, was Scythic, that the Scythic area included India, although the race was then modified by others, and that the eastern migration of the Arians broke the continuity of the Scythic range and isolated the southern section before it had completely transformed the olden Indian race. The Rajputs, according to Colonel Tod, are Scythians, having a common origin with the tribes of early Europe.

The Scythians worshipped an iron scimitar as a symbol of Mars ; to this scimitar they offered more sacrifices than to the rest of their gods, and brought yearly sacrifices of cattle and horses. In the Saga many of the swords have special names, and are treated with the greatest respect. The North American Indians are supposed to be derived from Scythians. The earliest existing accounts of the Scythian people describe them as rude and unlettered, living in various independent tribes, as not united into one nation, and perfectly unacquainted with the learning and arts of civilized society. Herodotus characterises the Scythians as the most ignorant of men, and every subsequent description of them fully confirms this.

It is generally supposed that the original seat of the Finnic tribes was in the Ural mountains, and their languages have been therefore called Uralic. From this centre they spread east and west; and southward in ancient times, even to the Black Sea, where Finnic tribes, together with Mongolic and Turkic, were probably known to the Greeks under the comprehensive and convenient name of Scythians. As we possess no literary documents of nomadic nations, it is impossible to say, even where Greek writers have preserved their barbarous names, to what branch of the vast Turanian family they belonged. On the evidence of language, the Finnic stock is divided into four branches, the Chudic, Bulgaric, Permic, and Ugric.

The Chudic branch comprises the Finnic of the Baltic coasts. The name is derived from Chud (Tchud) originally applied by the Russians to the Finnic nations in the north-west of Russia. Afterwards it took a more general sense, and was used almost synonymously with Scythian for all the tribes of Central and Northern Asia. The Finns, properly so called, or as they call themselves Suomalainen, *i. e.*, inhabitants of fens, are settled in the provinces of Finland (formerly belonging to Sweden, but since 1809 annexed to Russia), and in parts of the governments of Archangel and Olonetz. Their number is stated at 1,521,515. The Finns are the most advanced of their whole family, and are, the Magyars excepted, the only Finnic race that can claim a station among the civilised and civilising nations of the world. Karelian and Tavastian are dialectical varieties of Finnish. The Esth or Esthonians, neighbours to the Finn, speak a language closely allied to the Finnish. It is divided into the dialects of Dorpat (in Livonia) and Reval. Except some popular songs it is almost without literature. Esthonia, together with Livonia and Kurland, forms the three Baltic provinces of Russia. The population on the islands of the Gulf of Finland is mostly Esthonian. In the higher ranks of society Esthonian is hardly understood and never spoken. Besides the Finn and Esthonian, the Livonian and the Lapp must be reckoned also amongst the same family. Their number, however, is small. The population of Livonia consists chiefly of Esths, Letts, Russians, and Germans. The number of Livonians speaking their own dialect is not more than 5,000. The Lapp, or Laplanders, inhabit the most northern part of Europe. They belong to Sweden and Russia. Their number is estimated at 28,000

Their language has lately attracted much attention, and Castren's travels give a description of their manners most interesting from its simplicity and faithfulness. The Bulgaric branch comprises the Tcheremissians and Mordvinians, scattered in disconnected colonies along the Volga, and surrounded by Russian and Tartaric dialects. The general name given to these tribes, Bulgaric, is not borrowed from Bulgaria, on the Danube; Bulgaria, on the contrary, received its name (replacing Moesia) from the Finnic armies by whom it was conquered in the seventh century. Bulgarian tribes advanced from the Volga to the Don, and after remaining for a time under the sovereignty of the Avars on the Don and Dneiper, they advanced to the Danube in 635, and founded the Bulgarian kingdom. The third, or Permic branch, comprises the idioms of the Votiakes, the Sirianes, and the Permians, three dialects of one language. Perm was the ancient name for the country between 61° 76′ E. long., and 55° 55′ N. lat. The Permic tribes were driven westward by their eastern neighbours, the Voguls, and thus pressed upon their western neighbours, the Bulgar of the Volga. The Vostiakes are found between the rivers Vyatka and Kama. Northwards follow the Sirianes, inhabiting the country on the Upper Kama, while the eastern portion is held by the Permians. These are surrounded on the south by the Tartars of Orenburg and the Bashkir; on the north by the Samoyedes, and on the east by Voguls, who pressed on them from the Ural. These Voguls, together with Hungarians and Ostiakes, form the fourth and last branch of the Finnic family, the Ugric. It was in 462, after the dismemberment of Attila's Hunnic empire that these Ugric tribes approached Europe. They were then called Onagur, Saragur, and Urog; and in later times they occur in Russian chronicles as Ugry. They are the ancestors of the Hungarians, and should not be confounded with the Uigur, an ancient Turkic tribe mentioned before. There have now been mentioned the four chief classes of the Turanian family, the Tungusic, Mongolic, Turkic, and Finnic. The Tungusic branch stands the lowest. These four classes, together with the Samoyedic, constitute the northern or Ural-Altaic division of the Turanian family. The southern division consists of the Tamulic, the Gangetic (Trans-Himalayan and Sub-Himalayan), the Lohitic, the Taic, and the Malaic classes. These two divisions comprehend very nearly all the languages of Asia, with the exception of Chinese, which, together with its neighbouring dialects, forms the only representative of radical or monosyllabic speech. A few, such as Japanese, the language of Korea, of the Koriakes, the Kamchadales, and the numerous dialects of the Caucasus, &c., remain unclassed; but in them also some traces of a common origin with the Turanian languages have, it is probable, survived, and await the discovery of philological research. Scythians made a great inroad into Southern Asia, B. C. 633, and signs of their dominion in the valley of the Indus are still to be seen. General Cunningham (p. 37) mentions that Asoka dispatched missionaries to the most distant parts of his empire for the propagation of buddhism. Alasadda, or Alexandria ad Caucasum, the capital of the Yona, or Greek country, is recorded as one of these distant places; and as the Chinese pilgrim Hwen Thsang notices several stupas in that neighbourhood as the work of Asoka, we have the most satisfactory proofs of the Indian occupation of the Kabul valley in the third and fourth centuries before Christ. The completeness of this occupation is well shown by the use of the Indian language on the coins of the Bactrian Greeks and Indo-Scythians, down to A. D. 100, or perhaps even later; and although it is lost for the next two or three centuries, it again makes its appearance on the coins of the Abtelite, or White Hun of the sixth century. During the whole of the tenth century the Kabul valley was held by a dynasty of brahmans, whose power was not finally extinguished until towards the close of the reign of Mahmud of Ghazni. Kophes is a name as old as the time of the Vedas, in which the Kubha river is mentioned as an affluent of the Indus; and as it is not an Arian word, General Cunningham infers that the name must have been applied to the Kabul river before the Arian occupation, or, at least, as early as B. C. 2500. In the classical writers we find the Khoes, Kophes, and Khoaspes rivers, to the west of the Indus, and at the present day we have the Kunar, the Kurah and the Gomal rivers to the west, and the Kunihar river to the east of the Indus, all of which are derived from the Scythian ku, "water." Ku is the guttural form of the Assyrian hu in Euphrates and Eulæus, and of the Turki su and the Tibetan chu, all of which mean water or river. The district of Kophene must, therefore, have received its name from the river which flowed through it, like as Sindh from the Sindhu or Indus; Margiana from the Margus, Aria from the Arius, Arachosia from the Arachotus, and others. It is not mentioned by Alexander's historians, although the river Kophes is noticed by all of them.

Chatfield says (p. 183) the Scythians,

known more particularly by the name of Sacæ, infected the Persians with their opinions concerning an immortality to be procured from vegetables. All the eastern nations eagerly adopted it, and thence it travelled into Europe. The ingenuity of the Greeks displayed it in the ambrosia of their gods. The Magi in the shrub, called Hom; the Arabians in their elixir's magical studies, and their talismans; the modern nations of Europe, in their frivolous researches after grand specifics, alchemy, and the efficacy of plants and minerals.

Ouseley remarks (pp. 86-88) that the Scythians often sacrificed men to their deity, and the sword, on which they threw the victim's blood; and with blood also they profusely sprinkled or completely varnished the trunks of their sacred trees.

According to Eolus, the Scythians dwelt 1,000 years in the country of their origin. They then emigrated towards the south, and having peopled the regions comprised between the Sgeind (Indus) and the ocean, and the Teth-gris (the Tigris) in 293 rings, or years, they crossed the Teth-gris, arrived at the Affreidg-ris (Euphrates), occupied the Tath-ac-cal (the Jews Hiddekel), and spread beyond the Affreidg-ris all over the earth, maintaining under their sway the several nations of the globe during the space of 1809 years.

The Chronicles of Eolus, written in a Scythian dialect (Phœnician according to O'Connor) gives historical descriptions of the events that occurred during the 1,304 years which preceded the establishing of the Scythian empire.

The tribes that lived on the banks of the Indus were called Indo-Scythians, and those from the confines of Europe, Celto-Scythians. Mr. Hodgson was of opinion that all the aborigines of India are Northmen of the Scythic stem, and he considers this view to be justly inferable from their physical characteristics. He thinks, however, that very careful investigation will alone enable us to decide whether they owe their confessedly scythic physiognomy to the Tangus, the Mongol or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalayas at one period and at one point or at several periods and at as many points. Members of that stock, he continues are found from their original seats on the north of the Himalaya southwards to the seas, and between Gilgit and Chittagong there are a hundred passes over the Himalaya and its south eastern continuation to the Bay of Bengal, through which they may have migrated ages upon ages before the dawn of legend and of chronicle. In every extensive jungly or hilly tract throughout the vast continent of India there exist hundreds of thousands of human beings in a state not materially different from that of the Germans as described by Tacitus, and he adds that these primitive races are the ancient heritors of the whole soil, from all the rich and open parts of which they were expelled by the hindoos. It might be deemed folly, says Colonel Tod, (Vol. i, p. 592,) to trace the rites and superstitions of so remote an age and nation to Central Asia; but when we find the superstitions of the Indo-Scythic Gete prevailing within the Indus, in Dacia, and on the shores of the Baltic, we may assume their common origin; for although the worship of arms has prevailed among all warlike tribes, there is a peculiar respect paid to the sword amongst the Getic races. The Greeks and Romans paid devotion to their arms, and swore by them. The Greeks brought their habits from ancient Thrace, where the custom existed of presenting, as the greatest gift, that peculiar kind called acinaces, which we dare not doubt, comes from the Indo-Scythic or Sanscrit. When Xenophon, on his retreat, reached the country of Seuthes, he agreed to attach his corps to the service of the Thracian. His officers on introduction, in the true oriental style, presented their nuzzurs, or gifts of homage, excepting Xenophon, who, deeming himself too exalted to make the common offering, presented his sword, probably only to be touched in recognition of his services being accepted. Up to the present day, the soldier races of India, on their presentation to a superior, present to him their swords, and in being dismissed from the reception, a drop of essence of roses is allowed to fall on the half-drawn blade. The most powerful oath of the Rajput, next to his sovereign's throne (gadi ca an), is by his arms, ya sil ca an, 'by this weapon!' as, suiting the action to the sword, he puts his hand on his dagger, never absent from his girdle. Dhal, turwar ca an, 'by my sword and shield!' The shield is deemed the only fit vessel or salver on which to present gifts; and, accordingly, at a Rajput court, shawls, brocades, scarfs, and jewels are always spread before the guest on bucklers. In the Runic "incantation of Hervor," daughter of Angantyr, at the tomb of her father, she invokes the dead to deliver the enchanted branch Tirsing, or 'Hialmar's bane,' which, according to Getic custom, was buried in his tomb; she adjures him and his brothers "by all their arms, their shields, &c." It would deeply interest a Rajput, who might deem it the spell by which the Khanda or sword of Hamira, which he annu-

ally worships, was obtained. The Gothic invaders of Italy inaugurated their monarch by placing him upon a shield, and elevating him on their shoulders in the midst of his army. Eyvor-sail is the name of a celebrated Rajput hero of the Bhatti tribe, who were driven at an early period from the very heart of Scythia, and are of Yadu race. Tradition has hallowed the two-edged sword or khanda of Mewar, by investing it with an origin as mysterious as "the bane of Hialmar." It is supposed to be the enchanted weapon fabricated by Viswacarma, with which the hindoo Proserpine girded the founder of the race, and led him forth to the conquest of Chetore. It remained the great heir-loom of her princes till the sack of Chetore by the Tatar Alla, when rana Ursi and eleven of his brave sons devoted themselves at the command of the guardian goddess of their race, and their capital falling into the hands of the invader, the last scion of Bappa became a fugitive amidst the mountains of the west.

In Vedic times, along the western coast of Hindustan dwelt, also, other races, different alike from the Scythic tribes and from the Arians of the Vedas—earlier colonizers or emigrants, most probably from Assyria and the west—who had a civilization of their own and "iron-built cities," and with whom the Pharaohs and Solomon and Hiram and the Cúshite Arabs of Yemen carried on a lucrative trade by sea. This people extended gradually down the coast to Cape Comorin, crossed over to Ceylon, and crept up to the Coromandel coast, till stopped by the Godaveri and Mahanadi. All the Bengal Presidency and Central India was at that time thinly inhabited by a Tartar, Sakyan, or Mongol race, coming down from Tibet and Nepal. But so sparse was the population whom the Arians encountered that in the Vedas, Agni is represented as "the general" of Nahusha, the first settler, that is, they cleared the ground by burning the forests, and some fine descriptions are given of the grandeur and terror of the sight.

The heir of Gengis Khan was chief huntsman, the highest office of the state amongst the Scythic Tatars; as Ajanbahu, alike celebrated in either field, of war and sport, was chief huntsman to the Chohan, emperor of Delhi, whose bard enters minutely into the subject, describing all the variety of dogs of chase. In his delight for this diversion, the Rajpoot evinces his Scythic propensity. The grand hunts of the last Chohan emperor Prithi Raj often led him into warfare, and one of his battles with the Tatars was while engaged in field sports on the Ravi. The Indo-Scythic race of Grecian writers are the Yadu and Balica branches of the Indu race, and they are said to have ruled Khorassan after the great war.

Nagani-mata, or Naguecha, half-woman, half-serpent, is represented as the mother of the Takshak or Scythic race, and the chief Mori, from whom Bappa took Chetore was of her descendants. There are many Scythic rites in the house of the rana of Mewar. Many of the Scythic tribes have entered India, mostly as conquerors, the Gete, the Takshak, the Asi, Katti, Rajpali, Hun, Kamari. They seem to have brought with them a worship, out of which ultimately the budd'hist religion was formed as promulgated by Sakya Muni. These Indo-Scythi also brought with them their northern custom of using tribal designations, taken from the names of animals, Varaha, the hog, Numri or Lumri the fox; Takshak, the snake; Langaha, the wolf; Cutchwaha the tortoise; Aswa or Asi the horse; Seesodya from Seesoo the hare &c., and several of them still hold large possessions in the western parts of Central India and in Beluchistan. Some of the Scythians even carried their names into Europe, Asi, was the term by which the Gete, Yeut or Jut were known, when they invaded Scandinavia and founded Yeutland or Jutland. The Asi nomades took Bactria from the Greeks, and Mr. Prinsep considers them to be Scythians of Azes, who overpowered the Greek dynasties in Soghdiana and northern Bactria, between 140 and 130 B. C.

Mr. Hodgson, writing on the northern races, remarks that the great Scythic stem of the human race is divided into three primary branches, the Tungus, the Mongol and the Turk. The first investigators of this subject urgently insisted on the radical diversity of these three races; but the most recent inquirers are more inclined to unitise them. Certainly, he adds, there is a strong and obvious character of physical (if not also of lingual) sameness throughout the Scythic race; and it is remarkable that this peculiar character belongs also to all the aborigines of India, who may be at once known, from the Cavery to the Alpine Cosi and Bhagarati by their quasi-scythic physiognomy, so decidedly opposed to the Caucasian countenance of the Arians of India. Mr. Hodgson also suggested, that there would be found among the aborigines of India a like lingual sameness, and that consequently very extended and very accurate investigation would alone suffice to test the real nature and import of the double sameness, physical and lingual. That all the aborigines of India are Northmen of the Scythic stem, seemed to him decidedly and justly inferrible

from their physical characteristics. But, inasmuch as that prodigious stem is everywhere found beyond the whole northern and Eastern boundary of India, not merely from Attok to the Brahmaputra, where these rivers cut through the Himalaya, but also from that point of the latter river all the way to the sea; and inasmuch as there are familiar ghats or passes over the Himalaya throughout its course along the entire confines of India from Kashmir to the Brahmakund, he thinks it follows of necessity that very careful and ample investigation will alone enable us to decide upon the question of the unity or diversity of the aborigines of India, in other words to decide upon the questions, whether they owe their confessed Scythic physiognomy to the Tungus, the Mongol or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalaya ("the hive of all nations") at one period and at one point, or at several periods and at as many points. Between Gilgit and Chittagong there are 100 passes over the Himalaya and its south-eastern continuation to the Bengal Bay; and they may have issued through these passes, ages upon ages before the dawn of legend and of chronicle. Mr. Hodgson inclines to the opinion that the aborigines of the sub-Himalaya, as far east as the Dhansri of Assam, belong to the Tibetan stock, and east of that river to the Chinese stock—except the Garo and other tribes occupying that portion of the hills lying between Assam and Sylhet; and that the aborigines of the Tarai and forest skirting the entire sub-Himalaya, inclusive of the greater part of the marginal circuit of the Assam valley, belong to the Tamulian stock of aborigines of the plains of India generally.—*Tod's Rajasthan, Vol.* i, *pp.* 58, 61, 565, 591, 592; ii, 233; *Lubbock's Origin of Civil., p.* 217; *Burton's the city of the Saints, p.* 137; *Ward's view of the Hindoos, Vol.* i, *pp.* 12, 30 *to* 34, 37; *Maurice, pp.* 19, 26, 27, 28; *Muller's Lectures, pp.* 33, 34, 305-310; *Chatfield's Hindoostan, p.* 183; *Asiatic Researches, Oct. ed., Vols.* ?, v, *pp,* 52, 55, 373; *Dr. Buchanan's Travels in Mysore, &c., Vol.* iii, *p.* 253; *Humboldt's Researches in America, Eng. ed., Vol.* i, *p.* 219; *Moor's Hindoo Pantheon, p.* 6; *Voyages des Indes, Liv.* iii; *Ouseley's Travels, Vol.* i, *pp.* 86, 87, 88; *Cunningham's Ancient Geog. of India, pp.* 16, 37. See Aborigines, Arian, Bactria, Hindoo, Kabul, Kattiyawar, Kedah or Quedah, Kelat, Koh, Kurmsaq, Inscriptions, Sacrifice.

SCYTHO-CELTIC and Scytho-druidic, graves.—*Rajasthan*, i, 61; ii, 233; *Edda.* See Cairn.

SE, HIND., of Salt Range, Prosopis spicigera, also Prosopis stephaniana.

SEA, HIND. Rosa webbiana.

SEA.

Bahr,	AR.	Mare,	LAT.
Ping-le,	BURM.	Mar,	SP.
Mer,	FR.	Samandram,	TAM.
Darya,	HIND., PERS.	Samudra,	TEL.

Indian sea or Green sea, Bahr-ul-Hind, or Bahr-ul-akhzar.

Mediterranean Sea, or White Sea, Bahr-ur-Rum or Bahr-ul-baiz.

Black sea, or Euxine sea, bahr-us-Sud.

Persian sea or Blue sea, bahr-ul-fars, Bahr-ul-kabud; Bahr-ul-akhzar.

Red sea, Bahr-ul-kulzum, Bahr-ul-ahmar.

Caspian sea, Bahr-ul-Khazr.

Dead Sea or sea of Lot, Bahr-i-Lut.

Sea flow and ebb, Madd-o-juzr.

Sea breeze, nasim-i-bahr.

Sea chart, kinar-namah.

Sea coast, kinar; sahilah.

Sea compass, kiblah-nooma.

Sea ear, darya gosh.

Sea horse, faras-ul-bahar.

Sea port, bandar.

Sea shell, sadf.

As wavelets dash upon a reef, they are lit by what the Arabs call the "jewels of the deep." The Arab superstition is, that these flashes of light are jewels made to adorn the necks and hair of the mermaids and mermen. When removed from their native elements the gems fade and disappear. There is some idea similar to this among the Scotch, and other northern people. The colour of the sea greatly varies in different parts of the globe. It is white in the Gulf of Guinea, black around the Maldives, vermillion off California (caused by the red colour of the infusoria it contains) and green in the Persian Gulf. In the Arctic sea it undergoes rapid transitions from purity to opacity from ultramarine to olive-green, the green colour being caused by myriads of minute insects which prey on each other and are a prey to the whale. The East African and Arab races have, from the most ancient times, sailed across the seas that bound their countries on the east and south, and have largely colonized the southern parts of Asia, into the region of the Archipelago. The Arabian Sea, the Indian Ocean, the Bay of Bengal and the Pacific Ocean have been the great high-ways through which western civilization spread. The great sea basins have several subordinate ethnic regions through which successive foreign elements have been introduced into the Archipelago. The principal one in the North Pacific is that which is surrounded by the Japanese, Luchuan, Meiakoshima, Formosa, Philippine, Palos, Oluthy, Marianne, and

Bonin groups. On the S. E. it merges in the Muro-Polynesian band ; on the S. W. it constitutes a portion of the Indian Archipelago ; on the N. W. it forms the outer boundary of the China-Corean basin, on the N. it connects itself with the basins of the Japanese and Okhotsh seas, and is thus brought into direct ethnic union or close connection with the E. districts of M. and N. Asia. The China sea unites the Indian Archipelago primitively with the great ethnic region of S. E. Asia by the districts of the Hongkiang, Tonkin, Mekong and Menam basins, and the marginal Chinese and Anam districts,—the Malay Peninsula, which forms the western bounding district, being ethnically a common portion of the Archipelago and the continent. The inhabitants of the sea-shore in tropical countries wait every morning with impatience the coming of the sea-breeze. It usually sets in about ten o'clock. Then the sultry heat of the oppressive morning is dissipated, and there is a delightful freshness in the air which seems to give new life to all for their daily labours. After sunset there is again another calm. The sea-breeze is now done, and in a short time the land breeze sets in. This alternation of the land or sea-breeze, a wind from the sea by day and from the land by night is so regular in intertropical countries, that it is looked for by the people with as much confidence as the rising and setting of the sun. The oppressive heat of the sun and the climate of the sea-shore is mitigated and made both refreshing and healthful by the alternation of those winds which invariably come from the coolest place—the sea, which is the cooler by day, and the land, which is the cooler by night. About ten in the morning the heat of the sun has played upon the land with sufficient intensity to raise its temperature above that of the water. A portion of this heat, being imparted to the superincumbent air, causes it to rise, when the air, first from the beach, then from the sea, to the distance of several miles, begins to flow in with a most delightful and invigorating freshness.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 323 ; *Dr. Forbes Winslow, M. D., on Light, London,* 1867 ; *Maury's Physical Geography, pp.* 136, 138. See Ocean.

SEA-COCOANUT.

Cocotier de Maldives, FR.	Zi-Calappers, SINGH.
Cocos-de-mer, ,,	Kuddal Tayngai, TAM.
Darya-ka Naril, HIND.	Samutrapu tainkaya, TEL.
Ubdie Narikaylum, SANS.	

This species of cocoanut is the fruit of the Lodoicea seychellarum. It resembles two cocoanuts fastened together ; it is convex on one side, and almost flat on the other, oblong, and somewhat pointed at both ends. The shell is dark-coloured, and contains a kernel, not unlike that of the ordinary cocoanut, but drier, harder and more insipid. They are often seen floating in the sea off the coasts of Arabia and Africa, whence they are brought to Bombay ; and also from the Laccadive and Maldive Islands. The shells are made into drinking cups and scallops, which are used by the Indian devotees. The kernel is used medicinally by native practitioners, in cases of typhus fever, &c.—*Faulkner*. See Cocoanut, double ; Lodoicea, Seychelle.

SEA-COCOANUT OF TENASSERIM, is not the famous Cocos de mer of the Seychelles, but is the fruit of a tree Xylocarpus granatum, very common in the mangrove swamps ; and growing near the shore, its fruit falls into the water and floats out upon the sea, which gives rise to its name. The fruit is not edible, but is exceedingly astringent, and is regarded by the natives as a specific in cholera.—*Mason.*

SEA-CUCUMBER, see Holothuriadæ, Trepang.

SEAFORTHIA SAPIDA, *R. Br.*, the Norfolk Island Cabbage tree, is a handsome palm, about twenty feet high and two feet in circumference, green and smooth, with annular scars left by the fallen leaves : the frondes form a magnificent crest at the top of the column ; they are pectinate, about nineteen feet long, and they vary from nine to fifteen in number. The apex of the trunk is enclosed in the sheathing bases of the leaf-stalks, along with the flower-buds and young leaves. When the leaves fall they discover double-compressed sheaths, pointed at the upper extremity, which split open indiscriminately on the upper or under-side, and fall off, leaving a branched spadix or flower-stem, which is the colour of ivory, and attached by a broad base to the trunk. The flowers are produced upon the spadix ; they are very small, and are succeeded by round seeds, red internally. As the seeds advance towards maturity, the spadix becomes green. The young unfolded leaves rise perpendicularly in the centre of the crest. In this state they are used for making hats ; those still unprotruded and remaining enclosed within the sheaths of the older leaves form a white mass, as thick as a man's arm : they are eaten raw, boiled, or pickled. In a raw state they taste like a nut, and boiled they resemble artichoke bottoms. —*Keppel's Ind. Arch., Vol.* ii, *p.* 283.

SEA DUST, see Trichodesmium, Red-sea.

SEA GYPSIES, a name by which sailors designate the Baju-laut a seafaring people of the Archipelago.

SEA-HAWK, or Frigate bird, the Tachy-

petes aquila, is also called the Man of War bird and the Boatswain. It has short feet and cannot swim or dive. It is intermediate between the predaceous sea and land birds. It attacks the smallest birds and makes other fishing birds abandon their prey. It is of immense endurance, takes great flights and rises to vast heights in the air. It ranges through all tropical seas and hovers over the tropical waters. It has been seen 400 leagues from land, and yet is said to return to land every night. Its expanded pinions measure 14 feet from end to end.—*Bennett.*

SEAHI or Siahi, HIND., PERS. Ink.

SEA-HORSE, a fish, one of the Syngnathidæ, the head of which, as the fish dries, assumes a bent position like the head and neck of a horse.

SEA-HORSE: their teeth are imported into China, chiefly through Macao; they are brought from California and other parts of western America, and are used by the Chinese in the same manner as ivory; they are the teeth and tusks of the walrus and other cetaceous animals.—*Morrison.* See Ivory, Carving.

SEA ISLAND COTTON or Long staple cotton. See Cotton.

SEA JELLY, a term applied to the molluscous acalephæ, *Colld.*

SEA KALE, Crambe maritima. A vegetable not of much value.—*Jaffrey.*

SEAL, the name of a family of amphibious animals, valued for the oil obtained from the fat or blubber, and also for their skin, which is used for a variety of purposes.—*Faulkner.*

SEAL.

Khatim,	AR.	Sigillum,	LAT.
Cachets,	FR.	Nagin,	PERS.
Petschafte,	GER.	Sellos,	PORT., SP.
Mahr, HIND. PERS. TURK.		Mutra,	TAM.
Sigilli,	IT.	Muhurle,	TURK.

The seals of oriental nations are used for ornament and as signet rings. The AngulIya mudra, or finger-ring seal or signet, has, from the earliest periods been commonly used in the East. Ahasuerus takes his signet off his hand and gives it first to Haman and again to Mordecai; and Herodotus notices that each of the Babylonians wore a seal-ring. The Greeks and Romans had their rings curiously engraved with devices, and that cast by Polycrates into the sea was the work of an engraver whose name the historian has not thought unworthy of commemoration. The seal is alluded to, also in the Demagogues of Aristophanes.—*Hind. Theat., Vol.* ii, *p.* 162.

SEAL of Soloman, Mahr-i Suliman.

SEAL of Siva, see Inscriptions.

SEALING WAX.

Cire d' espagne,	FR.	Lak,	MALAY.
Cire d' cacheter,	„	Surgutsch,	RUS.
Seigellack,	GER.	Lacre,	SP.
Chap-ka mom,	HIND.	Arakku,	TAM.
Cera lacca,		Lakka,	TEL.
Cera dispagna,	IT.		

This is a composition of gum lac, melted and incorporated with resin, and afterwards coloured with some such pigment as vermillion, ivory-black, &c. It is used for sealing letters, legal instruments, &c. Several varieties of sealing-wax are made from lac, in different parts of India. Garcias ab Orto described it as made from lac in the year 1563. Tavernier mentions the same fact. The Spaniards have obtained credit for the invention; but they, no doubt, learned it from the Arabs. A Frenchman who travelled much in Persia and different parts of the East Indies is also thought to have been the discoverer; and by Beckmann it is considered to be a German invention. The sealing wax made at Guntoor is very good, and, for a hot climate, better than the English wax, as it does not soften with the heat of the atmosphere.—*Faulkner; Royle, Arts, &c., of India, p.* 486; *M. C. C.*; *McCulloch's Com. Dic., p.* 1011.

SEALKOTE, a district in a pleasant fertile strip under the Himalaya. It produces grain of kinds, goor, cotton and flax; its manufactures are country paper, cloth (coarse), soosee pushmina work, and koftgaree or work inlaid in gold.

SEA SLUG, ENG. Holothuria; Biche de Mar.

SEA-NETTLE. Ships often meet in with vast numbers of young sea-nettles (medusæ) drifting along with the Gulf stream. They are known to constitute the principal food for the whale; the habits of the right whale are averse to the warm waters of the Gulf stream. —*Maury, p.* 43.

SEARBETT or Shalbett Island, in lat. 20° 54′ N., long. 71° 31′ E., is 17 miles from Mowah point, on the Guzerat coast.

SEA SHELLS, are the hard outer coverings of the molluscous animals or shell-fish. The shores of the islands of the Indian ocean afford a great variety of beautiful and rare shells. They are brought to China in junks from the Archipelago, and from the islands along the coast. They are mostly salt water shells. Few or no fresh water shells are collected. Both sorts are sometimes injured by scraping and varnishing them. Besides shells, as objects of natural history, insects are also procurable at Canton, tolerably well preserved: they are mostly coleopterous insects, as beetles; butterflies and other classes are also gathered, especially those which are gay. The precious stones seen in the China

market in small quantities, are rather inferior; chrysolite, malachite, cornelians, agates and jade, are the most common: limestone and quartz are cut into fantastic shapes, but being always lackered, are spoiled for natural objects. Birds or fishes are seldom seen preserved.—*Morrison.* See Mollusca, Nacre.

SEA-SIDE ALOE, or Small aloe, Aloe litoralis.

SEASONS. The horticultural division of the seasons in Madras, are:

Spring.	
August.	
September.	Sow seeds, plant trees and shrubs.
October.	
Summer.	
November.	
December.	Vegetables plentiful.
January.	
Autumn.	
February.	
March.	
April.	
Winter.	
May.	
June.	Protect tender plants from the hot winds.
July.	

The Indian seasons are, according to the shasters, six in number, each comprising two months. These divisions are more fanciful than real; and the common people are content to adopt the more definite division of three. Chou-masa, or Burk'ha, constitutes the four months of the rainy season. The rest of the year is comprised in Seeala, Jara or Mohasa, the cold season; and Dhoob-kala, or Khursa, the hot season. The hindoos also divide the seasons into Ghrishma, or hot weather, Varsha or rains, Sarat or autumn, Hemanta or cold season, Sisira dewy or foggy. Amongst the hindoos, as amongst other races, many of the religious festival days or holidays relate to the changes in the seasons, at the new year, when the sun turns northwards, and at the vernal and autumnal equinox; in illustration may be mentioned the Ganesh Chaturthi or Chauth, which falls about the beginning of September. On this day was born Ganesh, called also Ganpati, made from the turmeric and oil off the body of Parvati. He is the god of wisdom who removes obstacles and is invoked at the commencement of all undertakings. Ganpati has a man's body with the head of an elephant. His head is said to have been cut off or destroyed by Siva, when Ganesh tried to prevent Siva entering the chamber of Parvati while bathing. Clay images are made and worshipped for from one to nine days and then thrown into water. The Chin Chor or Chinchwad who resides at a village of that name near Poona is believed to be an incarnation of Ganesh, who promised an ascetic, named Meroba, who lived in Sivaji's time that he would be incarnate for seven generations in his family. The earth image of Ganesh, is one of three forms in which the earth deity Mrittika, is worshipped by hindoos. The first, the Nagapanchami, on which feast a snake of clay is worshipped: the second is Gokul Ashtami, when a clay image of the infant Krishna is worshipped, and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The vahan or carriage of Ganesh is a rat. The feast in honour of his birth is held on the 4th of the month Bhadrapad, falling on the first days of September. Ganesh is brought to the house with much pomp.—*Jaffrey; Elliot.*

SEASON PIGEON, of Ceylon, Corna puniceus, is migratory.

SEA WATER. Fresh water specific gravity taken at 1,000, sea water is 1,027. But the Dead Sea is equal to 1,028. The deep sea water is of a cœrulian blue; but it appears yellow on the coast of Japan: black round the Maldives; and the alleged redness of the Red Sea, Erythrium Mare, is said to owe its colour to a delicate microscopic algæ, Trichodesmium erythræum, though others allege shells and infusoria as the cause. The sea of California is often of a vermillion colour. The phosphorescence of the ocean is very frequent in the Indian Ocean and Arabian Gulf. The water assumes a white milky appearance. On one occasion, seen by Captain Kingman, the water was filled with phosphorescent animalcules. On other occasions a gelatinous translucent substance has been observed, and at others countless myriads of minute globular creatures called Noctilucæ, and the animalcules called Pyrosoma atlanticum, a mucous sac, an inch long, which on a ship's deck emits a light like that of iron at white heat.—*Collingwood.*

SEA WAVE, see Floods.

SEA WAX, see Maltha.

SEA WEED, Ulva reticulata, *Forsk.*, is a very beautiful reticulated sea-weed of the Eastern Archipelago. Dead Sea weed washed on shore is not used in Japan as food, nor for trade, but the whole coast is a dry salter's establishment. The Japanese go out in their small boats to the rocks, and with long sticks, to which is attached a piece of iron to serve as a knife, they sever the weed from the rock or bottom of the sea. The instrument may be twenty feet long, the blade about eighteen inches; the amount of sea weed is really incalculable; from Hakodate to Yenanai, following the shore, is twenty-two miles in a straight line, but quite sixty miles if we follow the curves of the bays and ups and downs of the land; and every available inch is covered with it. Each day it is placed out to dry if the weed is not humid; otherwise it is covered up against the rainy day. This weed is a valuable export

from Japan and edible, and, with rice, constitutes the cuisine of the Chinese. It is exported to China, and then sent up to those countries where salt is dear, being lighter as merchandise, and well adapted for cooking.—*Hodgson's Nagasaki*, *p.* 63. See Algæ, Food, Japan.

SEA WRACK, Zostera.

SEB, also Seo or Palu, HIND. Pyrus malus, Apple tree, an apple.

SEB, a divinity of the ancient Egyptians, analogous to the Chronos of the Greeks and Latins, with them the egg of the goose was the emblem of Seb.—*Bunsen*. See Goose.

SEB, also Seo and Sev, a mode of pronouncing the name of the hindoo god Siva, whose emblem is the conical-formed lingam.

SEBA, SANS. Apple.

SEBA, see Balkees, Saba.

SEBE MARA, CAN. Psidium pyriferum.

SEBESTAN, also Lobesten, Sebestena and Sebestens; Lesura, HIND. Buhoοari, BENG., are dried fruits, distinguished as smaller and larger, of Cordia angustifolia, myxa and latifolia. The fruits are edible, but tasteless, and were once formerly famous in European medicine, but seen only to contain much mawkish mucilagenous pulp. These were formerly used in Europe, but now by the native practitioners of the East only. The dried fruits are very glutinous, and are esteemed expectorant. The seeds of Cordia myxa, are called Chakoon ki beenj, and deemed an infallible remedy in ringworm, the powder mixed with oil being applied to the eruption (Beng. Dis.)—*Ben. Ph.*, *p.* 294 ; *Thirty-five years in the East, by Dr. Honig.*, *p.* 343.

SEBESTANA DOMESTICA, *Lam.*, *Commel.*, *Pr. Alp.* Syn. of Cordia myxa, *Linn.*, *Roxb.*

SEBESTANA MYXA, *Commel.* Syn. of Cordia myxa, *Linn.*, *Roxb.*

SEBESTANA OFFICINALIS, *Gært.* Syn. of Cordia myxa, *Linn.*

SEBESTENS, Lindley's name for the order Cordiaceæ, *Eng. Cyc.*

SEBIFERA GLUTINOSA, see Tetranthera.

SEBO, SP., PORT. Tallow.

SECALE CEREALE, Rye, has the glumes 1-nerved and shorter than the spikelet; the rachis is very tough. This plant is extensively cultivated in Europe, and has nowhere been observed in a truly wild state, away from the possibility of escape from cultivation, being sown by the agency of man.—*Eng. Cyc.* ; *Voigt*, *p.* 741.

SECAMONE ALPINI, Secamone, (*Prosper alpinus*). A drastic purgative. The Smyrna scammony has been attributed to this plant on very insufficient grounds.—*O'Sh.*, *p.* 452.

SECAMONE EMETICA, *R. Br.*

Periploca emetica, *Retz.*	Asclepias angustifolia, *Roxb.*
Asclepias pseudosarsa.	Shada-Boori, BENG.

Grows common in the southern parts of the peninsula of India at the foot of mountains ; is a smooth twining shrub, leaves short stalked, veinless, smooth, varying from elliptical to narrow lanceolate, cymes interaxillary, shorter than the leaves. Roots acrid and emetic.—*O'Shaughnessy*, *p.* 461 ; *Roxb.*, *Vol.* ii, *p.* 39.

SECTS. Amongst hindoos, there are six principal sects. In addition, however, to these six sects it is to be observed, that the vaishnaiva are divided into two branches, the Goculast'ha and the Ramanuz ; the first the worshippers of Krishna, the latter of Rama Chandra. These again are subdivided, one part of the Goculast'ha worshipping Krishna alone, a second worshipping him in conjunction with his mistress Radha, and a third (called Radha Ballabhi) who adore Radha only, considering her as the active power of Vishnu in the eighth avatar. The followers of the last-mentioned sects have adopted the singular practice of presenting to their own wives the oblations intended for the goddess ; and those among them who follow the left-handed path require their wives to be naked when attending them at their devotions. Among the Ramanuz some worship Rama only, others Rama and Sita. The Saiva sect worship Siva and Bhavani conjointly, and adore the Linga or compound type of their god and goddess. The exclusive worshippers of Siva are the Lingi or Gymnosophists. Those of Bhavani, or any other of the female energies, are the Sacta sect, whose emblem is the Yoni. The sectarial marks or symbols are made of ashes, cow-dung, earth of the Ganges, turmeric, sandal powder, chunam (a sort of lime,) &c., and are commonly of yellow, red, black, and straw colours. The sectarians of Siva and Vishnu are styled saiva or vaishnava, or Siva-bhakt and Vishnu-bhakt. The right-hand worshippers of the Sakti are also called Bhakta.—*Cole. Myth. Hind.*, *pp.* 163, 395 ; *Wilson's Glos.* See Hindoo, Linga, Yoni.

SECRETARY OF STATE FOR INDIA, is one of the principal ministers of the Queen of Great Britain, he signs all communications to the Governors and Council for the Indian presidencies. He is aided by a Council of military, civil and mercantile men, and is by law compelled to seek their opinion, but is not bound to follow it.

SECUNDERABAD, a large military cantonment, 6 miles north of Hyderabad.

SECUNDRA, a town in Northern India; its name is probably from Secunder Lodi. In Secundra was laid the Great Akbar. The quadrangle of his mausoleum is enclosed by high embattled walls, to break the monotony of which there are four octagonal minarets at the four corners, and four colossal gateways on the four sides. The space within is laid out in walks, flower-beds, orangeries, and groves of mango.—*Tr. of Hind.*, *Vol.* ii, *pp.* 9, 10.

SECUNNY, ANGLO-HIND. A steersman, from sukhan, a helm.

SEDA, PORT., SP. Silk.

SEDAU, see Kashmir.

SEDD MAREB, see Mareb, Saba, Sail-ul-Areb.

SEDDHYA, see Inscription.

SEDGE, plants of the natural order Cyperaceæ, the Sedge-tribe, comprising the following E. Indian genera and species :—

A. Cypereæ.
alopecuroides, *Rottler*, Himalaya.
angustifolius, *Buch.*, Bengal.
aristatus, *Rottler*, Peninsula of India, Bengal.
articulatus, *Linn.*, Peninsula of India, Bengal.
bulbosus, *Vahl.*, Coromandel.
canescens, *Vahl.*, Peninsula of India.
castaneus, *Willd.*, Peninsula of India, Bengal.
compressus, *Linn.*, W. & E. Indies, Penin., Beng.
difformis, *Linn.*, Greece, Egypt, S. Asia, the Behooa.
distans, *Linn.*, W. & E. Indies, P. of Ind., W. Africa.
dubius, *Rottler*, P. of Ind., Ben., ch'hoto gothoohee.
exaltatus, *Retz.*, Peninsula of India, Bengal.
haspan, *Rottler*, Peninsula of India.
hexastachyus, *Rottler*, Arabia, East Indies.
inundatus, *Roxb.*, P. of Ind., Bengal, patee.
iria, *Linn.*, P. of Ind., Beng., Nepal, China, Manilla.
niveus, *Retz.*, Bengal, Monghyr, Kamaon.
pectiniformis, *Rom.*, Coromandel.
pertennus, *Roxb.*, Bengal, the nagur-moothi.
pleuranthus, *Nees*, Coromandel.
polystachyus, *Rottler*, Peninsula of India, Australia.
procerus, *Roxb.*, Peninsula of India.
pulvinatus, *Nees*, Peninsula of India, Bengal.
pumilus, *Linn.*, Peninsula of India, Bengal.
pygmæeus, *Vahl.*, P. of Ind., Beng., Ava, the jal-muti.
racemosus, *Retz.*, Penin. of India, Bengal, Penang.
roxburghii, *Nees*, Peninsula of India, Bengal.
sanguinolentus, *Vahl.*, Konkan, Bengal, Nepal.
seminudus, *Roxb.*, Bengal.
tenuiflorus, *Rottler*, Peninsula of India.
tortuosus, *Roxb.*, Circars.
venustus, *R. Brown*, Pen. of Ind., Australia, Java.
verticillatus, *Roxb.*, Pen. of Ind., Bengal, Nepal.
Papyrus dehiscens, *Nees*, P. of Ind., Beng., Chumatee-patee.
elatus, *Nees*, Ceylon.
pangorei, *Nees*, P. of Ind., Beng., Mador katee.
tegetiformis, *Arnott*. Bengal.
Mariscus cyperinus, *Vahl.*, Ascension, Mauritius, China, Bengal.
dilutus, *Nees*, Peninsula of India, Bengal.
Kyllingia monocephala, *Linn.*, E. Indies, China, Nepal, Archipelago, Australia.
triceps, *L.*, Pen. of India and Malacca, Bengal.
Courtoisia cyperoides, *Nees*, Peninsula of India.
B. Hypolytreæ, *Nees*.
Anosporum monocephalum, *Nees*, Beng., Gothoobee.
C. Scirpeæ, *Nees*.
Abildgaardia rottbolliana, *Nees*, P. of India, Bengal.
tristachya, *Vahl.*, Peninsula of India.
Fimbristylis æstivalis, *Vahl.*, Pen. of India, Bengal.
argentea, *Vahl.*, Peninsula of India.
ferruginea, *Vahl.*, Bengal.
pallescens, *Nees*, Bengal.
royleniana, *Nees*, Sunderbuns, Bengal, the tal nooroo is the variety microstachya.
schœnoides, *Vahl.*, P. of Ind., Beng., keshuri-mu lunga.
Trichelostylis autumnalis, var. Indica, *Roxb.*, Bengal the kuratiya-yuvanee.
complanata, *Nees*.
miliacea, *Nees*, Bengal, the buro-yuvanee.
quinquangularis, *Nees*, Bengal.
tenella, *Nees*, Peninsula of India, Bengal.
tetragona, *Nees*, Bengal.
Isolepis articulata, *Nees*, Bengal.
barbata, *R. Br.*, Peninsula of India.
incurvata, *Nees*, Bengal.
prolongata, *Nees*, Bengal.
setacea, *R. Br.*, Europe, Bengal, Australia.
squarrosa, *Vahl.*, Bengal, the chhoonchoo-moormoori
supina, *R. Br.*, Bengal, Nepal, Australia.
Hymenochæte grossa, *Nees*, Bengal.
Scirpus junciformis, *Nees*, Bengal.
kysoor, *Roxb.*, Bengal.
Eleogenus capitatus, *Nees*, Rio Janeiro, Pen. of India, Bengal, New Holland.
Limnochloa acutangula, *Nees*, Peninsula of India.
plantaginea, *Nees*, Ceylon, Peninsula of India.
tumida, *Nees*, Bengal, Peninsula of India.
D. Scleriеæ, *Nees*.
Scleria lithosperma, *Willd.*, Ceylon, Pen. of India.
tesselata, *Willd.*, Ceylon, Pen. of India, Nepal.
E. Caricеæ, *Nees*, several species of Carex have been introduced into India.
Carex indica, *Willd.*, Nepal.
Uncinia nepalensis, *Nees*, Himalaya.
Remirea wightiana, *Wall.*, Peninsula of India.
Hemicarpha isolepis, *Nees*, Peninsula of India.
Lipocarpha lœvigata, *Nees*, Peninsula of India.
triceps, *Nees*, Coromandel.
Hypolytrum giganteum, *Wall.*, both Pens. of India.
Fuirena ciliaris, *Roxb.*, Coromandel.
pentagona, *W. & A.*, Peninsula of India.
dichostylis micheliana, *Nees*, Nepal, Europe, Asia Minor.
Chætocyperus limnocharis, *Nees*, Coromandel.
Echinolytrum dipsaceum, *Desv.*, Peninsula of India.
Malacochæte pectinata, *Nees*, Peninsula of India.
Eriophorum arundinaceum, *Wall.*, Penang.
comosum, *Wall.*, Nepal.
Rhynchospora chinensis, *Nees*, China, Nepal.
Morisia wallichii, *Nees*, Nepal.
Haplostylis meyenii, *Nees*, China, Ceylon.
Cephaloschœnus articulatus, *Nees*, Pen. of India.
Hypoporum pergracile, *Nees*, Sylhet.
Corbesia laxa, *Nees*, Nepal.
Trilepis royleana, *Nees*, Himalaya.

Sedges are found on the sea shore, on the tops of mountains, in marshes, ditches and running streams, on meadows and in forests, and several of them furnish useful products. A few secrete fecula in their tuberous root-stocks, as the water chesnut of the Chinese, &c., others secrete a little volatile oil as Cyperus longus and rotundus. The creeping rhizomes of Carex arenaria, and of a few allied species, are sometimes used medicinally under the name of German Sarsa-

parilla. An Indian species of Cyperus tegetum, *Roxb*., called Papyrus pangorei by Nees von Esenbeck, the Madoorkati of the Bengalees, which is extremely common about Calcutta and in Bengal, is very extensively employed for making the elegant, shining and useful mats for which the capital of India is famous, and which are frequently imported into Europe. The culms or stalks of the plant when green are split into three or four pieces, which in drying, contract so much as to bring the margins in contact, in which state they are woven into mats, and thus show a nearly similar surface on both sides. The strips are tied up in bundles about four inches in diameter and four feet in length; and seem, also, well adapted for making paper, ropes. The papyrus of the Egyptians belongs to this order, and is still called Babier in Syria. It is about 15 feet high; the exterior tunic of the stems cut in bands, and pressed, formed the paper of ancient Egypt and Europe; the leaves, which are several feet long, served for the same purpose, but were of inferior quality. This paper is but little liable to decay. Pliny, for instance, relates that the book of the laws of Numa Pompilius was found in Rome in a high state of preservation, after having been buried nearly six centuries in the earth.

The cotton-grass Eriophorum of Europe, is a conspicuous ornament of tuft-bogs and marshy moors, from having its seeds clothed at the base with a silky or cotton-like substance. With this, pillows are sometimes stuffed, and wicks of candles, as well as paper, made. There is a species of the genus very common in the Himalaya, both in low valleys and at considerable elevations. This, Dr. Royle named Eriophorum cannabinum, in consequence of his finding it everywhere employed in making ropes for all ordinary purposes by the mountaineers. Its name, bhabhur and bhabhuree, has a considerable resemblance to that of the papyrus, considering that the *b* and *p* are letters so frequently interchanged for each other. All who have scrambled up the steeps of the Himalaya will remember the great support they have received from the toughness of the tufts of the bhabhur. Specimens of the dried leaves are made up into bundles about three feet in length; twine is made from it: this, though rough, is strong and well-fitted for ordinary purposes. In the Himalaya the Bhabhur holds a conspicuous place, from its extensive use and most abundant supply throughout the whole of the hills, affording a most economical substitute as an article of cordage, in lieu of others of a more costly and durable nature. All the jhoola or rope bridges, which are erected over the large rivers where the sangha or wooden planked bridges cannot be made, on all the principal thoroughfares of the Gurhwal district, are constructed of this silky species of grass, the cables of which are of a considerable thickness. These rope bridges are a very safe means of communication over the large and rapid rivers intersecting different parts of the country, both for travellers and men with loads; and, where the footway and sides are properly laced with brushwood, afford an easy enough roadway for loaded sheep—but neither ponies nor cattle can travel over them. This grass grows abundantly in all the ravines of the sides of the mountains, and is to be had only for the cutting—but it is not of a very durable nature, though pretty strong when fresh made into ropes. It lasts about a twelvemonth only, or a little more, and the people in charge of the rope bridges are constantly employed in repairing and annually renewing the ropes and stays. The 'chinka,' or temporary bridges of a single cable, upon which traverses a seat in the shape of an ox-yoke, are also sometimes made of this grass. Sedges nearly resemble grasses in appearance, but are distinguished from them by their angular stems. There are few of them useful for any purpose—not even for fodder.—*O'Shaughnessy, p.* 628; *Royle's, Ind. Fib., p.* 85; *Trans. Agric. Soc. of India, Vol.* viii, *p.*272; *Cat. Ex.*, 1851; *Captain Hudleston on the fibres of Gurhwal.*

SEDI or Cherri, TAM. Tree.

SEDILENGAM, MALEAL. Cinnabar.

SEDJI MITTI, also Saji-khar, HIND. Impure Carbonate of Soda, Papudkhar, GUZ., HIND. Sub-carbonate of Soda.

SEDUARI, HIND. Vitex trifolia, *Linn.*

SEDUM CŒRULEUM, a succulent plant with various coloured flowers, all of which should be grown separately in pots, in a light sandy soil mixed with brick rubbish, they are propagated by seed, these plants are well adapted for rock-work.—*Riddell.*

SEEAL, a tribe in the waste tracts between the Sutlej and the Indus.

SEEAL, see Jun.

SEEANA (lit. cunning, artful) a conjuror.

SEECURANEE, TEL. A Nalla mallai wood, white coloured, light and straight-grained, and would be useful for temporary purposes. Perhaps the Isakarasi, TEL. The Sapindus rubiginosus.—*Mr. Latham.*

SEED.

Binge,	GUZ.	Tukhm,	PERS.
Binj,	HIND.	Veri,	TAM.
Semen,	LAT.	Vittu,	TEL.
Banih, Biji,	MALAY.		

In commerce, the grains of several species of gramina. Those of most importance, in a

commercial point of view, are clover seed, flax or linseed, rape seed, mustard seed, hemp seed, and jingelly or sesamum seed. In China, in the packing of seeds, after gathering them from the plants, they put each kind, separately, into a small bottle, and then pack the whole into a little box, ready for being shipped to Europe or America. An Indian climate, is very inimical to the preservation of seeds; if properly dried in the first instance, the best mode for preserving most kinds of seeds is well-soldered tin cases. Seeds of sesamum are presented to deceased ancestors, and, among the gods to Yama, the regent of death.—*Faulkner; Fortune, p.* 131; *Ward's Hindoos, Vol.* ii, *p.* 63.

SEED PEARLS, see Pearls.

SEEDUM ACRE, Fuh-kiah-ts'au, CHIN. The Stone-Crop plant.

SEEDY, also written Sidi, a corruption of the Arabic "my lord!" is the popular name in India for African blacks.—*Burton's Scinde, Vol.* i, *p.* 52. See Sidi, Negro.

SEEHOO, a lake of China, on its borders stands the wealthy and extensive city of Hang-choo-foo, the surrounding scenery, is accounted one of the grandest, as well as most beautiful in all China. The Lui-fung-ta, or tower of the thundering winds, standing on the point of a promontory jutting into the lake, forms a bold object. It is said to have been built in the time of the philosopher Confucius, who lived three centuries before the christian era. In the Vale of Tombs, the variety of monuments is almost infinite.—*Macartney's Embassy, Vol.* i, *p.* 28.

SEEKARTEN, GER. Chart.

SEEKA-KAI, TAM. Mimosa abstergens.

SEEKANDAR, Alexander the Great.

SEEMI-AGHATI, TAM. Cassia alata.

SEEMANTONNAYANA, SANS. From simanta, the place on the head where the hair divides, and oonayana, a raising up. Amongst hindoos, during the marriage ceremony, the bridegroom first pulls the veil over the face of the bride and then, turning it up again draws a line with red lead down the centre of her forehead. To this ceremony this word alludes.

SEEMUL, HIND. Bombax heptaphyllum.

SEEN, or Shalee, a brass dish.

SEENA BUND, HIND. Lit. breastband, used in shrouding the dead.

SEENA ZANNEE, lit. breast-beaters, an appellation of the Shiah sect of mahomedans.

SEENAH, a river that rises near the Wetern Ghauts, runs past Ahmednuggur and joins the Bheemah river.

SEENGA, see Kunawar.

SEENKH, HIND. The culm of the khuskus, Andropogon muricatus.

SEEOORSAT, in Persia, provisions supplied to travellers of rank, from the villages that they pass through: possibly from sair, a journey, rasad, provision.

SEEPAH, a native soldier, Sepoy.

SEER, HIND. Hedychium spicatum.—*Royle's Bot.*

SEER or Ser, a measure equal to about 2 lbs., it varies from eighty to eight-four Oojein rupees' weight.—*Malcolm's Central India, Vol.* ii, *p.* 15. See Weights.

SEERANO, an allowance given to the town shepherds of India. See Ballai.

SEER or Seir fish, Cybrium guttatum, the Scomber guttatum, *Linn.* Toramalu, SINGH.

SEERAH, fortified islets opposite Aden.

SEESODA. The origin of this town's name is from the trivial occurrence of the expelled prince of Cheetore having erected a town to commemorate the spot, where after an extraordinarily hard chase he killed a hare (sussoo.) —*Tod's Rajasthan, Vol.* i, *p.* 216.

SEESTAN, a desert country north-west of Beluchistan, on the rivers Helmund and Furhrud. It was a province of ancient Persia, but in the early part of the 19th century it was independent. Seestan means the region of cold. Both sides of the valley of the Indus were occupied in the earliest periods by another branch of the Yadu, for the Sind-Samma dynasty was descended from Samba (which like Yadu became a patronymic) of which the Greeks made Sambus—and one of whose descendants opposed Alexander in his progress down the Indus. The capital of this dynasty was Samma-ca-kote, or Samanagari, yet existing on the lower Indus, and which was corrupted into Minagara by the Greeks. There is no country to which an admirer of Persian poetry and romance turns with more interest than to Seestan. Its numerous ruins testify it to have been a fertile country, once full of cities, which in extent and magnificence are scarcely surpassed by any in Asia. Except on the north, where it joins the south-western border of the Dauranee country, the province is now surrounded by wide and dismal deserts, whence every wind brings clouds of a light shifting sand, which destroys the fertility of the fields and gradually overwhelms the villages. The only parts which still retain their fertility, are those on the banks of the Helmund and Furra Rud, and of the lake which is formed by those rivers. This celebrated lake is termed by geographers the Sea or Durya or Zereng. In Persian books, it is said sometimes to be called the Sea of Loukh, and, by the people of the country, the Sea of Zoor or of Khaujek: in the neighbourhood, it is merely called the Lake, or the sea, and it is at least 150 miles round. The water is brackish and hardly

drinkable. The edges of the lake, for a considerable breadth, are choked with long rushes and reeds, the shores also are overgrown with the same sort of vegetation ; and being liable to inundation, are full of miry places and pools of standing water. These marshes and thickets are frequented by herds of oxen, whose owners are men distinct from the other inhabitants of Seestan: they are said to be tall and stout, but black and ugly, with long faces and large black eyes: they go almost naked, and live in hovels of reeds. Besides their occupation of herdsmen, they fish and fowl on rafts among the rushes of the lake. The original inhabitants of Seestan are the Tajik, but they have now received some additions from other countries. There are said to be two considerable tribes, called Shahrukee and Surbundee, which have emigrated from Persian Irak to Seestan, and in much later times, a tribe of Beluch has fixed its residence in the east of the country. The Tajik and the two first-mentioned tribes exactly resemble the Persians, and have little remarkable in their character. The Cauker clan of Punnee, who inhabit Seewee in the plains of Seweestan are divided from the rest of the tribe by mountains and by Beluches, the inveterate enemies of the Cauker name. The people of Seistan dress like Persians, and have the same colloquial dialect; they are all Sheea moosulmans, and on the very worst terms with the Affghans. Seistan was formerly called Nimroez, and comprehended part of Arriana and the country of the Sarangœans. It is bounded on the N. and N. W. by Khorassan, E. by Candahar and Zablestan, and S. and S. W. by Mekran and Kerman. The greater part of this province is flat, sandy and uninhabited. Seistan lies between Persia and Affghanistan, and is surrounded except on the north by wide deserts. It is a flat country, with low hills here and there. One-third of its surface is moving sand, and the other two-thirds are composed of compact sand and clay, covered with thickets of tamarisk, and abundant pasture. The Helmund, which is by far the finest river between the Tigris and the Indus, flows through Seistan, and falls into the lake of Zurrah. The river banks are clothed with luxurious vegetation, and the lake, which is about ninety miles long by sixty broad, is bordered by forests of reeds, beyond which there are pastures and tamarisk thickets. The original inhabitants of Seistan were Tajiks; but the country has long been occupied by savage tribes of Beloochees. Seistan is well-known to the admirers of Ferdusi, as the country of Zal and Rustam. In the early part of the nineteenth century, the ruling family of this province had descended from the line of Kyanee, but lost its power. Kamran invaded Seistan, plundered it, and drove off 6,000 of its inhabitants captive, whom he sold into slavery, or exchanged to the Toorkmans for horses, he assigned to the Kyanee family the town of Jahanabad, south of the Helmund, where, in 1838, they were residing and fixed his own government at Chuknusoor, north of the river. Little regular revenue is derived from Seistan, except camels, cows and sheep; it is thinly peopled, and altogether a poor possession. The most remarkable feature of the province is the intersection by the Helmund and its tributary rivers. In summer all these are greatly swollen, and it has been said that they form a lake called "Zurrah;" but the natives whom Burnes interrogated were unacquainted with this name, and described the rivers to be lost in a vast swampy region, full of reeds, called "Hameo." Many of the places on the map are also quite unknown, but ancient forts are often laid bare by the blowing away of the sand, while modern ones are overwhelmed. This is to the people a constant source of wonder and castles of a former age are said to show themselves as if newly from the hands of the architect. The singular disappearance of the waters of the Helmund, and this changeable face of nature, would account for the many fabulous descriptions of Seistan. The ruins of an old city in the "Loote" or desert called Zaideen, yields many antiquities, rings, coins, &c., which are taken by the finders to Furro for sale. One curious property of the climate is, that the horse cannot live in it, and probably there are not one hundred of these in Seistan. Kamran lost nearly all his cavalry in his campaign, most of the horses dying from a disease of the digestive organs contracted in it, which makes it very unfavourable for military operations; but the camels of Seistan are celebrated.—*Kinner's Geographical Memoir, p.* 182; *Ferrier*; *Mr. Elphinstone*; *Markham's Embassy, p.* 23; *Burnes, in Par. Papers*; *H. et Th.*; *Tod's Rajasthan, Vol.* ii, *p.* 230; *Elphinstone's Kingdom of Caubul, pp.* 492, 493, 494; *Pottinger's Travels in Beloochistan and Sinde, pp.* 66, 89, 90.

SEERA-SHENGALANEER—? Conyza cinerea.

SEET, Burm. Acacia stipulata, *DC.*, also A. elata, *Linn.*, and A. speciosa, *Willd.*; *W. & A.*

SEETABULDEE, a fort and bazaar near Nagpore, made into an outpost of the Kamptee cantonment about 1818, and has grown into a large town full of bankers and artizans.

SEETAHAR, Beng. Lycopodium phlegmaria.

SEETAR, Hind. A musical instrument,

a guitar, the sih-tar, or three stringed musical instrument.

SEETARA, HIND. A star, a planet.

SEETH-MULI, BENG. Asparagus racemosus, *Willd.*

SEET-SEEN, BURM. An Amherst wood, used for the construction of religious houses. It is a red, compact, very ponderous, and highly valuable wood.—*Cal. Ex.* 1851.

SEEVUM, HIND. Gmelina arborea, *Roxb.*

SEE-WANA MADDEYA-GASS, SINGH. Ficus asperrima, *Roxb.*

SEFFAVI, see Kazzilbash, Safavi.

SEFID RUD, see Iran.

SEGAMON, see Jakun.

SEGAPU, also Thovarai, TAM. Cajanus indicus, *Spreng.*

SEGAPU AVERAI KAI, also Segapu muche, TAM. Lablab vulgaris.

SEGAPU CHANDANAM, TAM. Pterocarpus santalinus.

SEGAPU MANTHARI MARAM, TAM. Bauhinia variegata, *Linn.*

SEGAPU MYI, TAM. Ink.

SEGAPU also Vela and Yerra tambatin, TEL. Canavalia gladiata, *DC., Roxb., W. & A.*

SEGELTUCH, GER. Canvas.

SEGESTAN, the Vaekerata or Vekereta of the Vendidad, was the sixth settlement of the Arians. This country is the home of Rustum, Dushak is the capital of Segestan. To the south-east of it is the land of the Parikani, known to the ancients as a part of the Saken country (Sakastene). The greater part of it is now a desert, but it was once cultivated. The Record runs (vii, verse 10.) "Vekereta, in which Duzhaka is situate; there Ahriman created the Pairiika Khnathaiti." Here there may be allusion to a schism, which, in that case, would be the second historical one. Recent travellers have also found nomadic tribes between Media and Gedrosia, who worshipped the Peri (Fairies), but were fire-worshippers also. The Jamshidi, a tribe of the Aimak, are the only tribe of Eastern Iranians who are exclusively nomades. They derive their descent from Jamshid, and moved out of Segestan to the shores of the Murghab, which they have occupied from pre-historic times. They live in the neighbourhood of the Salor and Sarik Turkoman and they use the round conical tent of the Tartars, surrounding it with felt and a reed matting, and their clothing and food are Turkoman as also their occupation, for, they are great man-stealers. They excel the other Aimak as horsemen, and, for a chapao, band themselves with men of Herat or with the Turkoman tribes. It was this cause that led Allah Kuli Khan to transport them from Khiva to the banks of the Oxus, after he had conquered them with the allied Sarik Turkoman. After a residence of 12 years, they fled and returned to the town of Murghab. The Jamshidi is polite in word and manner. They still retain parts of the zoroastrian faith, reverence fire, and pitch their tent door to the east.—*Herod.*, iii, 94; *Comp. Ritter*, viii, 59.

SEGHALIN, Seghalien, or Tarakai, long believed to be a peninsula, is an island lying between 54° 24′ and 45° 54′ 2″ N. L., and E. L. 141° 40′ and 144° 46′. It is about 600 miles in length and from 20 to 100 broad. It is well wooded and fertile, and coal is found in many places, especially about Jonquiere Bay. Two-thirds of the northern part belong to Russia, and is peopled by Ghilak. The aboriginal races of Yezo, whose severe treatment by the Japanese, led them to other countries, occupy the southern part of the island of Seghalin, which is in possession of the Japanese. The Aino are of short stature with broad faces of the Mongol type. They are a timid race, their limbs are hairy, they have bushy beards and long tangled hair, large heads and clumsy figures, the expression of their faces is that of good nature combined with stupidity. According to M. Rosney their language is dissimilar to Japanese, and that spoken in the Kuriles and in the island of Yesso, are also different from Japanese.

SEGHAN, see Kaffir.

SEGHE, IT. Saws.

SEGUN, BENG. Tectona grandis, *Linn.*

SEGUR, a forest on the Neilgherries, has been much exhausted and has very little teak or black wood fit for felling. It is the main source of supply to Ootacamund for house-building purposes.—*Madras Conservator Report, p.* 2.

SEH, or Sahi, HIND., of Kangra. Porcupine.

SEH, HIND. Prosopis spicigera.

SEH, LEPCH. Abies smithiana, *Hooker, Wall.*

SEHARUNPORE, in North-Western India, the site of the Botanical Gardens of the Government of India. The Kandonur river near Hurowrah is in Seharunpore.

SEHESNAG. The Takshak race entered Hindusthan, led by a conqueror termed Sehesnag, from Sehesnagdesa. He ascended the Pandu throne, and his line terminated in ten descents with Mahananda, of spurious birth. This last prince, who was also named Bykyat, carried on an exterminating warfare against the ancient Rajpoot princes of pure blood, the Poorans declaring that since the dynasty of Sehesnag the princes were soodras. Three hundred and sixty years are allotted to these ten princes. A fourth dynasty commenced with Chandragoopta

Mori, of the same Takshak race. The Mori dynasty consisted of ten princes, who are stated to have passed away in one hundred and thirty-seven years. See Takshak.

SEHESRA ARJUNA, of the lunar race, called also Sehesra Bahu was of the Hi-hya tribe. He founded Mahesvati on the Nerbudda, still existing in Meheswar. In the Bhavishya Poorana this prince, Sehesra Arjoona, is termed a chakravarta, or paramount sovereign; also that he conquered Karkotaka of the Takshak, Toorshka, or Snake race, and brought with him the population of Mahesvati, and founded Hemanagara in the north of India, on his expulsion from his dominions on the Nerbudda. Traditionary legends yet remain of this prince on the Nerbudda where he is styled Sehesra Bahu, or 'with a thousand arms, figurative of his numerous progeny.' He was expelled from Mahesvati by the solar race.

SEHL, one of the princes of the Bharat, who founded Aror.

SEHO of Ternate, Arenga saccharifera.

SEHORE, a town on the bank of a stream in Bhopal.

SEHRAI, a mahomedan family from Sind, who governed at Kelat, until expelled by the hindoos, who subsequently were expelled by the Brahui. Sehrai, is from sahara, a desert, hence also Sarrazin, or Saracen, from sahara, desert, and zuddun, to strike, contracted. The Brahui appear to have been a nation of Tartar mountaineers, who settled, at a very early period, in the southern parts of Asia, where they lived an ambulatory life in khels, or societies, headed and governed by their own chief and laws, for many centuries; and at length they became incorporated, and obtained their present footing at Kelat and throughout Beluchistan. It is impossible to form more than a supposition, what was the nature of the region from which they emigrated, but their pursuits and way of domestic life afforded the strongest reason for believing that they were originally mountaineers; and some amongst them affirm that the very name demonstrates this by its signification being a compound of an affix boan and roh, a word said to mean a hill in the dialect still spoken in some parts of Thibet; such reasoning, however, is not entitled to any great dependence, though supported by the collateral evidence of the Beluch being called in one quarter of the country Nharooi, which, if we admit the former derivation, means "low landers," *i. e.*, literally not hill-men, a name they received from the Brahui when they came amongst them, and evinced a preference for the champagne districts, low villages, and plains. The Brahui imagine themselves the aborigines of the country. In another place he states, that he considers the hindoos to have been the first colonisers of the upper part of the Brahui mountains, and that the Brahui gradually settled amongst them. That the last hindoo rajah was named Sehwa, who called in the aid of these mountain shepherds against a horde of depredators from the western parts of Mooltan, Shikarpoor, and Upper Sind; and that the Brahui, having defeated and driven off these invaders, deposed the rajah Sehwa, and seized the government for themselves—a chief of the name of Kumbar becoming khan of Kelat, of whom the present khan is a lineal descendant. See Brahui, India, Kelat, Sind'h.

SEHWAN, the ancient Sindomana, is built on the extremity of a spur from the Biluchi range which here juts into the river. The pass of Sehwan has a picturesque appearance from the river, with its rocky mountains rising in terraces along the bank, and its old ruined castle, supposed to have belonged to the Alexandrian age. Beyond Sehwan is the large town of Larkhana, containing about 5,000 inhabitants, the capital of one of the most fertile districts in Sindh, being that watered by the Indus, and the large branch called the Narrah before-mentioned.—*Postan's Personal Observations, pp.* 28 *and* 29; *Adams.* See Kelat.

SHE-WAN-PAN, CHIN. A wooden frame, with wires, resembling the abacus of the ancient Greeks, Romans and Arabians. By the help of this the Chinese work the most difficult and intricate calculations, but without it they are perfectly helpless.—*Frere Antipodes, p.* 218.

SEIDBURROOA, a Nepaul tree, the bark of which is manufactured into a strong useful paper; it is also made into rope and black thread, but neither of them resist moisture well.—*Smith's Nepaul.*

SEIDE, GER. Silk.

SEIES, FR. Saws.

SEIFE, GER. Soap.

SEIFATALA, or the bitter apple, a little village. A priest or man of the law, set before Mr. Rich an ample meal of honey, fresh butter, yoghourt, cucumbers and butter-milk. The natives of this part of the East always eat honey and butter together, and it is likely to be a prevailing custom in other parts of the East, from the mention made of it in scripture—"Butter and honey shall he eat," Isaiah vii, 15.—*Rich's Residence in Koordistan, Vol.* i, *p.* 523.

SEIGUL, see Khutri.

SEILAN, a name of Ceylon. See Marco Polo.

SEIN, HIND. Pentaptera tomentosa.

SEIR, also Teg, MAHR. Euphorbia tirucalli, Milk-bush

SEIR ABONEID, in lat. 25° 14′ N., long. 54° 22′ E., an island 2½ miles long and 2 broad, on the south side of the Persian Gulf, contains large quantities of sulphur, and has some mineral springs.

SEIR-I-MUTAKHERIN, or, Latter Review, a work of the history of the British in India in the middle and close of the 18th century by Seid Gholam Hussain Khan, Calcutta, 1789.

SEIRIUS, see Iswara.

SEISAN, a town on the Munchar lake.

SEISTAN, see Seestan.

SEJARA MALAYU, see Jakun.

SEJ PAN, HIND. Asparagus racemosus.

SEKA—? see Tin.

SEKAKAI or Siki-kai, or Sekai, GUZ., HIND., TAM., TEL. Pods of Acacia rugata, long, flat pods or legumes containing separate, small, oval, dark coloured seeds, considered by native practitioners a most valuable medicine. In taste it somewhat resembles the soap-nut, but is more acrid, less bitter, and has a singular pungency. It is extensively used in India for washing the hair.—*Faulkner.*

SEKKIR, a Kurd tribe. See Kurdistan.

SEKOOHA, see Jehanabad.

SEKRANCH, a river near Bella in Chuprah.

SEKRE, a race in Northern India, occupied as scavengers.

SEKUMANU, or Ava, TEL. Sponia wightii, *Planch.*

SEKUHME, CHIN. Sago.

SEKUNDER GHAT, see Kohistan.

SEKANDER NAMEH abounds with verses of recondite meaning. One of its commentators, Syed Seif-ud-din, says that Hind means dark or black, the colour appropriated to the planet Saturn, under whose influences Hind, or Hindustan, is reckoned.—*Hindu Infanticide, p.* 170.

SEL, FR. Salt.

SELAGINACEÆ, an order of plants with one genus, Hebenstreita.

SELA'H, a historical term in Scripture connected with the race of Arphaxad. The mission represents the epoch of the first descent of the race of Arphaxad from the heights of the wild mountain country.

SELAJIT, TEL. Ophelia elegans, *Wight.*

SEL AMONIAAC, FR. Sal ammoniac.

SELA MARAM, also Sela Wanjab, TAM. Acacia odoratissima, *Roxb.*, *Willd.*

SELA-VAGH, HIND. Felis tigris, *Linn.*

SELAMPURA, see Topes.

SELAN, a river of Banka Island, see Tin.

SELAOONJA, TAM. Acacia odoratissima.

SELARAS, TEL. Ophelia elegans.

SEELARUMBA, SANS. The seeds of Canna indica, *Linn.*, *Roxb.*, *Rheede.*

SELDI, RUS. Herrings.

SELE, the Polynemus sele, a fish of the river Ganges and Bay of Bengal. The sele combines the advantages of fineness of flavour, with wholesomeness as food ; while considerable in size, it is migratory in habit and in the cold weather enters the Bengal rivers, in great shoals. Its swimming bladder is of value as an article of commerce, and its flesh in a fresh state is esteemed as food, this would become still more valuable if it could be properly cured. The demand for dried fish, fish roe, salted fish, tamarind fish, exists in every part of Asia. Shark fins are largely used in China, and isinglass is in request both in Europe and China. It might perhaps become an article of consumption even in India as it is mentioned in their systems of Materia Medica by the name of ghurree-al-su-mak and sureshum mahee, that is, fish-glue, and is described as a good diet for patients in a decline. The species affording the isinglass is the Polynemus sele of Buchanan, Sele or Sulea of the Bengalese. Dr. Buchanan describes the sele as affording a light nourishing food, like most of the fishes which he has called Bola, but as inferior to many of them in flavour. It is common in the estuaries of the Ganges, and is often found weighing from twenty to twenty-four pounds; and may perhaps be the emoi of Otahetti, the Polynemus lineatus of Lacepede, the P. plebeius of Broussonet. This, according to Block, is by the English called King-fish and is the Kalamin, TAM. of John from Tranquebar, and abundant in the Kistna and Godavery. Buchanan further states, that the sele has a strong resemblance to the abovenamed "maga boshee" of Dr. Russell. An anonymous author stated that from half a pound to three-quarters of a pound of isinglass may be obtained from each fish. Mr. McClelland supposed either that P. sele attains a much larger size than twenty-four pounds, the limit given to it by Buchanan, or that isinglass is also afforded by a far larger species, namely, P. tetradactylus, Telia, or Teriya bhangan. This is identical with the "maga-jellee" of the Coromandal Coast, and which Buchanan often saw six feet long in the Calcutta bazaar, and was informed, it sometimes equalled 320 pounds avoirdupois in weight. It is considered by the natives as a wholesome diet although seldom used by Europeans. Mr. McClelland says he has frequently seen them of a uniform size, that must have weighed from fifty to a hundred pounds, at least loading whole caval-

cades of carts on their way to the Calcutta bazar during the cold season. Both the sele and the "teria bhangan" must consequently be very common there from November to March. P. sele is supposed to be a variety of P. lineatus, which is said to be common on all the shores to the eastward; but if so, it seems strange that the Chinese should send for it to the Hooghly. The same might, however, be said of the cod, which, though caught in abundance on the coasts of Great Britain, is also diligently sought for on the banks of Newfoundland. He also inquires whether Polynemus emoi and P. plebeius, supposed by Buchanan to correspond with his Sele, contain the same valuable substance, and whether either of Russell's species, the abovenamed nagaboosbee and maga-jellee (*Indian fishes* 183-184,) yield it.—*Royle on Isinglass, passim.*

SELENITE, see Elespah, Gypsum.

SELEONI-MIED, Rus. Brass.

SELEUCIA was built by SeleucusNicator, forty or forty-five miles north from Babylon, at a point of the confluence of the Euphrates with the Tigris, by a canal. There were six hundred thousand citizens here at one time, and all the commerce and wealth of Babylon had flowed into it. Seleucia was built by the Greeks out of the ruins of Babylon. The two cities of Ctesiphon (or Ul-madain),andSeleucia were built one on each side of the river, opposite each other, though flourishing at different periods. The ruins, or rather ruin, of Ctesiphon (for there is but one relic of that once rich and noble city), is calculated to excite wonder. There is no eastern palace which possesses such a facade as the Tak-i-Kasra or, if we suppose it to have been merely a gateway, such an entrance. The Ali Capi at Ispahan, or the gates of the palace at Dehli, magnificent structures in themselves sink into insignificance beside the Tak-e-Kesra ; for none of them can boast of an archway more than one hundred feet high. Antiochus Epiphanes, one of the Seleucidæ died B. C. 164, in the year 143 of the era of the Seleucidæ. After the death of Seleucus Philopater, Antiochus Epiphanes assumed the reins of power in the empire that included Armenia and Parthia. Alexander was favorable to the Jews, but, Antiochus Epiphanes, the reverse. The first seven years of his reign were still endurable, but after that every confessor of Jehovah, who could not be bribed or seduced over was subjected to the most cruel forms of martyrdom. But relief came in the uprise in B. C. 167 of the valiant Mattathias and B. C. 165, the temple was purified and the worship of God restored. Seleucia was on the western banks of the Tigris. It was the capital of the Macedonian conquests in Upper Asia. Ctesiphon was on the eastern banks, at the distance of only three miles from Seleucia, and was the capital of the Parthian kings.—*Chatfield's Hindoostan, p.* 277 ; *Mignon's Travels, p.* 78 ; *J. B. Fraser, p.* 3 ; *Bunsen, God in Hist., Vol.* 1. See Kabul, Luristan, Tigris.

SELEUCIDÆ. There are two eras, the one reckoned from the date of Alexander's death A. A. C. 323, the second, has its epoch 311 years and four months B. C., and is used in the book of Maccabeus. These Seleucidæ eras were also called Syro-Macedonian. The people of the Levant and the Jews adopted it, the Jews calling it Tariq-Dilcarnaim, and it is still in use amongst the Arabs. The Alexandrian era was established commencing from the entrance of Seleucus Nicator into Babylon. Armandi notices the fact that the elephants figured on the coins of Alexander and the Seleucidæ, invariably exhibit the characteristics of the Indian type, whilst those on the Roman medals, can at once be pronounced African from the peculiarities of the convex forehead and expansive ears. Kurnah near Bussorah is one of the towns founded, and called Apamea, by Seleucus Nicator, after his wife Apama. After the death of Alexander, his lieutenant, Seleucus, succeeded to the sovereignty of Affghanistan and the other Asiatic conquests. Under his grandson, Affghanistan was taken from the Seleucidæ, by the aboriginal chiefs, and soon after formed with Bactria an independent state which existed during 150 years. Subsequently the Tartars made themselves masters of Affghanistan and appear to have held possession of it up to the death of Mansoor, when one of his officers, Sabaqtagin, established an independent dominion over all the southern parts of Affghanistan, making Ghizni his capital. His son Mahmood, who died A. D. 1028, enriched Affghanistan with the spoils of India. In the reign of the cruel Bahram, one of the Tartar's descendants, the Sabaqtagin dynasty, were deprived of all but the Punjab, and this too, in A. D. 1160, they lost. Seleucus Nicator, however founded thirty-five cities in greater and lesser Asia ; sixteen of which he named Antioch, from Antiochus, his father ; nine Seleucia from his own name ; six Laodicea, from Laodice, his mother ; three Apamea, from Apama, his first wife, (of which the city of Kurnah was the chief) ; and one Stratonicea, from Stratonice, his last wife. According to Dean Prideaux, he was a great protector of the Jains, and the first who gave them settlements in those provinces of Asia, which lie on this side of the river

Euphrates. As they had been faithful and serviceable to him in his wars, and in many other respects, he granted them great privileges in all the cities which he built. The expedition of Seleucus to the Panjab is related by Justin, (lib. xv, c. 4), and by Pliny, (Nat. Hist., lib. vi, c. 17). Seleucus Nicator is said to have penetrated to the mouth of the Ganges and it had been sailed up by the Romans as far as Palibrotha, before the time of Strabo.—*History of the Panjab, Vol.* i, *p.* 55 ; *Prideaux's connection of the Old and New Testament; Mignon's Travels, p.* 4. See Affghan, Affghanistan, Chaldea, Chandragupta, Greeks of Asia, Hindoo, Inscriptions, Kabul, Koorna, Khuzistan, Mesopotamia, Shaman, Tigris, Vindusara.

SELIKEH, or Selikha, ARAB. Bark of Cassia lignea.

SELIM, see Mameluk.

SELIM-GHUR, see Delhi.

SELINGHINSKY, near the Baikal lake, is 1,779 feet above the level of the sea. It is situated on the east bank of the noble river Selinga or Selingue in a deep, barren, sandy soil, that produces almost nothing. The Selingue river disembogues from the southwest, into the Baikal lake.—*Staunton's Narrative, p.* 44. See Kalkas.

SELJUK, a Tartar or Turkoman, whose name was handed down to his posterity through his son Togrul Beg. Dr. Latham supposes Seljuk to be the same word as Seleucus. The leader of the Seljuk tribe was Togrul Beg. The death of Mahmud which occurred A. D. 1228 was followed by a period of anarchy, during which Togrul Beg advanced and took Ghazni and was declared king. The Seljuk had long settled in Persia, where they naturally adopted the colloquial dialect, and brought it with them on their expulsion by the Kharazmian kings. The unremitting enmity of these kings forced vast hordes of them to fly from Persia after they had been colonised there for many years. The Seljukian branch of the Turks, from their traditionary patriarch Seljuk Khan, had acquired and consolidated a mighty empire, more than two centuries before the name of the Ottomans was heard. The Seljukian Turks were once masters of nearly all Asia Minor, of Syria, of Mesopotamia, Armenia, part of Persia and Western Turkestan ; and their great sultans, Toghrul Beg, Alp Arslan, and Malek Shah, are among the most renowned conquerors that stand forth in Oriental and in Byzantine history. But, by the middle of the thirteenth century of the christian era, when Ertoghrul appeared on the battle-field in Asia Minor, the great fabric of Seljukian dominion had been broken up by the assault of the conquering Mongols, aided by internal corruption. After long years of warfare carried on by Ertoghrul and his more renowned son, Othman, Œni became the settled possession of their house. Othman, or, according to the oriental orthography, Osman, is regarded as the founder of the Ottoman empire. The Seljuk, as well as the Moghul, are of Tartarian origin ; but to speak of them as the same nation would be as likely to confound, as a person writing on Europe, to include Spaniards and Frenchmen under the common term of Europeans. Dr. Latham classes the Belooch nation with the Persian, but considers them as a modified form. He says, E. and S. E. of the proper Persians of Kirman, come the Belooch of Beloochistan, the Belooch came from the westward, but whether they were Seljuk Tartars, or Arabs from Aleppo, is a matter of doubt. Dr. Cooke says, the original inhabitants of the country were hindoos, who fled from the conquering mussulmans, who invaded Sind, Lus and Mekran, A. H. 93 : and he is of opinion that the Brahui were Tartar mountaineers, who gained a footing in the country and ultimately supplanted the former, becoming the ruling race.—*Pottinger's Travels in Beloochistan and Sinde, p.* 269 ; *Creasy's Ottoman and Turks, p.* 7.

SELL-AMMA, one of the village goddesses of the peninsula of India. See Hindoo.

SELOOPAY MARAM, TAM. Elæodendron roxburghii.

SELOTTAH, see Kol, Koli.

SELU, SANS. Cordia obliqua.

SELUNG, or Salong a tribe who occupy the islands of the Mergui Archipelago, to the south of Tavoy. They are fishers, for the sea-slug. They reside in their boats, which are good : are decently clad and intelligent : and are inclined to settle in villages and cultivate. They dig up the slug at the low water of spring tides during the N. E. monsoon. They are supposed by some to be descendants of slaves from the Malay peninsula.

SELUPA MARAM, TAM. Elæodendron roxburghii.

SELYA, in the South of India, is a sheet or body covering in use amongst the poorer classes, cultivators, laborers, wrapped round their shoulders and body when employed in the fields. Their usual cost is about rupees one and a quarter to rupees one and three-quarters. In Dharwar one is always presented to the bridegroom by relations of the bride, together with a turban.

SEM, the ancestor of the semitic race, dwelt in Arpakhsad, the primeval land of

the Kasdim or Chaldees, the frontier mountains of Armenia towards Assyria. Of the four branches of this semitic race, Elam, Assur, Lud and Aram, Helam or Elam, the Elymæi formed the stem of the Babylonian empire, east of the Tigris, in Susiana, (South Babylonia) ; Assur was the stem of the empire of Ninus on the upper Tigris ; Lud, the Lydi, were the original inhabitants of Asia Minor, Pontus and Cappidocia, as far as the Halys, where the Lydians of history were seated. Aram the original highlands S. W. of Armenia (Ar Minn) the country between the sources of the Euphrates and Tigris, Mesopotamia proper, is Aram-Nahrain, and Aram became the latest name for Syria. The Aram race branched into Uz or Huz, which is Nejid or North Arabia. It was to Ur of the Chaldees that Nahor went. His son Terah left it and went to Haran (Karra) a day's journey S. of Edessa. According to Bunsen, the semitic race invented theogony for other peoples and especially for the Hellenes, and the Hebrews abandoned all mythological religion in the time of the patriarch Abraham. —*Bunsen, Vols.* iii, v, *pp.* 71-2, 365. See Assur, Arpahaxad, Adam, Aram, Elam, Lud, Semitic races.

SEM, HIND. Canavalia gladiata.

SEMA BOGGU, TEL. Coal.

SEMADOONG, Abies brunoniana, *Sieb.*

SEMAI KARRE, TAM. Coal.

SEMAL or Sembal, HIND. Bombax malabaricum. Semal ka phool, flowers of the Bombax heptaphyllum, considered refrigerant. —*Genl. Med. Top., p.* 152.

SEMAN, see Kelat.

SEMANDI, MALAY. Is a regular treaty between the parties on the footing of equality. The adat paid to the girl's friends has usually been twelve dollars.—*Lubbock's Origin of Civil., p.* 54 ; *Marsden's History of Sumatra, p.* 263.

SEMANG, a negrito race who occupy the Malay peninsula. Semang, is a Malay word applied by the mahomedans of Kedah, Perak, Tringanu and Salangore, to the pagan tribes of the interior, though the Semang Paya reside on the borders of the morasses, the Semang Bukit, are the occupants of hills, the Semang Bakow reside in the neighbourhood of the sea, in the creeks and districts where the mangrove grows, and the Semang Bila approach the Malay in civilization. According to Mr. Earl, the Semang are a woolly-haired race of the Malayan peninsula, and a mere remnant of tribes which, according to native tradition, occupied a considerable portion of the interior of the peninsula at a comparatively recent period. At the present time the race is only known to exist on the mountain Jerei, in the Kedah territory, a little to the north of Pinang ; in the neighbourhood of the mountain range which lies immediately opposite to the latter settlement ; and in the uplands of Tringanu, on the east coast of the peninsula ; but it seems probable that scattered remnants are to be found in several other spots, which have not yet been visited by Europeans. The Sakai and Allas tribes of Perak, which have hitherto been classed with the Semang, or. woolly-haired race of the neighbourhood of Pinang, have curly but not woolly hair ; and although they retain the Papuan custom of boring the septum of the nose, and also mark their skins with cicatrices, they cannot be considered as Papuans ; indeed their language and leading characteristics show them to be wild tribes of the Malayan race. The Semang, however, who are identical in every particular with the Pangan of the interior of Tringanu, are Papuans in all their purity, with woolly and tufted hair in every respect similar to other unmixed tribes of the race. The Semang of Kedah have been very accurately described by Mr. Anderson, in the fourth number of the Journal of the Indian Archipelago. Of the origin of the Semang race the Malays possess no tradition. Certain it is, however, that the tribes of them which inhabited various parts on both sides of the peninsula, were much more numerous, before many of the present Malayan colonies were founded by emigrants from Sumatra. The Semang are designated by the Malaya, Semang Paya, Semang Bukit, Semang Bakow, and Semang Bila. The Paya are those who reside on the plains or borders of morasses, the Semang Bukit, whose abode is on the hills, and the Semang Bakow are so called from their frequenting the sea-shore, and occasionally taking up their quarters in the mangrove jungles. The Semang Bila are those who have been somewhat reclaimed from their savage habits, and have had intercourse with the Malays. A similar race of people are said to have formerly inhabited all the islands of the Archipelago, and nations and remnants of them, under the names Aheta, Aeta, Negrito, and Papua occupy, or are still to be found on, many of them. On the east coast of the peninsula, the Semang are called Pangan. They are at present most numerous in the interior near Jan, a small river to the north of the Mirbow, near the lofty mountain Jerei, in the Kedah territory. There are small parties also in the mountains, inland of Juru and Krian, opposite Penang. Their huts or temporary dwellings, (for they have no fixed habitations, but rove about like the beasts of the forest), consist of two posts stuck into

the ground, with a small cross-piece, and a few leaves or branches of trees laid over to secure them from the weather. Some of them, indeed, in the thicker parts of the forest, where the elephants, tigers, and other wild animals are most abundant, make their temporary dwellings upon the cliffs and branches of large trees. The Semang subsist on the birds and beasts of the forest, and roots. They eat elephants, rhinoceros, monkeys, and rats, and with the exception of the scanty supplies they obtain from the Malays, they have no rice or salt. They are very expert with the sumpit, a blow-pipe for projecting small darts, and poison the darts with ipoh, procured from the juice of various trees, which is deadly poison. They handle the bow and the spear with wonderful dexterity, and destroy the largest and most powerful animals by ingenious contrivances. It is seldom they suffer by beasts of prey, as they are extremely sharp-sighted, and as agile in ascending the trees as the monkeys. Their mode of destroying elephants, in order to procure the ivory, of their flesh, is most extraordinary and ingenious. They lie in wait in small parties of two or three, when they have perceived any elephants ascend a hill, and as they descend again, which they usually do at a slow pace, plucking the branches as they move along, while the hind legs are lifted up, the Semang cautiously approaching behind, drives a sharp-pointed bamboo, or a piece of neebong which has been previously well hardened in the fire, and touched with poison, into the sole of the elephant's foot with all his force, which effectually lames the animal, and most commonly causes him to fall, when the whole party rush upon him with spears and sharp-pointed sticks, and soon despatch him. The rhinoceros they obtain with even less difficulty. This animal, which is of solitary habits, is found frequently in marshy places, with its whole body immersed in the mud, and part of the head only visible. The Malays call the animal "Badak Tapa," or the recluse rhinoceros. Towards the close of the rainy season, they are said to bury themselves in this manner in different places, and upon the dry weather setting in, and from the powerful effects of a vertical sun, the mud becomes hard and crusted, and the rhinoceros cannot effect its escape without considerable difficulty and exertion. The wild buffaloes of North Australia are often found in a similar predicament, and are sometimes shot by the hunters before they can extricate themselves The Semang prepare themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which being kept well supplied by the Semang with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of. The projecting horn on the snout is carefully preserved, being supposed to be possessed of medicinal properties, and highly prized by the Malays, to whom they barter it for their tobacco, &c. The following notes have reference to a party of Semang Bukit on the Ijau, a feeder of the Krian, will show the physical condition of this negro race. Average height of adults, four feet eight inches, highest four feet ten inches. Head small, ridged, that is rising above the forehead in an obtuse wedge shape, the back rounded and somewhat swelling, the forehead small, low, rounded, and markedly narrower than the zygomatic or middle zone, the face generally narrower and smaller than the Malay, eyebrows very prominent, standing out from the forehead and projecting over the ocular furrow which extends across the face, the root of the nose sinking into it, and forming a deep angle with the base of the superciliary ridge; the nose short and somewhat sharp at the point, and often turned up, but the alæ spreading; eyes fine, middle-sized and straight, iris large, black and piercing, conjunctive membrane yellow, the upper eyelashes, owing to the deep ocular depression, or prominent ridges, are compressed or folded, the roots of the hair being hidden; the cheek bones generally broad, but in some cases not remarkably prominent save with reference to the narrow forehead; mouth large or wide, but lips not thick or projecting; the lower part of the face oval or ovoid, not square. The deep depression at the eyes, and sinking in the root of the nose, gives a very remarkable character to the head compared with the Malay. The projecting brow is in a vertical line with the nose, mouth, and chin, and the upper jaw is not projecting or prognathous. The person is slender, the belly protuberant, owing to their animal life in the jungles, and precarious food. This induces them to cram themselves whenever they can, and the skin of the abdomen thus becomes flaccid and expansible, like that of an ape. The skin generally is fine and soft, although often disfigured by scurf, and the colour is a dark-brown, but in some cases lighter and approaching to the Malay. The more exposed hordes are black. An individual who, many years ago, was brought to Pinang, and who has hitherto represented the race in European ethnology, probably belonged to such a horde. His lips were thick, and Mr. Anderson says he exactly resembled two natives of the Andamans, who were brought to Pinang

in 1819. Mr. Anderson adds that a Semang of Tringanu, who lived in Pinang was 'not of such a jet-black glossy appearance' as the Semang from Kidah whom he saw, and the two Andamani. The hair is spiral, not woolly, and grows thickly on the head in tufts. They have thick moustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian nor Negro of the Guinea type. It is Papu-Tamulian. The expression of the face is mild, simple, and stupid. The voice is soft, low, nasal, and hollow, or cerebral. A line of tatooing extends from the forehead to the cheek-bones. The adjacent Binua also tattoo. The practice is Indian among the Konds, higher Abor tribes, &c., also ultra-Indian and Asianesian. The right ear is pierced, the orifice being large, but they do not pierce the septum of the nose like one of the adjacent Binua tribes of Perak, and many of the Asianesian Papua. The hair is cropped save a ring or fringe round the forehead.—*Mr. Logan*; *Jour. Ind. Arch., Vol.* iv, *p.* 427 ; *Ib. in Jour. Ind. Arch.*; *Mr. G. W. Earl's Indian Archipelago.* See India, Jakun, Kedah or Quedah.

SEMAO also called Savu, a moderately-sized island, 15 miles long, fronting the south-west end of Timor. The village of Oeassa, is remarkable for its soap springs, one of which in the village rises like a small volcano. The water contains alkali and iodine. The natives of this Semao Island have been named by Mr. Crawfurd the Negro Malayan race. The people are like those of Timor with frizzly or wavy hair, a coppery brown colour. Semao Island, has abundance of monkeys, one of them is the Macacus cynomolgus, or hair-lipped monkey, which is found all over the western islands of the Archipelago.—*Bikmore, p.* 116 ; *Wallace, p.* 186. See India.

SEMAVAH, see Chaldea.

SEMA VATTI, Tam. Sethia indica, *DC.*

SEMBAL, or Semal, Hind. Bombax heptaphyllum; Cotton tree. Sembal-gond or Musali Sembal, the gum of Bombax heptaphyllum.

SEMBELU PULI PILLA, Tam. Cinnamomum iners, *Rein.*

SEMBHALA, or Sembhalu, Hind. Vitex negundo.

SEMBILA, Tam. Cinnamomum iners.

SEM-KA-GOND, on quite the outer Himalaya, in the Dera Dhoon, is collected a gum known locally as Sem-ka-gond, which Mr. R. P. Colvin, of Gurhwal, believes to be from a species of Bauhinia. Lindley refers to the gum in his Vegetable Kingdom, as obtained from a Bauhinia, and the natives say it is exported from the Dhoon for purposes of dyeing. The gum of Bauhinia parviflora, *Vahl.*, is used medicinally in Southern India.

SEMBULINJA MARAM, Tam., also Thavadarum, Tam., properly Devadaram, Tam. Sethia indica.

SEMBU NIRINGHI, Singh. Tribulus lanuginosus, *Linn.*, *Roxb.*, *W. & A.*, *W. Ic.*

SEME, also Semian, Tam., Tel. Vermicelli.

SEMECARPUS, a genus of plants, of the south-east of Asia, of the sub-order Anacardieæ. They are moderate-sized or large trees, and many furnish wood and other useful products. Semecarpus acuminata, *Wall.*, *Thw.*, is a middle-sized tree in the forests of the Ratnapoora, Galle and Ambagamowa districts of Ceylon at no great elevation, and it grows also in Chittagong. S. cassuvium, *Roxb.*, the Cassuvium silvestre of Rumphius, is a tree of the Moluccas, where its tender leaves are eaten and the acrid juice of its stem is employed to varnish shields, canes, &c. Semecarpus coriacea, *Thw.*, is a moderate-sized tree of the central province of Ceylon, at an elevation of 5,000 to 7,000 feet. Semecarpus gardneri, *Thw.* Badoolla-gass, Singh., is a moderate-sized tree, very common in the central province of Ceylon, up to an elevation of 3,000 feet. S. humilis, *Wall.*, occurs at Prome. Semecarpus Moonii, *Thw.*, is a moderate-sized tree of Ceylon, in the south of the island, at no great elevation. S. nigro-viridis, *Thw.*, is a moderate-sized tree in the central province of Ceylon, at an elevation of 2,000 to 4,000 feet. S. odoratus, *Wall.*, in the Royal Garden, Ceylon. S. oblongifolia, *Thw.* Badoolla-gass, Singh., is a moderate sized tree, common in the hot, drier, parts of the island of Ceylon, up to an elevation of 3,000 feet. S. obovata, *Moon*, is a moderate-sized tree of Ceylon, growing at Caltura, and near Ratnapoora. S. obscura, *Thw.*, a moderate-sized tree, growing at Deltotte, in the central province of Ceylon, at an elevation of 3,000 feet. S. parvifolia, *Thw.* Heen-badoolla-gass, Singh., is a small-sized tree of Ceylon, in the Hinidoon Corle, in the Galle district. S. pubescens, *Thw.*, is a small-sized tree of the Ratnapoora district in Ceylon, at no great elevation. S. subpeltata, *Thw.* Maha-badoolla-gass, Singh., is a large tree of Ceylon, 30 to 40 feet high, in the Singhe-rajah and other forests between Ratnapoora and Galle.—*Thw. En. Pl. Zeyl.*, *p.* 75, *Voigt. Hort. Cal.*, *p.* 271 ; *Roxb. Fl. Ind.*, *Vol.* ii, *p.* 85.

SEMECARPUS ANACARDIUM, *Linn.*; *Roxb.*; *W. & A.*; *W. Ic.*

Anacardium latifolium, *Lam.* | A. officinarum, *Gært.*

Beladur,	Ar.	Kampira,	Maleal.
Bhela,	Beng.	Arushkara,	Sans.
Bela taki, Bhola taki,	,,	Bhalataka,	,,
Chai-bin ; Khyæ,	Burm.	Kiri, Badulla,	Singh.
Ghera mara, Gheru,	Can.	Shayng-cottay maram,	Tam.
Bhalawan,	Duk.	Bhallatiki,Bhallatamu	Tel
Bhela,	,,	Nalla jidi chettu,	,,
Marking nut tree,	Eng.	Jidi chettu,	,,
Bellawa,	Guz.	Tummeda mamidi,	,,
Bhalawan,	Hind.	Bhalleah,	Uria.
Beebwa, Biboon,	Mahr.		

This is a common tree in the Madras presidency, and on the skirts of the Bombay forests; it grows also in Berar, Kumaon, Sylhet, Assam, to Dera Doon and Kyarda. It is common in the Pegu and Tounghoo forests, where it grows to be a middle-sized tree. The juice is, however, so acrid that wood cutters are unwilling to cut the tree until after it has been killed, by ringing the bark. Extreme height 40 feet. Circumference 4 feet. Height from ground to the intersection of the first branch, 20 feet. Dr. McClelland says that the wood is adapted for fancy work and cabinet-making, but to Dr. Wight it was reported to be of no value. The softness of the wood and its acrid juice, which renders it dangerous to work, detract from its value. The nuts are exported from the Dekhan and Mysore as a mordant. The danger of felling, Mr. Jacob thinks, is over-rated, as he has never seen natives hesitate to hack it. As an ornamental tree, either in full foliage or before the fall of the leaf, it merits observation. The fruit which grows attached to the nut, when ripe, is pleasant and harmless to eat. Its corrosive resinous juice is at first of a pale milk-colour, but when the fruit is perfectly ripe it is of a pure black colour and very acrid, and in both respects resembles that of several other plants of the same family, as in the cashew-nut, species of Rhus, and some of the varnish-trees. The juice is employed, externally, in medicine, by the natives of India, and to mark all kinds of cotton cloth. The colour is improved and fixed by a mixture of quicklime and water. This common tree is of no value as timber. A considerable quantity of the nuts are exported from the Dekhan and Mysore, as a mordant. The juice is so acrid that wood-cutters are unwilling to cut the tree until it has been killed by ringing the bark.

The Oil.

Bhillawan ka tel,	Hind.	Nellajidi noona,	Tel.
Shayang cotta yennai,	Tam.		

The Nut.

Beladur,	Ar.	Bhallataka, Arushkara,	San.
Gherru,	Can.	Shayng cottay, Shayrang cottay,	Tam.
Bellawan, Bhela,	Duk.	Nallajiedi, Jidighenza-loo,	Tel.
Bellama, Bheela,	Guz., Hind.		

An acrid and vesicating oil is found between the two laminæ of the pericarp of the marking nut. It is collected and used, as a preventive against the attacks of white ants, and by native practitioners in rheumatic and lep rous affections. By boiling the whole nut n divested of its pericarp, an oil is also obtaine which acts as a blister. The preparation c collection either of the oil or acrid juice i liable to cause much irritation and inflamm tion of the hands, face, &c., of those engage in the work. The nuts are black, smoot shining, and flattened on both sides. T acrid black juice of the nut is employed b the natives externally to remove rheumat pains, aches and sprains, by rubbing a litt over the affected part. It is also universall used for marking cotton cloth, whence i name of marking nut, the colour being i proved and prevented from running, by bei mixed with lime-water.—*Drs. Wight, M Clelland, Gibson, Cleghorn, Voigt, Rox Vol.* ii, *p.* 85 ; *W. Jacob, Esq.*, c.p. ; *M. J. R.*; *Faulkner* ; *Powell's Hand-book, V* i, *p.* 338 ; *Capt. Macdonald* ; *Mr. Thom son*; *Rhode.* See Dyes, Drugs, Oil.

SEMECARPUS CUNEIFOLUM, *Wa* Syn. of Semecarpus anacardium, *Linn.*

SEMECARPUS CUNEIFOLIUS, *Ro*

Biboowa,	Mahr.	Bibwa,	Ma

This tree grows in the Bombay ghau Lanowlee Grove, Khandalla, and ab Parr ; also in Hindustan, Nepaul, and t Himalaya. Dr. Gibson says, the wood is n of any value, but might be turned to so account by being creosoted, of which t openness of its fibres would admit.—*Drs. G son* ; *Voigt* ; *Roxb., Vol.* ii, *p.* 86.

SEMENCE DE TREFLE, Fr. Clo seed.

SEMEN DE COIQ, also Quincunx, Fr. Quince seed.

SEMEN CONTRA, Sahibi, Hind. The undeveloped calices of Artemisa judaica. A well known and much esteemed anthelmintic, especially in the round and long worm of children, (Lumbricus teres). The action is heating and stimulant, dose 10 grs. to ½ a drachm finely powdered, in electuary with honey, or diffused through milk, and taken when the stomach is empty. In infusion or decoction the bitterness is quite disgusting; cathartics should either follow or accompany its use. The use of moxa, or of actual fire, to the surface of the body is a favourite practice in all savage and even half-civilized nations. In China, the down of the Artemisia chinensis is set on fire, and the burning end applied directly to the part. In India, a red-hot gool, or hooka pastille, is usually employed. In Italy a small flame of hydrogen has been lately tried, and in Germany it is a common practice to place a particle of phosphorus on the skin, and then ignite it. The object in all is to effect counter-irrita-

tion, and the usual cases in which it is applied are chronic rheumatism, sciatica, neuralgia, deep-seated diseases of the bones, cartilages or ligaments. In India, gools are used by the native empirics for almost all diseases, especially for enlargements of the spleen and liver.—*O'Shaughnessy, p.* 417.

SEMEO, see Naga.

SEMERINDEM, see Kyan.

SEMI, HIND. Vermicelli.

SEMI-AVITTI, TAM. Cassia alata.

SEMIRAMIS. The great Assyrian queen, wife of Ninus, extended her conquests into western Asia until they even embraced Bactria or Bactriana, which is now represented by the modern Balk. Little is known of the history of these regions prior to Alexander's conquests, but Bacchus, Semiramis, Sesostris, Alexander, and many before them, would never have carried their arms into India, if they had not been attracted by the fame of the country. Semiramis marched on India B. C. 1230. She captured on the Kophen (the Kabul river, the Kubha of the Rig-veda,) the city of the same name. She fitted out her armament in Bactria, but was opposed by Jarasandha of Bagadah, the Barhsatide. Semiramis crossed the Indus with a great strength, but Jarasandha, with a formidable force of archers and elephants, drove back the Assyrians in total disorder to the river, which they crossed with immense loss. Semiramis concluded an armistice, and retreated into Bactria, with a third of the army she had brought against India. Semiramis was said to have been changed into a dove, she was afterwards worshipped as a dove, and Mr. Maurice thinks that Ninus and Semiramis are Vishnu and Siva. The dove is mentioned in Solomon, chs. ii, iv, v ; Jer., ch. xlviii, v. 28. The power of Bactria was broken by the Assyrians, B. C. 1200. Both C'tesias and Isadore mention a statue and pillar of Semiramis at Baptane, but the sculptures of Semiramis and the inscription in the Syriac character have wholly disappeared. Baghistan is traditionally described as the pleasure-grounds of the queen. The possibility has been surmised of another queen of this name in the ninth century B. C.—*Bunsen, Vol.* iv, *p.* 417 ; *Sonnerat's Voyages, p.* 5. See Besitun, India, Ninus.

SEMITIC RACES. The land of the sources of the Euphrates formed the primæval seat of the Semitic races. The Semites, according to Bunsen, (iv, 487) emigrated out of the country of the sources of the Euphrates and Tigris, B. C. 10,000 to 11,000. The term Semitic was first applied by Eichorn. Their languages are all more or less intelligible, their physiognomy Caucasian. Their language in one form was that of the Judaic portion of christianity in the Old Testament, the Talmud, and the Syrian fathers. In another form it was that of the Koran or mahomedanism. It was the language of the earliest alphabet of Phœnicia and the Punic colonies. It fell into the Aramæan, the Arabic and the Æthiopic divisions. The Aramæan contained the Hebrew, the Samaritan, and the Syriac of Edessa, Palmyra, Damascus and other important cities, and the people who spoke it were enterprising merchants, bold mariners and monotheist priests. The Semitic populations in Asia are the Arabians, Syrians, Samaritans ; in Africa, Abyssinians of Tigre and Amhara, Agow, Falasha, Gafat. Conquest and commerce, but chiefly the former, has greatly diffused this race. In various inroads, they have gone northward and eastward into Persia, India and China, and smaller parties are to be found located in Burmah, in Malaya and Polynesia. Many of them have likewise conquered and migrated to the west, along the north of Africa and into Europe, where, as in Spain, they ruled for 700 years, but were again driven back into Africa. They are now found in Africa, as Fetish worshippers, christians, mahomedans and Jews. Abyssinia is christian, being acquainted with the chief truths of the Bible, but all much blended with merely human notions. The latest polemics there, have been as to the two or three births of Christ,—born of the father before all worlds, made man, and in the baptism at Jordan receiving the holy Spirit. As regards the two natures of Christ, they are extreme monophysists. Monogamy is their Church law, but concubinage is universal. The Adal, also said to be a Semitic race, are tribes on the west of the Red Sea, who call themselves Afer, but by the Arabs they are called Danakil, from their chief tribe Ad Alli. Dr. Krapf is of opinion that this Afer is the Ophir of Scripture. He thinks that Ophir, in Job. xxvii, v. 6, simply means gold dust. The Galla is a race inhabiting Shoa and one of the finest in Africa, strong, well-limbed, and of a dark-brown colour, living in a beautiful country, extending from long. 8° north to lat. 3° south, with a climate not surpassed by that of Italy or Greece. Speaking a language as soft and musical as pure Tuscan, cultivating the soil and rearing cattle. They are from 6 to 8 millions in numbers. Their religion, like that of all African savages, is Fetish. They acknowledge a supreme being whom they call heaven (Mulungu), and having a notion of a future state. There seem to be three natures or attributes in their Deity, Wak or Waka, Supreme, Ogli, a masculine, and Ateti, a

feminine embodiment. They have two holy days, Saturday, which they call Saubatta kenna, or little Sabbath, and Sunday, Saubata gudda, or greater Sabbath. The Kabyla, south of Algiers are Berbers, the old Numidians, and differ in language, form, and habit of mind from the Arabs of the plains, being matter of fact in mind and but little gifted with the glowing imagination of the Arab. The unsubdued portion dwell in the mountainous tract, with bare precipitous peaks, to the south of the little Atlas and of Algiers. They are spare but robust: and of smaller stature than the Nomade, for the Kabyla are dwellers in houses or huts (hence their name), are laborious tillers of the soil, and handicraftsmen, clever in winning metals from their hills and even in forging arms. They are wonderful horse-men, and terrible in a foray as in the days of Sallust, and are always at war with the Arabs. The slopes and valleys of their mountain country are all rich, cultivated lands, covered with olive-trees and corn-fields, and the rocks are said to contain minerals. Their number is about 700,000, possessing some millions of acres of the very best land of Africa, watered by three rivers and teeming with rich harvests. They approach to within 120 miles of Algiers which they separate from Constantine. They are a federal republic, and elect their own chiefs. They are the old Quinquegentes, who gave so much trouble to the Romans, who tried the soldiership of Maximinian, and sixty years afterwards again revolted. Tu ferocissimos Mauritaniæ populos, inaccesis, montium jugisset naturali munitione fidentes, expugnasti, recepisti, transtultisti. By Maximinian's system of transtultsi these five nations were reduced to four. The Kabyle have feuds amongst themselves. The Touareng is a nomade race, dwelling in the great desert, very fair, with long hair, aquiline noses, high foreheads, and thin lips. They say prayers in Arabic, but speak a semitic tongue. Their arms consist of a long lance with a broad head, javelins 6 or 7 feet long, jagged hooks at the pointed end, a round buckler (Darega) of buffalo or elephant hide from Soudan, a poinard and a broad-bladed scimeter. If we proceed west to Morocco, we find its entire population computed at 8 millions to consist of:—

Berber..	...2,300,000	Negro and	
Shellok	...1,450,000	Abid	120,000
Moor	3,550,000	Christian. ...	300
Arab	740,000	Renegades...	200
Jews........	340,000		

The Berber and Shellok are untamed fighting tribes dwelling in the mountains. When possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race whom the French call Kabyle and Zouave. The Moors are lowlanders, traders and dwellers in cities. They are little idle men, who grow fat from indolence, avaricious, perfidious, cowardly, cringing and insolent. They are said to be descendants of the Carthaginians. The Arabs of Morocco are the Moors of Spain, the Saracens of France, tall, graceful sons of the Arabian desert, courteous, brave, hospitable and confiding, descendants of the conquerors, who in the first ages of the hijrah propagated the religion of Mahomed, crossed the Straits of Gibraltar, destroyed the Gothic chivalry, reigned in Spain for 700 years, invaded France, devastated Italy and pillaged the suburbs of Imperial Rome. When the last Arab king submitted to Ferdinand and Isabella, and the Moorish palaces of Grenada were surrendered to the christians, the old conquerors went back to Africa and resumed their nomade life. In Tripoli, the Arab has monopolized the country. In Tunis, the native re-appears in a smaller proportion, and in Morocco he is very scarce. The Berber and Shellok are untamed warlike tribes dwelling in the mountains. When possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race whom the French call Kabyle and Zouave. The Moors are little idle men, who grow fat from indolence, they are lowlanders, traders, dwellers in cities, avaricious, perfidious, cowardly, cringing and insolent. The Berber and Moor profess mahomedanism. When the last Arab king submitted to Ferdinand and Isabella, and the Moorish palaces of Granada were surrendered to the christians, the old conquerors went back to Africa and resumed their nomade life. In Tripoli, the Arab has monopolized the country. In Tunis, the native re-appears in a smaller proportion. In Algeria, he is almost equal to the Arab invader, and in Morocco he is very scarce. The Jews of Morocco are partly urban, partly mountaineers, the latter dating their arrival prior to the nativity. They live in friendship with the Berber, but at hostility with another strange race, who declare themselves descendants of those Philistines whom Joshua drove out of Syria, and who found a refuge in this remote portion of Africa. The Riff dwellers of Kalhiya (Cape Tres Forcas) were formerly much engaged in piratical expeditions which were put down by Muli Abdur Rahman in 1817. Er Rif means shore or bank, and so long ago as Leo the African was used to designate all the sea coast between Tetuan and Mlila or Milills. It is the country of the chain of the Atlas, and is about 200 miles to 300 long. The word is evidently

derived from Ripa, a bank, and is synonymous with the Arabic Sahila. Thus the inhabitants of the Algerine coast are called Sahali, those of Morocco Rifi. The original highland south-west of Armenia (Arminn) the country between the sources of the Euphrates and Tigris, and Mesopotamia proper, is Aram Nahrain. The Aramæans were a Semitic race of highlanders who first settled on the upper part of the Euphrates and Tigris districts, and then passed through Mesopotamia proper (Aram of the two rivers,) the lowland (where is Mash, Mons Masius) which falls gradually towards Syria, afterwards called Aram. The name of Uz, in Nejd, proves that its off-sets extended as far as North Arabia. The Aramaic tribes, according to Ch. Bunsen, are the historical nations of Syria, Aram, Mesopotamia and Babylonia, speaking Syrian in the west and the so-called Chaldaic in the east. In the gradual diffusion of mankind, the western provinces of Asia seem to have fallen to the share of the Aramæans and Elamites—and the Semitic people and language displaced the Cushite. From their primitive language two distinct branches sprung,—the original Arabic, with the Musnud, Koresh and other dialects of that tongue, being one, and the Aramaic, the other. The latter had two grand subdivisions, from one of which, known as the Western Aramaic, were derived the Amharic, Syriac, Hebrew, &c., &c., and from the other the Eastern Aramaic came the Syrian, Babylonian and Chaldean tongues. From its monosyllabic construction the eastern seems to be more ancient than the Western Aramaic, and it appears likewise to be the root of the Zend, Pehlevi, Sanscrit and other dialects in use throughout a portion of the territory along which it had spread eastwards. The Arabic language, as written in the Koran, is the most developed and richest in the Semitic tongues. It is not now spoken in any part of Arabia, as there written. Probably it never was so, any more than the Latin, the English, the German or Italian have ever been spoken or written in their respective bounds, and Burton quotes from the Arabic Grammar of Clodius that the dialectus Arabum vulgaris tantum differt ab erudita, quantum Isocrates dictio ab hodierna lingua Græca. Indeed the Arabs themselves divide their spoken and even written language in two orders, the "Kalam Wati," or vulgar tongue, sometimes employed in epistolary correspondence, and the "Nahwi," or gramatical or classical language. Every man of education uses the former and can use the latter. And the Koran is no more a model of Arabic (as it is often assumed to be) than "Paradise Lost" is of English. Inimitable, no man imitates them.

The people known as Arabs, are spread from Syria to the Indian Ocean. They are chiefly in tribes and those who occupy the country around Jerusalem, are the Anezi, Shammar, Mowali and Salhan. The Assir tribe occupy between Meccah and Medinah. They have six Kabile, Binul-Asmar, Binul-Akmar, Charaan, Assir, Roufeida and Abida, and muster about 44,500 fighting men. The Cha'ab-Arabs occupy the lower part of Mesopotamia. They are a tall, warlike race, strong limbed and muscular, active and healthy. It is necessary, when considering the Arabs, to distinguish between a series of grades towards civilization, in which they may at present be found. The Bedouin, is wandering, pastoral, tent-loving, disdaining to trade, yet avaricious and willing to sell his ghee, his mutton, or his horse, and always found in wide and open wastes, unpressed upon by adequate exterior power. Yet, even the Bedouin bends to circumstances. He accepts the region allotted for his pasture grounds. Plunder has its laws and vengence its chivalry. If he will not trade, he still has wants: and suffers the presence of a Jew or Salcebah as the Affghan suffers that of the hindoo. A little higher in the scale, as with the Cha'ab, is the original wandering pastoral Arab, in a district where he is pressed upon from without, and where boundless plunder and roaming are restrained by exterior force. The Arab then partly turns to agriculture, and for this he must in some degree settle. Society harmonizes to this level. Trade is possible. Corn is sold. The abba cloaks are woven and exported. Dates are planted. The appetite for trade grows by what it feeds on. Huts of reeds replace tents; and one sees in their feeble efforts at reed ornamentation, and in their rough twisting of their reed rope for their bunds, the possible germ of some architectural efforts. Yet higher in the scale is the Arab flourishing as an experienced and wealthy merchant in a town, or administering a well-ordered and comfortable rural district. Passing among these people, society is seen in its transitional state towards civilization. The present Arabians, according to their own historians, are sprung from two stocks: Kahtan, the same with Joktan or Yoktan, of the Bible, the son of Eber, whose descendants occupy the south; and Adnan descended in a direct line from Ishmael, the son of Abraham and Hagar, who occupy the north. Yoktan according to Ch. Bunsen, was one of the two sons of Nimrod and was the chief of the first Arabian emigration that proceeded southwards. Tradition points to the moun-

tains of Armenia as the birthplace of the Arab and Canaanitish races. It is supposed that they travelled along the banks of the Tigris into Mesopotamia, from which a portion of them commenced a great migration southwards, the result of which was the foundation of the primeval kingdoms of Southern Arabia, the kingdoms of the Adites in Yemen, who believe that they came from the sacred North, and once lived in a glorious garden of the earth which they are to restore. In the matter of their present locations, Dr. Latham, in his Ethnology, mentions that Hejaz, is peopled by the descendants of Ishmael, but the inhabitants of Meccah and Jedda, consist of pilgrims and their descendants of African, Persian and Turk-blood. In Southern Arabia, Yemen, Hadramaut and Oman, the people are more or less Himyarite in blood, history and civilization. Those of the towns of Mokah, Sanai, Rodda and Loheia, are the more civilized and the desert and hill Arabs are rude and ignorant, one of them so rude in speech as to be named the Bin-i-Kalb, children of dogs—and the Berekede a branch of the Asir are said to lend their wives like the Jakuri Hazara. At Hasek is the tomb of the prophet Hud, the fourth in descent from Shem. At the entrance of the Persian Gulf, the pirate coast begins and extends 300 miles northwards. The southern tribes of the Peninsula of Senai, are more or less fishermen. The early Arab religion was Sabæanism, a worship of the heavenly bodies, mixed with idolatry, but with Mahomed commenced the Arab conquests, the creed, science and literature. At present, the Arabic alphabet is in use amongst the Turks, Persians, Malays, some of the people of India and Africa. It was however of Syrian origin. The Arab family is mahomedan, except the christian Arabs of Malta. Nejd or Central Arabia is Syrian, and arranged into divisions called "Suk." The people occupying the Arabian peninsula, are, however, regarded by Captain Burton as of three distinct races: viz., the aborigines of the country, who have been driven, like the Bheels and other autochthonic Indians, into the eastern and south-eastern wilds bordering upon the ocean: second, a Syrian or Mesopotamian stock, typified by Shem and Joktan, that drove the indigenæ from the choicest tracts of country; these invaders still enjoy their conquests, representing the great Arabian people. And thirdly, an impure Egypto-Arab clan, well personified by Ishmael, his son Nebajoth and Edom (Esau, the son of Isaac)—that populated and still populates the Sinaitic peninsula. The indigens or autochthones, he says, are those sub-Caucasian tribes which may still be met with in the province of Mahrah, and generally along the coast between Muscat and Hadramaut. The Mahrah, the Jenabah, and the Gara especially show a low development, for which hardship and privation only will not satisfactorily account. These are "Arab el Aribah," for whose inferiority oriental fable accounts as usual by thaumaturgy. Dr. Carter has remarked the similarity between the lowest type of Bedouin and the indigens of India, as represented by the Bheel and other jungle races. The principal immigrant race, he also says, are the Noachian, a great Chaldæan or Mesopotamian clan which entered Arabia about B. C. 2,200, and by slow and gradual encroachments drove before them the ancient race and seized the happier lands of the peninsula. This race would correspond with the Arab el Muta-Aribah or Arabicised Arabs of the eastern historians. The third family, an ancient and a noble stock, dating from B. C. 1,900, and typified in history by Ishmæl, still occupies the Sinaitic Peninsula. These Arabs, however, do not, and never did, extend beyond the limits of the mountains, where they are still dwelling in the presence of their brethren. Captain Burton, (iii, 31) considers it highly probable that the Copts, or ancient Egyptians, were "half-caste Arabs;" a mixed people like the Abyssinian, the Galla, the Somali, and the Kafir, an Arab graft upon an African stock. Hence the old Nilitic race has been represented as woolly-headed and of negro feature, The Arab are not so scrupulous as the Turks and Persians about their women; and though they have the harem, or women's part of the tent, yet such as they are acquainted with come into it.

The Pirate race whose power and influence was long felt by the neighbouring tribes and is still intimately connected with their political condition, occupy a part of the coast within the Persian Gulf, comprehended between the mountain range and the sea-shore, and extending in that direction from Kasab to the island of Bahrein,—a distance of 350 miles. On the map, this portion bears the designation of the Pirate coast. Ibn Haukal, in his version of the Koran, informs us that before the deliverance of the children of Israel from Egyptian bondage, the subjects of a pirate monarch in these parts seized on every valuable ship which passed. The possession of a few ports within and near the entrance of the Persian Gulf, where it is not more than thirty miles across, enabled them to perceive and sally out on all passing vessels. To the Portuguese during their brief career in India, they proved quite as troublesome as they did in the latter part of the eighteenth century to

the British: with these robbers the imams of Maskat have been repeatedly at war. In 1809, an expedition was sent against them under Captain Wainwright, in his Majesty's ship Chiffonne. Their principal stronghold, Ras-ul-Khaimah was stormed and taken, and fifty of their largest vessels burnt or destroyed. Leit, on the island of Kishm, and several other ports, were reduced; but though this had the effect of checking them for a time, they soon re-built these ports, and gradually returned to their old practices. The inhabitants of the Pirate coast consider themselves to be far superior to either the Bedouin or town Arab. The latter, especially those from Oman, they hold in such contempt, that a Maskatti and an arrant coward are by them held to be nearly synonymous. They are taller, fairer, and, in general, more muscular than either of the above classes, until they attain the age of thirty or forty years, when they acquire a similar patriarchal appearance.

The Zanzibar dominions comprise that portion of the coast included between Magdashoo in 2° north latitude, and Cape Delgado in 10° 42' south latitude. Beyond them, to the north, are the independent Somalee tribes, which extend almost to the Red Sea, where they meet the Dankalie race; and on the south they are bounded by Mozambique. The extent of coast under the dominion of the sultan of Zanzibar is about eleven hundred miles, but the most valuable parts of his sultanate are the islands of Zanzibar (containing the capital of the same name), Pemba and Monfia. The first is situated at a distance of from twenty to thirty miles from the mainland; and is in size about equal to the Isle of Wight. It contains none but small streams.

The Assyrians are recognized to have been Semites. It has been proved by a comparative list of declensions and conjugations, that Hebrew, Chaldee, Syriac, Arabic, Ethiopic, and Amharic are all but dialects of one original language, and constitute one family of speech, the Semitic. The following nations form compact mass, and represent one physiologically and historically connected family; the Hebrews, with the other tribes of Canaan or Palestine, inclusive of the Phœnicians, who spread their language, through their colonization, as that of the Carthaginians; the Aramaic tribes, or the historical nations of Aram, Syria, Mesopotamia and Babylonia, speaking Syrian in the west, and the so called Chaldaic in the east; finally, the Arabians, whose language is connected (through the Himyaritic) with the Æthiopic, the ancient (now the sacred) language of Abyssinia. The term Semitic is the name now generally adopted among German Hebrew scholars. In Semitic, words the root remains always distinct and unmistakeable. In Aryan, on the contrary, it soon becomes altered and disguised. Hence Semitic dictionaries are mostly arranged according to the roots, a method which in Aryan languages would be most inconvenient, the root being often obscure, and in many cases doubtful. The Amharic as also the Hebrew and Syriac is derived from the Western Aramozi. The term Semitic, Eichorn adopted from Shem. The language is the oriental language of some authors, the Syro-Arabian of Farrer and the Arabic of Leibnitz. The Semitic family of languages is divided by Professor Max-Muller into three branches, the Aramaic, the Hebraic, and the Arabic. The Aramaic occupies the north, including Syria, Mesopotamia, and part of the ancient kingdoms of Babylonia and Assyria. It is known to us chiefly in two dialects, the Syriac and Chaldee. The former name is given to the language which has been preserved to us in a translation of the Bible (the Peshito) ascribed to the second century, and in the rich christian literature dating from the fourth. It is still spoken, though in a very corrupt form, by the Nestorians of Kurdistan, near the lakes of Van and Urmia, and by some christian tribes in Mesopotamia; and an attempt has been made by the American missionaries, stationed at Urmia, to restore this dialect to some grammatical correctness by publishing translations and a grammar of what they call the Neo-Syriac language. The name of Chaldee has been given to the language adopted by the Jews during the Babylonian captivity. Though the Jews always retained a knowledge of their sacred language, they soon began to adopt the dialect of their conquerors, not for conversation only, but also for literary composition. The book of Ezra contains fragments in Chaldee, contemporaneous with the cuneiform inscriptions of Darius and Xerxes, and several of the apocryphal books, though preserved to us in Greek only, were most likely composed originally in Chaldee, and not in Hebrew. The so-called Targums again, or translations and paraphrases of the Old Testament, written during the centuries immediately preceding and following the christian era, give us another specimen of the Aramaic, or the language of Babylonia, as transplanted to Palestine. This Aramaic was the dialect spoken by the Lord Jesus and his disciples. The few authentic words preserved in the New Testament as spoken by our Lord in His own language, such as Talitha kumi, Maranatha, Abba, are not in Hebrew, but in

the Chaldee, or Aramaic, as then spoken by the Jews. The second branch of the Semitic family is the Hebraic, with which is connected the Carthaginian, Phænician and Arabic. This third, or Arabic branch sprang from the Arabian peninsula, where it is still spoken by a compact mass of aboriginal inhabitants. Its most ancient documents are the Himyaritic inscriptions. In very early times this Arabic branch was transplanted to Africa, where, south of Egypt and Nubia, on the coast opposite Yemen, an ancient Semitic dialect has maintained itself to the present day. This is the Ethiopic or Abyssinian, or, as it is called by the people themselves, the Gees language. Though no longer spoken in its purity by the people of Habesh, it is still preserved in their sacred writings, translations of the Bible, and similar works, which date from the third and fourth centuries. The modern language of Abyssinia is called Amharic. These three branches, the Aramaic, the Hebraic, and Arabic, are closely related to each other. Besides these, Egyptian, Babylonian, Assyrian and the Berber dialects are now considered to have a Semitic character, by Champollion, Bunsen (Egyptian), Lassen, Eugene Bornouf, Dr. Hincks, Sir H. Rawlinson, (Assyrian), and Professor F. Newman (Berber.) Some branches of the Semitic race, ignorant of science, theocratic, have devoted themselves to the expression of religious instincts and intuitions, in one word to the establishment of monotheism. The doctrine of a future life and retribution, which in one form or other was inwoven with the religious ideas of Egypt, appears to have been unknown to the Semitic nations. The Assyrians were Semites. The names of the Assyrian gods, as Baal or Belus (the supreme deity amongst many of the Semitic races), Nisroch and Mylitta (known by a nearly similar name to the Arabians), of members of the family of the king, such as Adra-meleck (son of Sennacherib), and of many of the principal officers of state mentioned in scripture, such as Rab-saris, the chief of the eunuchs, and Rab-shakeh, the chief of the cup-bearers, are purely Semitic. The language spoken by Abraham when he left Mesopotamia closely resembled the Hebrew; and his own name was Semitic. Moreover, a dialect of the same tongue is still spoken by the Chaldæans of Kurdistan; who, there is good reason to suppose, are the descendants of the ancient Assyrians. The common origin of their languages, is, however, the only connecting bond which unites the widely separated Semitic nations, Hebrews, Babylonians, Phœnicians, Carthagenians and Arabs. The Arab, the Hebrew, and the Palestine descendants of Terah were nomade tribes. The Phœnician, the Syri and the people of Mesopotamia and Yeme formed civilized nationalities. It has n been unusual to describe the Semites essentially monotheistic, but their tribes a nations were worshippers of El, Elohim, J hovah, Sabaoth, Moloch, Nisroch, Rimmo Nebo, Dagon, Ashtaroth, Baal or Bel-Peo Baal-zebub, Chemosh, Milcom, Adram-Mele Anna-Malek, Nibhaz, Tartak, Ashim Nergal, Succoth-benoth, the Sun, the Moo the Planets and all the Host of Heave Amongst the nomade branch, there seen early to have been a monotheistic b lief, but the great bulk of the Hebre nation continued to worship idols of their ow manufacture, and the prophet when ordered b inspiration to proceed to the wilderness Damascus was told that there were only i Israel 7,000 people who believed in the o God. There have ever been a few monoth ists amongst the idolatrous hindoos as m be illustrated by the writings of a Tam writer, Sivavaykiar, who says—

> Stones, resonant when struck, ye break, and mak images of them.
> Such stones, as worthy of worship, ye adorn wit flowers and sacred ashes.
> Threshold-stones ye tread upon, even to wearin them away.
> Neither of these two kinds of stones are stone pleasing to God.
> How many various flowers have I culled and cas (before the idol.)
> In vain how many mantras have I said.
> Whilst roaming, how often have I upraised wate (standing in rivers or tanks, in homage of th rising sun-god.)
> How often have I encircled Saiva temples.
> Those sages, who have known and inwardly realized the dwelling place of the Shepherd of the Worlds,
> To visible fanes, as if they were divine, raise not hands (of worship.)

The grand epithet "Shepherd of the Worlds!" is as beautiful as anything that ever was said or sung by any Semite, and the beauty of the thoughts which this stanza contains is not surpassed by any of the Hebrew writings. Terah, the father of Abraham, served other gods. In the book of Job, it is God who can number the clouds, in wisdom, who can stay the battles of heaven, (xxxviii, 37) who hath divided a water course for the overflowing of waters, and a way for the lightning of thunder, (25) who hath begotten the drops of dew(28) and in Proverbs (xxx, 4) who hath bound the waters in a garment, who hath established all the ends of the earth. Abraham, indeed, was inspired with a knowledge of the one true God, but his family had images, the teraphim which Rachel stole from her father Laban, (Gen. xxxi, 19-30) and when Jacob fled from Esau into Padan Aram and dreamed

the dream at Bethel, he evidently had belief in many gods, for he endeavoured to make a bargain with the deity saying, if God will be with me and will keep me in the way that I go, and will give me bread to eat, and raiment to put on, so that I shall come again to my father's house in peace, then shall the Lord be my God. (Gen. xxviii, 20) Such language only shows a belief that there were other gods, one of whom might be Jacob's own protector. The same principle is invoqued in the commandment later proclaimed by Moses to have none other gods but the Lord God, and even more lately Joshua has to urge the people to put away strange gods, (Joshua) to put away the gods which their fathers served on the other side of the flood, "Choose ye this day he says, whom ye will serve, whether the gods which your fathers served on the other side of the flood, or the gods of the Amorites amongst whom ye dwell, but as for me and my house we will serve the Lord." Later still, the Psalmist says, (xxxvi, 8) amongst the gods there is none like unto thee, O! Lord, neither are there any works like unto thy works.—*History of Ancient Sanskrit Literature, by Max. Muller, p.* 567 ; *Histoire Generale et Systeme Compare des Langues Semitiques, par Ernest Renan, Membre de l'Institut, Paris,* 1858 ; *Nouvelles Concideration sur le Caractere General des Peuples Semitiques, et en particulier sur leur Tendance du Monotheisme, par E. Renan, Paris,* 1859 ; *Wellsted's Travels, Vol.* i, *pp.* 249, 262 ; *Walk thro' Algiers* ; *Fontanier* ; *Latham's Ethnology* ; *Bunsen, Vols.* iii, iv ; *Burton's Pilgrimage to Mecca, Vol.* iii, *pp.* 29, 31, 41, 45, 390 ; *Pelly* ; *Rawlinson, Vol.* i, *p.* 36 ; *Sales' Koran, Preliminary Discourse, p.* 11 ; *Lubbock's Origin of Civil.* ; *Muller's Lectures, pp.* 263, 268 ; *Mignon's Travels, p.* 16. See Aram, Assur, Arphaxad, Babel, Elam, India, Iran, Lud, Mareb, Sem.

SEMJA LENJA also Semja-lenjanæ, Rus. Linseed.

SEM KE PALLE, Hind. Bullar. Lablab vulgare, *Savi.*

SEMMEL-MEHL, Ger. Flour of wheat.

SEMNOPITHECUS of *Fr. Cuvier*, is a genus of the family Simiadæ, the species of which have been transferred to the genera Simia and Presbytis. The Asiatic species described have been,

- S. argentatus, *Blyth.*
- S. cucullatus, *Is. Geoff.*; Presbytes Johnii, *Jerdon.*
- S. dussumierii, *Schinz.* „ „ „
- S. entellus, *Dufresne,* the Hanuman of India, or Bengal Langur.
- S. hypoleucos, *Blyth.*; P. Johnii, *Jerdon.*
- S. johnii, *Fischer,* Tranquebar, the Malabar Langur.
- S. jubatus, *Wagner,* the Neilgherry Langur.
- S. schistaceus, *Hodgson,* the Himalayan Langur.
- S. priamus, *Elliot,* the Hanuman, the Madras Langur.
- S. pileatus, *Blyth.*
- S. maurus, *Schreber,* of Java.
- S. pyrrhus, *Horsfield,* of Java.
- S. femoralis, *Horsfield,* Sumatra.
- S. flavimanus, *Is. Geoff.*, Sumatra, Borneo.
- S. cristatus, *Raffles,* Sumatra.
- S. anchises, *Elliot.*
- S. phayrei, *Blyth.*
- S. barbei, *Blyth.*
- S. thersites, *Elliot.*
- S. nemæus, *Linn.*
- S. siamensis, *Muller.*
- S. melalophus, *Fr. Cuv.*
- S. obscurus, *Reid.*
- S. mitratus, *Escholtz.*
- S. rubicundus, *Muller.*
- S. chrysomelas, *Muller.*
- S. sumatranus, *Muller.*
- S. frontatus, *Muller.*
- S. larvatus, *Wurmb.*
- S. cephalopterus, *Zim.*, Ceylon, see Mammalia, Presbytes, Simiadæ.

SEMNAI, a name by which Clemens of Alexandria, designates the buddhist nuns of his day. Buddhism and brahminism are of independent origin, and existed a long time contemporaneously, buddhism, in its early stages, is as ancient as brahminism. Clemens of Alexandria mentions buddhist pyramids, and the habit of depositing bones in them ; their practice of fortelling events : of their continence and of the buddhist Semnai or holy virgins, and he names their god Bouta. Porphyry tells us that the brahmans were born to their dignity while the Samanai were elected. Cyril of Alexandria states that there were samans in Bactrea. Buddha is seemingly the word Bhot. For buddhism, in Nepal and Tibet, its vehicle was Sanscrit rather than Pali. The monuments of Priadasi at Dhauli in Kuttack, Girnar in Guzerat, and at Kapurdigiri in Kabul, each contains the same inscription, in which is mentioned the name of Antiochus—and in an ancient Singhalese work, Priadasi is stated to be Asoka. The Dhauli and Girnar alphabets are the oldest of the oldest Pali. Buddhist statues are sometimes of great height, one of Buddha near Mehintala in Ceylon, is 70 feet high : one of Gotama Raja at Carculla is 38 feet.—*Sir J. E. Tennant's Ceylon.*

SEMOLA, It. Bran ; but often employed by grocers and other vendors, to designate semolina.

SEMOLINO.

Semoule,	Fr.	Soojie,	Hind.
Gruau,	„	Semolino,	It.

The fine hard inner part of wheat, rounded by attrition in the mill-stones is used exclusively in India for making loaf-bread, about 50 tons of it are annually imported into England from Italy. The best semolino is ob-

tained from the wheat of the southern parts of Europe. In France the name of semolino is given to the large hard grains of wheat retained in the bolting machine after the finer parts have been pressed through its meshes. See Soojie, Wheat.

SEMOOM, ARAB. A hot wind of Arabia, which often proves fatal to man and beast. It blows in gusts for about ten minutes, the air is dimmed but there is no sand or dust raised.—*Palgrave*. See Simoom.

SEMPAGUM, Sempanga-maram, TAM. Michelia rheedii, *W.*

SEMPOE ISLAND, on the south coast of Java, in lat. 8° 28′ 30″ S., and long. 112° 43′ E., is five miles long and consists of high rocks.

SEMPERVIVUM TECTORIUM.

Givet-kya-pen pouk, BURM.

House Leek.

SEMROUL, a river near Seroha in Rewah.

SEMSCHANUI, also Koshi, RUS. Chamois leather.

SEMUGH, ARAB. Gum.

SEN, HIND. Pisum sativium. Pea.

SEN, in Bengal, a patronymic of persons of the medical caste.

SEN, Adisur was the founder of the Sen dynasty, he brought from Kanouj, five Sagnic brahmans, of the tribes or gotra Sanhila, Kashyapa, Vatsa, Saverna and Bharudwaja; also sudra families, Ghose, Bhose, Dutt, Guha and Mittra, accompanied them, and these take the position of Kulin Kaists. In the reign of Bullal Sen, about 284 years before the mahomedan invasion, all these Kulin brahmans and Kulin sudras had greatly increased, and though degenerated in learning they arrogated to themselves a position above all the Sapta-sali or aboriginal brahmans, and Bullal Sen enobled these brahmans by giving to them the title of Kulin. The Kulin brahmin subsequently consented to marry the daughters of the aboriginal brahmin, who now eagerly seek alliances with the Kulin, and the Kulin have taken advantage of this and have established a scale of fees for condescending to accept a daughter of an inferior. They marry gold. Of the Kayats who came from Kanouj, Bhose, Ghose and Mittra were enobled by Bullal Sen, into Kulin Kayats. Dass, Day, Dutt, Guha, Kar, Paulit, Sen and Sing hold a second rank. Kulin brahman women are married with difficulty and generally to aged men. In A. D. 1868, there were 11 Kulins in Hooghly and one in Burdwan, each of whom had contracted 50 to 80 marriages;—24 in Hooghly and 12 in Burdwan, who had contracted from 20 to 50 marriages, and 48 in Hooghly and 20 in Burdwan, who had contracted between 10 and 20 marriages. Kulinism is thus a great polygamic institution, and a few women have become prostitutes. In A. D. 1867, the abolition of this polygamy, was contemplated and will doubtless soon be carried out.—*Calcutta Review, May* 1868.

SENA, SANS. An army. Sena-Pati, general commanding, lord of the army.

SENAA, a town in the mountains in the S. W. part of Arabia whence the Mocha coffee comes. After the expulsion of the Turks in A. D. 1630, the whole of Yemen came under the government of the Imams of Senaa; but at the time of Carsten Neibuhr's visit to Senaa in 1763, the native Arab tribes of the provinces of Aden, Aboo Areesh, Taez, and others had thrown off allegiance to the Imams. In 1799, when the British government took measures to oppose the expected invasion of India by the French, and to revive the lost trade of the Red Sea, Dr. Pringle obtained facilities for trade, but Sir Home Popham subsequently lost these. At the beginning of the present century, Imam Ali Munsoor suffered severely at the hands of the Wahabee sect who overran and wrested from him some of the best districts of his dominions. In 1816 Mahomed Ali Pasha after he destroyed the Wahabi power restored the districts to Imam Ali. In 1817, in consequence of a dispute in which an Arab had been temporarily detained at the factory at Mokha, the residency was attacked and plundered, and a British Officer was dragged before the Governor, by whom he was subjected to the most brutal insults. In 1840 a commercial treaty was concluded with the Governor of Mokha by Captain Moresby, similar to that concluded in the same year with the Chief of Zaila. For some years the country of Senaa fell into absolute anarchy. In 1832 Mokha and all the sea coast fell under the suzerainty of the Turks. It was afterwards recovered for a time, but again finally lost in 1848. Ali Munsoor, who succeeded his father as Imam of Senaa in 1834, was deposed three years after. During the internal revolutions in Senaa and the desultory warfare with the Turks, the Imams repeatedly endeavoured to enlist the aid and advice of the British government in their cause. A rigid abstinence, however, was maintained from all interference in their affairs.—*Playfair's Hist. of Yemen*; *Papers in the Foreign Office; Treaties, Engagements and Sunnuds, Vol.* vii, *pp.* 300-302. See Wahabi.

SENACIA GLAUCA, *Lam.* Syn. of Elæodendron glaucum, *Pers.*

SENADHI PATI or Senapati, SANS. A general. See Sena.

SENAGA, plural Senagalu, TEL. Cicer arietinum, *Linn.*

SENAI, see Hindoo.

SENAIGUNG, a river near Moogra in Comillah.

SENAN, MALAY. Acetate of copper.

SENAPA, IT. Mustard seed.

SENA PANTHI, an extinct hindoo sect of vaishnavas, founded by Sena, a barber, a disciple of Ramanand. Sena was barber of the raja of Bandhagurh.

SENA SAHIB SUBA, see Bhonsla rajas of Nagpur.

SENASURA, see Singhalese.

SEND, HIND. Elate sylvestris, *Roxb.*

SENDAL, PORT. Crape.

SENDELHI, a river near Seraiegogo in Saharunpoor.

SENDH, HIND. Euphorbia tirucalli, *Linn.*

SENDHI, HIND. The tuft of hair which hindoos leave at the top of their head. In Tamil it is called kurmi, and in Telugu, juttu.

SENDI-KA-JHAR, DUK. Elate sylvestris, *Linn.* Sendi, DUK. The palm wine tree from ditto.

SENDOORKUM—? Carthamus tinctorius.

SENDRI, MAHR. Rottlera tinctoria.

SENDU BIR KAIA, TEL. Luffa amara, *Roxb.*

SENDULA, a nuddi or stream of Gwalior, runs near Akbarpoor.

SENDURKAM, TAM. Carthamus tinctorius. Safflower.

SENE, FR. Senna.

SENECIO JACOBÆA, one of the compositæ, Purple rag-wort, a native of the Cape of Good Hope ; it is easily raised from seed like other species of grounsels in common garden soil.

SENECIO SONCHIFOLIA, *Mœnch.* Syn. of Emilia sonchifolia, *DC.* It is the sadbarg of Hindustan.

SENE-DE-LA-PALTHE, see Cassia plants.

SENE-DE-TRIPOLI, FR. Cassia obovata, *Merat.*

SENEGAL, see Tree, Gums and Resins.

SENGAR-CHAORI, HIND. The nuptial hall, from the purpose to which it is applied. Chaori is the term always appropriated to the place of nuptials ; sengar means 'ornament.' *Tod's Rajasthan, Vol.* ii, *p.* 709.

SENGARARY MARAM, TAM. Canthium parviflorum, *Lam., Roxb., DC.*

SENGOW, see Kyan.

SENGRA, HIND. Raphanus sativus.

SENJERO, a race of eastern Central Africa. Like the old Romans, they elect their king by the flight of birds, and choose the individual on whom a vulture alights. They sell their women into slavery, and sacrifice their first-born to secure a propitious harvest.—*Krapf.*

SENITRA, RUS. Saltpetre.

SENJNA, HIND. Moringa pterygosperma.

SENKHAM, TEL. Chank shells.

SENNA.

Sanai sunna,	AR.	Amshun atydivain-diva,	LAS.
Sana-pat,	BENG.	Nilaveri,	SINGH.
Pwa-gœingiu-yet,	BURM.	Sen,	SP.
Sene,	FR.	Nilaverei,	TAM.
Sennablater,	GER.	Nilavaghei,	,,
Sunamuki,	GUZ., HIND.	Nayla tungadu,	TEL.
Senna,	IT.	Nila ponna,	,,
Cassia senna,	LAT.		
Butallapotaka,	SANS.		

The leaves of certain species of Cassia, C. elongata ; C. acutifolia ; C. lanceolata ; and C. obovata ; all agree in certain properties ; the odour of the leaves is heavy and peculiar, taste bitter, nauseous and glutinous, powder yellowish-green. At least eight varieties of senna leaf are known in commerce in Europe : 1, the Senna palthe ; 2, Senna of Sennaar, or Alexandria ; 3, of Tripoli ; 4, of Aleppo ; 5, of Moka ; 6, of Senegambia ; 7, the false or Arguel ; 8, the Tinnevelly. The Senna palthe is prepared at Boullac, and is known to contain 5 parts of the Cassia acutifolia, 3 of C. obovata, and 2 of the Cynanchum olœifolium. It is in this variety of the drug that the poisonous leaves of Coriaria myrtifolia have been found by M. Dublanc. The Moka senna is chiefly cultivated for exportation to India, where it is common in all the bazars. The other foreign varieties do not require particular notice. The Tinnevelly drug is in species identical with the Moka. From all parts of Upper Egypt these packages arrive at the entrepôt near Boullac, called la Palthe. The Palteers sort, mix, and adulterate the drug, and pass it into commerce through Alexandria. Simmonds says, the dried leaves of C. lanceolata or orientalis, grown in Egypt, Syria, and Arabia, the true Mecca senna, are considered the best. In Egypt the leaves of Cynanchum argel are used for adulterating senna, Cassia obovata or C. senna, a native of Egypt, is cultivated in the East Indies, as well as in Spain, Italy, and Jamaica. It is a perennial herb, one or two feet high. In the East Indies there is a variety (C. elongata) common about Tinnevelly, Coimbatore, Bombay, Agra, &c. Several species are common in the West India islands. The plants, which are for the most part evergreens, grow from two to fifteen feet high ; they delight in a loamy soil, or mixture of loam or peat. The seed is drilled in the ground, and the only attention required by the plant is loosening the ground and weeding two or three times when it is young. The senna leaves imported from India are not generally so clean and free from rubbish as those from Alexandria. They are worth from 20*s*. to 27*s*. per cwt. in the Bombay market. The prices are—

Alexandria, $1\frac{1}{2}d.$ to $6d.$ per lb.; East Indian, $2d.$ to $3d.$ per lb.; Tinnevelly, $7d.$ to $9\frac{1}{2}d.$ per lb. Senna is collected in various parts of Africa by the Arabs, who make two crops annually; one, the most productive, after the rains in August and September, the other about the middle of March. It is brought to Egypt from Abyssinia, Nubia, and Sennaar, also by the way of Cossier, the Red Sea and Suez. The different leaves are mixed and adulterated with arghel leaves. The quantities imported into Great Britain are from the

	East Indies.	Other places.	
1838...lbs.	72,576...lbs.	6,988...	Total lbs. 142,115
1839... „	110,409... „	6,566...	„ 174,275

In 1840, 211,400 lbs. paid duty, which is now only 1*d*. per lb. In 1848, was imported 800,000 lbs. from India; in 1849, the total imports were 541,148 lbs. The imports into the United Kingdom were, in 1847, 246 tons; 1848, 402 tons; 1849, 240 tons. It is entered into the United Kingdom of Great Britain free of duty. The imports were respectively in 1848, 1849 and 1850, 246,402 and 240 tons.

Senna of Mecca and Tinnevelly Senna are from Cassia lanceolata, *Royle.*

Alexandrian senna is from C. obovata, (*Culladon*), C. acutifolia, (*Delile*), and sometimes C. æthiopica, (*Guibourt.*) Alexandrian senna is said by some to constitute the bulk of the senna consumed for medical purposes in Europe. It is much adulterated with the leaves of Cynanchum arghel, Tiphrosia apollinea and Coriaria myrtifolia. Alexandrian senna, according to Mr. Jacob Bell, contains a mixture of two or more species of true senna. It consists principally of Cassia obovata and C. obtusata, and according to some authorities it occasionally contains C. acutifolia. This mixture is unimportant.

C. obovata also yields the Aleppo, Senegal and Italian senna, and is sometimes along with C. æthiopica, in Tripoli senna.

C. æthiopica is the source of Smyrna senna, American senna is the product of C. marilandica.

C. lanceolata and C. æthiopica furnish other kinds of senna, the greatest part of their produce finds its way to India through the Red Sea, Surat, Bombay and Calcutta, the imports into Calcutta, in 1849, having been 79,212 lbs.

In Egypt the senna harvest takes place twice annually, in April and September; the stalks are cut off with the leaves, dried before the sun, and then packed with date leaves.

The leaves of the Cynanchum arghel are similar in form to those of the lanceolate senna, but they are thicker and stiffer, the veins are scarcely visible, they are not oblique at the base, their surface is rugose, and the colour grey or greenish drab; their taste is bitter and disagreeable, and they are often spotted with a yellow, intensely bitter gummo-resinous incrustation. Being less fragile than the leaflets of the true senna, they are more often found entire, and are very easily distinguishable from the varieties which constitute true Alexandrian senna. In their botanical character they are essentially different, being distinct leaves, not leaflets, which is the case with true senna.

Tinnevelly senna is that most esteemed by the profession, and is known by the size of the leaflets, which are much larger than those of any other variety; they are also less brittle, thinner and larger, and are generally found in a very perfect state, while the other varieties, especially the Alexandrian, are more or less broken.

Senna grown in the southern provinces of the Madras presidency is highly esteemed in Britain, and is preferred by many to all other sorts, as being both cheaper and purer. Senna raised at Dapooree from Tinnevelly seed, has been found equal to the best Arabian senna. The picking of senna leaves in Guzerat of sowings in August, is made in September: and Dr. Burn states that the virtues of the leaf, depend greatly on the time of the picking.

Dr. Royle, was unable to distinguish the three kinds of Senna, C. elongata, C. lanceolata, and acutifolia. They are all included in the C. officinalis.

Cassia ovata of Merat, is the C. æthiopica of Guibourt, found in Nubia and Fezzan.

Cassia forskalii, is the C. lanceolata of Forskal and Lindley, grows in Fatme, Surdud and Mor, and called Suna, by the Arabs.

Cassia obovata, *Colladon*, a native of Africa from Senegal to the Nile, grows in Fezzan—Egypt, from Cairo to Assouan, Nubia—in the Adil country near Sultailli—Desert of Suez, Syria, Kaira in Guzerat: Dukhan, near Delhi, in the Raugurh valley near Peshawar, and in Mysore. The sennas of commerce, are called Tinnevelly Senna, arranged into Saharunpore, Madras and Tinnevelly, (2) Bombay or common Indian Senna (Suna) Mukhi, (3) Alexandrian Senna, (4) Tripoli Senna, (5) Aleppo Senna.

Cassia tora is common all over the plains of India and in Tenasserim, it is one of the most abundant weeds in the country. Its leaves are fœtid, mucilaginous, and gently aperient. They are much used for adulterating senna and in various external applications. The seeds ground with sour butter-milk are used with excellent effect in itchy eruptions, and they are used in preparing a blue dye, generally fixed with lime water. The root rubbed to a pulp with lime juice has

almost specific powers in the cure of ringworm. Like all the allied species of Cassia this seems to owe its virtues to its astringency alone.

Senna absus, *Roxb.* Syn. of C. absus, *Linn.*

Senna alata, *Roxb. Royle,* Syn. of Cassia alata, *Linn., W. & A.; W. Ic.* See Berthelotia lanceolata.

Senna arborea, *var. Rheede, Roxb.* Syn. of Cassia glauca, *Linn. Lam., W. & A.*

Senna auriculata, *Roxb. Fl. In.* Syn. of Cassia auriculata, *Linn., Roxb.*

Senna bicapsularis, *Roxb.* Syn. of Cassia bicapsularis, *Linn.*

Senna esculenta, *Roxb.* Syn. of Cassia sophora, *Linn., W. & A.*

Senna meccæ lohajæ, *Forsk.* Syn. of Cassia officinalis, also of Cassia elongata, *Royle.*

Sennæ medicæ lohajæ, *Royle,* Syn. of Cassia officinalis, *Gærtn., Royle.*

Senna obtusa, *Roxb.* Syn. of C. obtusa, *Roxb.*

Senna occidentalis, *Roxb.* Syn. of Cassia occidentalis, *Linn.*

Senna officinalis, *Roxb. Fl. In.* Syn of Cassia elongata, *Linn., Lisane.*

Senna sophora, *Roxb. Fl. In.* Syn. of Cassia sophora, *Linn.; W. & A.*

Senna tora, *Roxb. Fl. In.* Syn. of Cassia tora, *Linn.*

Senna toroides, *Roxb.* Syn. of Cassia tora, *Linn.*

Senna of Tripoli, Syn. of Cassia obovata, *Merat*; *Voigt.*; *Royle's Mat. Med., p.* 361; *O'Shaughnessy, pp.* 309, 397; *Pharmaceutical Journal, Vol.* ii, *p.* 63; *Simmonds*; *Ben. Ph.; Spry's Suggestions, pp.* 36, 43.

SENNABLATER, Ger. Senna.

SENNA LEAVES, see Senna, Cassia.

SENNA, Sans. Crotalaria juncea.

SENNACHERIB, king of Assyria, ruled in Nineveh. He was coeval with the latter years of Hezekiah, and contemporary with Nabonassor. After various struggles with the princes of Babylon, he invested his son Assar Haddon, with the sovereignty of Babylon. Sennacherib reigned 18 years and was slain B.C. 676. See Babylon.

SENNANG, Maleal. Verdigris.

SENSAFAI, Hind. Asparagus racemosus.

SENSARPAL, Hind. Asparagus filicinus and A. punjabensis.

SENSITIVE ANIMALS, invertebrate animals are divided by Lamarck into two groups, which he calls Animaux apathiques and Animaux sensibles. The latter, or the Sensitive animals, contain six classes, of which insects are the first.

SENSITIVE PLANTS, is a term commonly applied to those species of plants that possess the property of visibly moving their leaves when they are touched or otherwise stimulated. A number of plants of various families, possess the power of moving their leaves under the influence of a slight touch; That which is best known is Mimosa pudica, a native of tropical climates. A knock upon the ground at a short distance from the plant is sufficient to produce an influence on its leaves; and Von Martius says, that at Rio de Janeiro the falling of horses' feet by the way is sufficient to set whole masses of the plant in motion. If various corrosive substances, as bichloride of mercury, sulphuric acid, caustic potash, &c., are applied to the knots of the joints, the same phenomena are observed. The removal of the plant to a higher temperature will produce the same result, as well as exposing it to a lower temperature or a draught of cold air. They are destroyed by the application of chloroform and other anæsthetic agents. Its leaflets rapidly fold together and droop when touched, and its leaf stalk, to its base, droops downwards; on the approach of evening, the foliage of this plant assumes the same appearance. Besides the Mimosa pudica, the M. sensitiva, M. viva, M. casta, M. asperata, M. quadrivalvis, M. pernambucana, M. pigra, M. humilis, M. peltata, M. dormiens, possess the same property though not in so remarkable a degree. Species of other genera of the Leguminosæ exhibiting these movements are Smithia sensitiva, Æschynomene indica, Æ. pumila, and Desmanthus stolonifer. The locust tree when its branches are roughly shaken closes up its leaves, and the same has been observed of Gleditschia triacantha. Of another family of plants the Oxalidaceæ, Oxalis sensitiva, called by De Candolle on account of its sensitive properties Biophytum, has long been known to possess this property. Averrhoa bilimbi and A. carambola possess the property of folding their leaves on the application of a stimulus. Oxalis stricta, if hit smartly on a warm day, will contract its leaves and assume a position as in the ordinary sleep of the leaves of these plants, and the same movements occur in O. acetosella, O. corniculata, and many other species. The movements in these plants consist in the folding up of their leaves, so that the two halves of the leaf approach each other by their superior surface. The midrib is also slightly bent, so that its inferior surface presents a convexity; and the petioles of the leaflets bend downwards, so that the leaf, when irritated, becomes dependent. In the family Droseraceæ, or Sun-Dews, the leaves of Dionœa muscipula, or Venus Fly-Trap have the remarkable property of contracting upon insects that may happen to alight upon their surface. None of the Sun-Dews inclose

insects in their leaves in this manner, but the surface of their leaves is covered with long hairs, which secrete a viscous matter. When any insect settles upon the leaf, it is entangled with the viscous secretions ; and before it has time to escape, the hairs exhibit a considerable degree of irritability, and curving round, pin the animal down on the surface of the leaf. Other instances of vegetable irritability occur in the Berberis vulgaris, Mimulus, and Stylidium. In the Desmodium gyrans one of the Fabaceæ called the Telegraph plant, a native of the East Indies, the large terminal leaflet when exposed to the bright light of the sun, forms a direct and continuous line with its leaf stock ; but is manifestly depressed, if placed in the shade for a few minutes. Its position varies with the increase or decrease of light during the day.—*Morren, Notes, sur l' Excitabilitè et le Mouvement des Feuilles chez les Oxalis, in the* 6*th volume of the Bulletins de l'Acadèmie Royale de Bruxelles* ; *in Eng. Cyc.* ; *Chamber's Journal*, 1863, *Vol.* xx, *p.* 179.

SENTHA also Senthi, Beng., Hind. Saccharum sara.

SENTHETI VER, Maleal. Root of Ixora coccinea.

SENTUL, a light, close-grained, and easily worked wood of Java : it resembles the suren.

SEO, Hind. The apple, Pyrus malus.

SEO-JI, in the Bhaka tongue, is a title of Siva, the ji, is merely an adjunct of respect. —*Tod's Rajasthan, Vol.* ii, *p.* 22.

SEONI, a district of the Central Provinces of British India, the beauty of its scenery, the fertility of its valleys, the elevation of its plateau, its salubrity and moderate temperature, make it attractive, it once supported a far larger population than now. It lies between 21° 35′ and 22° 55′ of north latitude, and between 79° 20′ and 80° 10′ of east longitude ; and is bounded on the north by Jabalpur and Mandla, on the west by Narsinghpur and Chhindwara, on the south by Nagpur and Bhandara, and on the east by Mandla and Balaghat. The area is about 3,608 square miles, and the population amounts to 421,650 souls, or 116 to the square mile. The fiscal sub-divisions are Seoni, Katangi, and Lakhnadon, each of which is managed by an officer of the rank of tahsildar. The plateaus of Seoni and Lakhnadon have a varying height of from 1,800 to 2,200 feet. They are well cultivated, clear of jungle, and their temperature is always moderate. In the Bengal As. Soc. Journ. is recorded receipt from Seoni of five copper plates in questionable Sanskrit, often unintelligible, of date eighteenth year of Pravara dhamanrajya Samvat, a local era, after Mahendra Gupta of Kanouj. The character used in Inscription is Allahabad, No. 2, with an open parallelogram at the head of each letter. The Divinities mentioned are Bhairava, Siva linga, Mahesvara, Yudhisthira, Vishnu, Sama Veda, Vyas ; and of kings or princes, raja Pravara Sena, Sri Rudra Sena, Prithivi Sena, Rudra Sena, 2nd : Pravara Sena, 2nd. None of the princes are known in history ; but the inscription adds another Gupta (Deva) who is called "Paramount Sovereign," and whose daughter was the mother of Rudra Sena, 2nd. The Deva Nagari is curious, having an open parallelogram at the head of each letter. The Vikramaditya era is not used in this nor commonly in early inscriptions. Gives a village to a brahman, but without any eulogy of brahmans. Begar, or forced labour, is mentioned. Similar Deva Nagari is met with at Chattisgarh.—*Vol.* v, *p.* 727.

SEORA, Hind. Epicarpurus orientalis.

SEOREE, or Sivira, a race in Ghazepur, Gorukpoor, Behar, Benares and Mirzapur, whom Buchanan thinks distinct from the Kol and the Cheroo. The Cheroo aborigines in Ghazepur, a part of Gorukpur, the southern part of Benares and Mirzapur, and of Behar, are sometimes said to be a branch of the Bhar. They seem to be the same as the Sivira or Seoree, but Buchanan considers them distinct. The Cheroo declare themselves to be descended from the great serpent, from which they may be supposed to be the Nagbunsi of Magadha. Remains of buildings attributed to them are found near Buddha, Gya Sasram and Ramghur, and the images of Siva and Hanuman found in them indicate that they belonged to the hindoo religion. They appear to have been expelled from their ancient abodes by the Pramara of Bhojpur, the Hyobun of Hurdi and the Bhoonhar, a little before the first mahomedan invasion, about which time there seems to have been a general convulsion in India, during which several tribes acquired their present possessions. The features of the Cheroo are said to resemble the occupants of the Vindhya mountains. They live by cutting timber, collecting drugs, and killing game, and though their numbers are very low they continue to create a rajah for every five or six houses, and invest him with the tilak in due form. The emperor Sher Shah, subdued Muhartu, a Cheroo zemindar of Behar, which seems to have been a last strong effort of the Cheroo. The chief of Singrowli in Mirzapur is a Cheroo, though he calls himself a Ben-bans. Sir H. Elliot suggests that the Sivira, Seori and Cheroo, may perhaps be the Saura, descendants of the Suraseni. In the Harivansa is the following passage : "From his race came the Sauravira and Saurasena.

The great king Sourasena has given his name to the country over which he reigned."—*Elliot's Glos.*

SEONTEE, Beng. White rose, Rosa nepalensis.

SEOTI, a river of Allahabad and of the Mirzapoor district.

SEPA CHETTU, Tel. Oxystelma esculentum, *R. Br.*

SEPAH and Buzotee, are small, but very brave Affghan tribes, numbering. The Buzotee have 500, Sepah 300, fighting men. They live in tolerably close connexion with their more powerful neighbours, the Afreedee, and manage to hold their own. They acted up to their engagements in regard to the Khyber Pass, and generally behaved well towards the British.

SEPEDONIUM MYCOPHILUM, see Fungi.

SEPHALICA, Sans. Nyctanthes arbor-tristis.

SEPI, Hind. Pji, the same as Kamin or ghair mulazim.

SEPIADÆ, the Cuttle-fish family of Molluscs, of the class Cephalopada, section Decapoda. Mr. Woodward enumerates three fossil genera, Belemnosis, Beloptera, and Spirulirostra and the genus Sepia, of which there are known five fossil and thirty living species, of which Sepia officinalis is the type. Sepia officinalis is the common cuttle-fish, whose shell is so often thrown up by the waves on the beach. The ink (nigræ succus loliginis), common to this and other species of Cephalopods, is not only ejected as a defence to colour the water in order to favour the escape of the animal, as was well known to the ancients (Oppian, Halieut iii., ; Pliny's Nat. Hist., ix, 29), but as a direct means of annoyance, the juice was used by the ancients as ink as shown in the lines in the graphic description of the idler by Persius. (Sat., iii, lin. 10, et seq.) The flesh of the naked cephalopods was rather esteemed of old, as it is indeed now in Italy and other countries. Aristotle declares that these animals are in the highest season when pregnant, and those who wish to taste a cuttle-fish sausage, will find a receipt for making that savoury viand in Athenæus. Mr. F. D. Bennett states that the Fe, or cuttle-fish, is considered a luxury by all classes of the Sandwich islanders, and that when fresh and well cooked it is an excellent food, and in consistence and flavour not unlike the flesh of a lobster's claw. Its shell, called cuttle-fish bone, is sometimes 1½ feet long, it is used for rubbing down paint.—*Bennett, Narrative of a Whaling Voyage round the Globe, London,* 1840.

SEPIOTEUTHIS SEPIACEA, *De. Blainville.* See Sepia dæ.

SEPISTAN, BROAD-LEAVED. Cordia latifolia, *Roxb.*

SEPISTAN, NARROW-LEAVED, Cordia angustifolia, *Roxb.*

SEPISTAN PLUM TREE, Cordia myxa, *Linn., Roxb.*

SEPOO, Dalbergia acuminata.

SEPOY, Anglo-Hind. Sipahi, Pers. A native soldier of the Indian army.

SEPSIDÆ, a family of Molluscs.

SEPS-LIZARDS, see Chalicides, Reptiles.

SEPTACANTHIS WALKERI, one of the Acanthacea (quere Nillhoo of Ceylon) perfumes by its fragrance, the jungles especially around Needoowattum and paths leading to Goodaloor.

SEPTA-HINDU, the Punjab.

SEPTA-PIMA, Sans. Alstonia scholaris, *R. Br., Don.*

SEPTIMUS SEVERUS, see Septuagint, Bible, Barbarian.

SEPUDDY Malay. Aucklandia costus, *Falconar.* See Putchuck.

SER, Hind. An Indian weight of varying quantities from 25 tolas to lbs. 2, oz. 2.

SERAI, Hind. A lodge for travellers.

SERAI KILLA, a Rajput chieftainship, designated Koer, near the Colehan.

SERAMPORE, a town near Calcutta, long belonging to the Danes, but, about A. D. 1855, ceded to the British, it is opposite Barrackpore. The range of houses along the river makes up a gay and brilliant picture. The interior keeps the promise which a distant view has given. It is the best-kept town in India. It and Negapatam, were long Danish settlements, and Serampore gave shelter to William Carey who set up his missionary press there and printed the Bible in forty different Indian tongues.—*Tr. of Hind., Vol.* i, *p.* 6.

SERAN, Hind. Acer creticum, (Kharpata.)

SERANG, Hind. A petty officer of a ship.

SERANG, the island called Ceram.

SERANGANI ISLANDS, distant 12 or 15 miles from Mindanao, on the north-east of Celebes : they consist of two considerable islands extending from lat. 5° 20′ to 5° 31′ N., and a high peak on the more westerly is in long. 125° 32′ E.

SERAPADA or Sripada, the name given in Ceylon to the footstep of Buddha, on the mountain Sumanakuta or Adam's peak.—*India in the 15th Century.*

SERAR, Hind. Pinus strobilus.

SERBAL PEAK, is supposed to have a better claim than Sinai, to be thought the holy mount from which Moses delivered the

commandments to the people, and the point called Mount Sinai by the monks, which is about a day's march to the east of this the only habitable valley in the neighbourhood. The Sinai of the Jews was probably the Mount Nissa of the Egyptians, described as a lofty mountain in Arabia between Phenicia and Egypt, the fabled dwelling-place of the god Osiris when a child, and the fancied origin of his Greek name Dio-Nysus. The Midianite tribe of Ishmaelites or Arabs, held the southern part of the peninsula.—*Sharpe's History of Egypt, Vol.* i, *p.* 54.

SERD-SEER properly Sard-sair, signifies the cold region, but it is also termed the sarhada, a word literally signifying "boundary or frontier," but generally applied to any high land where the climate is cold. The "Garm-sair" of Sejistan is a narrow tract of country along the lower course of the Helmund. The Baluch races seem to pronounce it "Gurmsehl" or Garm-sail, and one of their wintering places is north-west of Nooshky, and distant about 75 miles.—*Pottinger's Travels in Beloochistan and Sinde, p.* 103.

SEREBRO, Rus. Silver.

SEREGADDA, Tel. Ehretia lævis.

SEREI, Hind. Quercus incana.

SERENGE —? a dyeing seed.

SERGE, a quilted woollen cloth, *Faulkner.*

SEREGADA, Tel. Ehretia lævis, *Roxb., Cor., W. Ic.*

SEREKEI, see Kyans.

SEREN-DIVA or Serendip, Ceylon.

SERES. The name of Seres, which Horace and the ancients use, seems to have been strictly applicable to some nation in the west of China. The western term China is not traceable, but many authors have surmised that it was given to the country when the Tsin dynasty carried their arms to the west. Whatever may have been its origin, the term China (Cheena) was that early given by the people of the N. W. of India to the race whom Europe now calls the Chinese. There are two mentions of the Seres which may be much earlier. One is in a passage ascribed to Ctesias, which speaks of the Seres as a people of portentous stature and longevity.—*Yule Cathay, Vol.* i, *p.* 39.

SER GRASS, Anglo-Hindi. Imperata konigii.

SERH, a river of Seoni.

SERHAD, Pers., properly Sar-had, the term given to the wintering encampments of the wandering Persians, in opposition to their Garmsair, or summer grounds.

SERIAB, now Shorab or Sar-ab, is west of the Helmund.

SERISHA, Beng. Acacia speciosa, *Willd.*; *W. and A.* A. serissa.

SERILOPHUS LUNATUS are much freer flyers than the species of Eurylaimus.

SERIMA, Tel. Conocarpus latifolia.

SERINGAPATAM, in L. 12° 25′ 6″ ; L. 76° 39′ 7″ in Mysore, is built on an island in the Cauvery river. The mean height of the station is 2,558 feet ; the level of the Cauvery is 2,321 feet. Seringapatam, first battle was fought on the 14th May 1791. Peace was concluded on the 6th March 1792. *Cull.* See Sri Sampradaya.—

SERINGHAM, or Sri-Rangham island is formed by the separation of the Godavery into two arms, 5 miles N. W. of Trichinopoly, there are two hindoo pagodas on the island, and from 1751 to 1755, the island and its pagodas were the frequent objects of the contests between the French and the British. In those contests, several rocks, the golden, pine, French and sugar-loaf, were the points of the battles.—*Orme.*

SERINUGGUR, the capital of Cashmir, according to Jacquemont, is 5,246 feet above the level of the sea. Many of its women are extremely beautiful, but filth, poverty and tyranny have made their impressions on the Cashmeree, who for centuries has been subject to tyrannical governments. —*Adams.*

SERISSA, Acacia serissa. In China, is cultivated around flower beds and parterres like the box.—*Fortune.*

SEROHI, Rao Sheo Sing, with whom the British government concluded a treaty in 1812, was called to power, in 1818, by the unanimous voice of the chiefs of Serohi who had deposed his elder brother Oudeybhan-jee for tyranny and oppression and placed him in confinement. Maharajah Man Sing of Jodhpore, who laid claim to supremacy over Serohi, sent a force in 1819 to liberate Oudeybhan-jee, but he failed ; and Oudeybhan-jee continued in confinement till his death in 1847. During the disturbances incident on the Jodhpore invasion, Rao Sheo Sing craved the protection of the British government. On the death of Oudeybhan-jee without children, Sheo Sing, whose position under the treaty had been that of Regent only, was acknowledged as successor to the State, and his son as heir apparent. One of the most refractory of the nobles was the thakoor of Neembuje, with whom, after the Meena race had been reduced by a British force, an engagement was mediated by the Political Agent ; guaranteeing to him his lands on condition of feudal service and payment of three-eighths of his revenues to the rao. The rao made over to the British government in 1845, some lands on Mount Aboo for the establishment of a sanitarium.

The grant was fettered by several conditions, one of which was that no kine should be killed. The rao on several occasions was requested to cancel this condition, but he always refused. In consequence of the incapacity of the rao, the general control of affairs was, in 1861, made over to his son Omeid Sing, the old rao retaining the dignities and honors of office. The late rao did good service in the mutinies, in consideration of which he received a remission of half his tribute which had been fixed at rupees 15,000 to 7,500, he also received the right of adoption and a salute of fifteen guns. Serohi contains an area of 3,000 square miles and a population of 55,000. The revenues amount to only rupees 80,900. The only military force consists of 69 horse and 218 foot. The State pays for no local corps or contingents. In 1868 it was discovered that both in Serohi and in Marwar, the practice of Samadh, or burying alive, prevailed to a considerable extent. This mode of self-destruction, however, on enquiry, appeared to be confined almost entirely to persons in the last stage of leprosy' by whom it was practised to put an end to their sufferings. As it was thought probable that in some cases priestly influence, and in others the desire of the other members of the family to rid themselves of the presence of a nuisance, might have induced the self-sacrifice, the Political Agent considered it advisable to bring to the notice of the Durbar of his highness the rao, that government regarded the commission of a Samadh in the same light as a suttee, and that they would expect his highness to use his best endeavours to put a stop to it. It was also notified that in case of his not doing so, he would incur the displeasure of government, and the number of guns with which he was saluted be reduced. His Highness at once took steps to comply with the request of government, but at the same time stated that this was the first occasion on which the desire of the government for the stoppage of the practice had been brought to his notice, and that it was quite as common during the management of the State by the British government as at the present time. He at once issued a proclamation declaring that Samadh was forbidden, and that any one assisting at any case in future would be liable to imprisonment extending to ten years, and that the Jaghirdar on whose estate it took place would be liable to the same punishment, and the forfeiture of his estate, and any raj official, through whose culpable neglect a case might occur, would also incur the same liability. The maharajah of Marwar was also addressed on the same subject, although the Political Agent of that province could not hear of any cases having occurred.—*Treaties, Engagements and Sunnuds, Vol.* iv, *p.* 157 ; *The Englishman, April* 25, 1868. See Aboo.

SERON, a package, formed of pieces of wood, fastened with hides.—*Faulkner.*

SEROO-NAVAL-POO, a drug.

SEROUG, see Mesopotamia.

SERPA, a Bhot people in Nepal and Sikkim, who speak a dialect of Tibetan.

SERPAH, HIND. Urtica heterophylla.

SERPENT.

Afa ; Afai ; Bœten,	AR.	Serpe ; Serpente,	IT.
Oub,	CHALDEE.	Anguis ; anguilla,	LAT.
Serpent,	FR.	Serpens,	„
Schlange,	GER.	Mar,	PERS.
Erpeton ; Ophis ; Egchelus,	GR.	Sarpa ; Ahi,	SANS.
Aphah ; Peten,	HEB.	Serpiente,	SP.
Nachash,	„	Pambu,	TAM.
Samp,	HIND.	Pamu,	TEL.
		Yilan,	TURK.

The serpent from its powers to bite and poison has been known to the human race from long before historic times, has been regarded by many races an emblem of evil, and by other nations as a source of good. The Tamil word "Sarpam," is derived from the Sanscrit, and is used in almost all Indian languages with the addition or elision of some letter. In our translation of the Bible are frequent notices of serpents, but it would seem that the same Hebrew word "Nachash," relates to all reptile forms which may explain why it has been variously rendered. The fiery serpent "Saraph," alluded to in Numbers xxi, 6, 8 ; Deut. viii, 15, and in Isaiah xiv, 29, and xxxi, 6, has not been identified by naturalists ; neither have the flying serpents, so often alluded by ancient writers, although the attention of Niebuhr and his companions was specially directed to this point. Niebuhr suggested that the reptiles called "heie thiare" by the Arabs of Basra, may have obtained this name, of flying serpents, from their habit of swinging themselves with a spring from the branch of one palm tree to that of another. The serpent was worshipped in Chaldea, where, as in Egypt, it was called Oub, hence the Greek οφις, and Obion are said to be still in use in Egypt, as Af'a and Afi is in Arabia, to designate a snake. This word as "Oboth" is translated familiar spirit, in Leviticus xx, 27, so xx, 6. See also Deut. xvii, 11 ; I. Sam. xxviii, 3, 7, 9 ; II. Kings xxi, 6, xxiii, 24, and Chapter xxxiii, 6. The woman of Endor is called a mistress of "Ob," and Jotham, king of Israel, built much on the wall of Ophiel, *i. e*, the serpent-god, for the worship of snakes was a form of idolatry very much diffused in ancient times, and still very prevalent in India. Obi men and Obi-women, the designation of the pretended diviners amongst the negroes of the West

India colonies, is the same word, and probably brought with them from Africa. The pethen of the Hebrews, the python of the Greeks, and bæten of the Arabs, from which we have our words python and pythoness, is that form alluded to in Acts xvi, 16, as the damsel with the spirit of divination. But what the Asp, the pethen of the Hebrews, was, and which is employed in Deut. xxx, 33; Job. xx, 14 and 16; Psalms lviii, 4; xci, 13, and Isaiah xi, 8, is also not determined by naturalists of the present time. Forskal describes the bæten of the Arabs to be about a foot long, and spotted black and white. The bite of the Hebrew pethen was said to be so poisonous as to produce death in a few hours, with a rapid decomposition of the body. In the mythology of the Greeks, the python was a huge serpent that had an oracle on Mount Pernassus, famous for predicting future events. Apollo is said to have slain this serpent. Amongst all idol-worshipping nations the serpent has been regarded as an emblem of immortality, and hence derived his name Pytheus. In almost every village, throughout India, are to be seen, some beautifully carved, others in the rudest style, figures of the Naga or Cobra di capello, set up as objects of worship, and two are occasionally represented twining round a rod as in the figures in the mythology of Greece. In the Elephanta cave, Garuda, the vahan of Vishnu, is often seen with one as an appendage; and on several very old gold coins he has snakes or elephants in his talons and beaks—for he is sometimes spread, and double-headed, like the Prussian eagle,—and one round his neck; but he is not so represented either in pictures or casts. Destroyer of serpents, Nag-antaka, is one of his names. Some legends make Garuda the offspring of Kasyapa and Diti. This all-prolific dame laid an egg, which it was predicted would produce her a deliverer from some great affliction: after a lapse of five hundred years, Garuda sprung from the egg, flew to the abode of Indra, extinguished the fire that sorrounded it, conquered its guards, the devata, and bore off the amrita (ambrosia), which enabled him to liberate his captive mother. A few drops of this immortal beverage falling on the species of grass called Kusa (the Poa cynosuroides) it became eternally consecrated; and the serpents greedily licking it up, so lacerated their tongues with the sharp grass, that they have ever since remained forked; but the boon of eternity was ensured to them by their thus partaking of the immortal fluid. This cause of snakes having forked tongues is still popularly, in the tales of India, attributed to the above greediness; and their supposed immortality may have originated in some such story as this: a small portion of amrita, as in the case of Rahu, would ensure them this boon. But in all mythological language the snake is an emblem of immortality; its endless figure, when its tail is inserted in its mouth, and the annual renewal of its skin and vigour, afford symbols of continued youth and eternity, and its supposed medicinal or life-preserving qualities may also have contributed to the fabled honours of the serpent tribe. In hindoo mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. Learned authors attribute this universality of serpent forms to the early and all-pervading prevalence of sin, and the figure of Krishna crushing, but not destroying, the type of sin, has been largely discussed. Garuda is also the proverbial, but not the utter, destroyer, for he spared one, they and their archetype being, in reference to created beings, eternal. His continual and destined state of warfare with the serpent, a shape mostly assumed by the enemies of the virtuous incarnations or deified heroes of the hindoos, is a continued allegory of the conflicts between vice and virtue, so infinitely personified. Garuda, at length, appears the coadjutor of all virtuous sin-subduing efforts, as the vehicle of the chastening and triumphant party, and conveys him, on the wings of the winds, to the regions of eternal day. Images of snakes are common: the idea of their medicinal virtues is very old in India: a hindoo attacked by fever, or other diseases, makes a serpent of brass or clay, and performs certain ceremonies to its honor, in furtherance of his recovery. Such ceremonies are particularly efficacious when the moon is in the nakshatra (mansion, sign, or asterism), called Sarpa, or the serpent; called also Aslesha. It is not known if Dhanwantara, the Esculapius of the hindoos, has an attendant serpent like his brother of Greece: the health-bestowing Dhanwantara arose from the sea when churned for the beverage of immortality. He is generally represented as a venerable man, with a book in his hand. The 11th day of the bright half of the month Ashada commences with the summer solstice: in hinduism it is the night of the gods:—nine days thereafter, that is, on the fifth after the full moon, is a festival in honor of Devi, the goddess of nature, surnamed Manasa, who, while Vishnu and all the gods were sleeping, sat in the shape of a serpent on a branch of a Euphorbia (Snuhi) to preserve mankind from the venom of snakes. The 5th day of the bright half, of the month Sravana, is called Naga-panchami, and is sacred to the demi-gods in

the form of serpents who are enumerated in the Padma and Garuda Puranas. Doors of houses are smeared with cow-dung and leaves of the Nim tree (species of Melia and Azederachta) as a preservation from poisonous reptiles. Both in the Padma and Garuda Puranas, is mention of the serpent Kaliya, whom Krishna slew in his infant hand, and which is also worshipped on this day. The feast of Naga-panchami, from Naga, serpent, and panchami, five, is celebrated, as the name implies, on the 5th day of the bright half of the month of Sravana; but some hold it on the 4th day also, when the day is called Naga-chauti. (Naga, serpent, and chauti, four.) This day is observed chiefly among the brahmins of northern India, Maharashtra and Telingana and their corresponding inferior castes, or in other words among the northern hindoos. The Tamil brahmins and sudras do not observe it. On this day the women bathe and adorn themselves in their best clothes and jewels, and proceed to the places where the figures of the Nagas or serpents are consecrated and established, or to ant hills, supposed to be the abode of snakes, where they pour milk and place garlands of flowers, but especially of cotton, and the usual accompaniments of hindoo worship or puja, such as betel-nuts, fruits, cakes, &c. Some worship at their own homes the figure of the Naga (or cobra) made in gold or silver; and others send for the real cobra to their homes, feed it with milk, and give small presents to the snake-charmers who frequent the streets on this day. Men and women having no children, and others who are troubled with ailments of the ear, make anew, or fulfil their old, vows on this day, should the object of their desires have been obtained. There are various medical virtues ascribed to the cobra. The poison of the cobra, doubtless an innocuous substance in the stomach, is eaten by old-opium eaters, and the cast off skin is used for magical purposes, and some say for keeping out vermin. The enemies of the cobra, mythologically as well as in fact, are the Garuda, the bird-vehicle of Vishnu, and the Mayil or the peacock which is the favourite vehicle of Subramaniya, the second son of Siva. In the South of India, the accepted type of Garuda is the common Brahmany kite, Haliætus ponticherianus, which is held in some respect and fed with goat's or sheep's flesh, on Sunday mornings by those who consider it a favorable omen to see a Garuda on the morning of that day, or on the evening of Thursday. This bird pounces upon and carries off the cobra in its claws and kills it. Granite figures of the Naga are always placed in a pagoda, or under a Margosa and Peepul tree in a garden, by the side of a river, tank, &c. The consecrating and establishing of the granitic figures of serpents is attended with very much expense. It is performed by the wealthy, when they are childless, and the whole ceremony is called Naga-pratishta (Naga, serpent, and pratishta, to establish.) A serpent, popularly believed to fly at its victims, is said to live in the bush of the Tala, Pandanus odoratissimus, which produces the flower called Talampu. It is described to be about a span in length, and never to crawl as snakes generally do. But most serpents or snakes can move by springs or leaps, often of considerable extent. The editor has seen a cobra cross the high road in the flats at Bombay by two leaps.

The Asp is mentioned in Deut. xxx, 33; Job xx, 14, 16; Ps. lviii, 4: xci 13, and Isaiah xi, 8, but though supposed to be some kind of serpent, naturalists have not determined the particular reptile alluded to. The word is probably very ancient, and is possibly the "Oub" serpent worshipped in Chaldæa and Egypt, and Obion is said to be still used in Egypt as Afa and Afi is in Arabia, to designate a snake, and the Greek term οφις is the same.

Serpent-worship was one of the many forms of totem worship, through which many nations in some stage have passed, but why it got a pre-eminence, is not apparent. Serpent-worship is supposed by Mr. Bathurst Deane to have been the only universal idolatry. In Asia evidence of serpent-worship has been found in Persia, Cashmere, Cambodia, Thibet, India, China (traces), Ceylon, and among the Kalmucks. Amongst the primitive tribes many have totems, animal or vegetable gods, after which they are named. The American Indians all possess them; as also the Australian tribes, and, in Central Asia, most of the Kirghis tribes trace their origin back to some animal which they venerate and worship. In the tribes near the Naga country on the Indian frontier, is a tribe who claim the rat as their progenitor. The snake or Naga tribes of India worship the snake. It is supposed that an Ant tribe existed to the north of Cashmere, and that Herodotus alluded to them in describing their search for gold. The cat, the lion, the boar, the bull, the horse, all seem to have been warlike: the horse occupies a prominent position in the sculptures of Oomravati. In the Mahabarata the horse-sacrifice occupies a prominent place. If we compare serpent-worship with quadruped-worship, or bird-worship, or sun-worship, we shall find that it has no exceptionally wide area. And if the totemic origin of serpent-worship be the correct one, the serpent, like other totemic deities, would, from its origin, have a benevolent character.

M. Boudin says "le culte duserpent, est independent de toute influence ethnique: and M. Lajard says dans la plu-part des langues dites Semitique, le mot que signifie la vie, hayy, ou hay, haya, heyo, hayya signifie egalement le serpent. In several of the ancient religious systems the serpent presides at the creation of the world, and is the god of life or health. All over America, the serpent-worship prevailed. Adi Sesha, old serpent, or first serpent, is a term used in hindoo mythology, but its meaning is unknown. Serpent-worship does not seem to have been known in Germany, though the tree was worshipped there, as also in Gaul. But the serpent was worshipped on the East coast of Scotland. Nonnus, a Greek poet singing of the delivery of Beroe, in which the ark is allegorically described, writes:—

> Æon had seen
> Age after age in long succession roll
> But like a serpent, which had cast his skin
> Rose to new life, in youthful vigour strong.

The serpent in Egyptian monuments is always in connection with the tree of life. Serpents with all Semitic nations is associated with the introduction of sin. In Egypt, both tree and serpent-worship prevailed, as parts only of the general animal and vegetable-worship. The Grove, alluded to in I. Kings, xiv, and 23, where the Jews built them images and groves on every high hill and under every green tree, was possibly the Asherah. The tree at Mamre was worshipped to the time of Constantine. Solomon says, "they worshipped serpents void of reason." It seems to have been repressed, but it again cropped up amongst the same people in the christian sects of Ophites, Nicolaitans and Gnostics. According to Tertullian, the Ophites even preferred the serpent to Christ. They kept a living serpent in a chest, as, or to represent, the God. The serpent was honoured in Tyre from an early period down to the time of Alexander. Hea or Hoa, the serpent-god, according to Sir H. Rawlinson, was the third person in the Babylonian Trinity. Serpent and tree-worship prevailed in Greece. In Epidaurus, down to the time of Pausanias, serpents were kept and fed in the grove attached to the temple of Æsculapius, and a huge serpent was kept in the temple of Æsculapius at Alexandria. At Athens, the Erectheum now occupies the site of the temple of the serpent-god Erecthonios. The serpent is seen as a "genius loci" upon the coins of many of the towns of Asia Minor,—Cyzicum, Pergamos, Marcianapolis, in Mysia; Aboniteichos and Amastris, in Paphlagonia; Nice and Nicomedia, in Bithynia; Tomos, in Pontus; and Mindus, in Criaa, exhibit the serpent as their ensign.

Serpents and trees, seem to have been alli and co-existent objects of idolatry. Primiti races often believed that the spirits of deceas persons delighted to dwell in trees and spol oracles through the rustling of their branch In India almost all the Aryan and non-Ary races still believe trees to be the serpe worship, was often associated with go fortune. Whether in the wilderness of Sin the groves of Epidaurus, in the Sarmati huts, the serpent was always the Agath dæmon, the bringer of health and go fortune, the teacher of wisdom, the oracle future events. In Egypt, however, Apo or Typhon was the Evil Serpent. Th Greeks had myths regarding the pytho and hydra, the echidna and the dragon the garden of the Hesperides, but in histori times the Athenians kept a serpent in the Ere theum, and its escape warned them to fly fro the Persians, and Pausanias tells us that th Epidaurian serpents held their place amongs the gods of Greece till long after the age o Christ. Livy, (x, 47,) Valerius Maximus (i, 8, 2,) Aurelius Victor, (xxii, 1,) and Ovid (Met xv, 5,) mention the serpents of Æscula pius kept at Epidaurus, which the Roma Senate sent an embassy to obtain. A plague ravaged Rome in the year of the city 462, a living serpent was solemnly fetched from Greece to Italy, and received with divine honours, on the banks of the Tiber, by the senate and people of Rome, and Æsculapius received honours similar to those alluded to in Numbers (xxi, 8, 9,) as occurring in the Arabian desert. After that occasion a serpent, in a conventional attitude, was, in the Roman world, the recognised type of a sacred place. The serpent python (the Pethen) is mentioned in Ps. lviii, 4: xci, 13; in Deut. xxxii, 33; in Job xx, 14 and 16; and Isaiah xi, viii. This is supposed to be the asp of ancient writers, and there is considerable authority for believing that the extremely poisonous Coluber haje of Linnæus is the animal intended. It was from the arts practised with this animal, that those who were supposed to possess a spirit of divination, were called πιθονες pythones. Harris says that in the Egyptian language, the serpent was called Ob, or Oub, and was the same in the Chaldee language, hence the word Ophis, οφις. Thus we read in Leviticus xx, 27, of a man or a woman that hath a familiar spirit, "oboth;" see also, xx, 6. Also, II. Kings xxi, 6; 23 and 24; and II. Chronicles, xxxiii, 6. The woman of Endor, who had a familiar spirit is called mistress of Ob. Mr. Fergusson regards tree-worship, in association with serpent-worship, as the primitive faith of man-

kind. Serpent-worship still prevails in Africa amongst the people of Dahomi and Whidah, and the Dahoman Trinity, Serpent, Tree and Ocean is identical with that of Greece, 3,000 years ago. At one time, in Cashmere, there were 700 places where images of the serpent was worshipped. A demi-god serpent, with a human face and the tail of a serpent is said to have sprung from Kadru, the wife of Kasyapa, and to have been created to people Patala or the regions below the earth. The chief of these creatures is sometimes called Sesha or Ananta and Vasuki. Under the term Adi Seshi, or old serpent, this deity takes an obscure part in hindoo mythology. It is represented as an immense snake, with many heads.

Vishnu is fabled to have become incarnate in the form of a tortoise: in which shape he sustained the mountain Mandara, placed on his back to serve as an axis, whereon the gods and demons, the vast serpent Vasoky serving as a rope, churned the ocean for the recovery of the amrita, or beverage of immortality. And the result of the operation, that chiefly distinguished this avatara, was the obtainment of fourteen articles, usually called fourteen gems, or chaturdesa ratna, in common language chowda ratni: 1, the Moon, Chandra; 2, Sri, or Lakshmi, the goddess of fortune and beauty; 3, Sura, wine, or Suradevi, the goddess of wine; 4, Oochisrava, an eight-headed horse; 5, Kustabha, a jewel of inestimable value; 6, Parijata, a tree that spontaneously yielded every thing desired; 7, Surabhi, a cow similarly bountiful; 8, Dhanwantara, a physician; 9, Iravati, elephant of Indra, with three probosci; 10, Shank, a shell conferring victory on whoever should sound it; 11, Danusha, an unerring bow; 12, Bikh, poison, or drugs; 13, Rhemba, the Apsara, a beautiful and amiable woman; 14, Amrita, the beverage of immortality. In hindoo mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. Ingenious and learned authors attribute this universality of serpent forms to the early and all-pervading prevalence of sin, which in this identical shape, old as the days of Eve when there was but one woman; its prevalence, now there are so many, this is no place to discuss. Krishna crushing, but not destroying, the type of sin, has been largely discussed. Garuda is also the proverbial but not the utter, destroyer, for the spared one, they and their archetype being, in reference to created beings, eternal. His continual and destined state of warfare with the serpent, a shape mostly assumed by the enemies of the virtuous incarnations or deified heroes of the hindoos, is a continued allegory of the conflicts between vice and virtue, so infinitely personified. Garuda, at length, appears the coadjutor of all virtuous sin-subduing efforts, as the vehicle of the chastening and triumphant party, and conveys him on the wings of the winds, to the regions of eternal day.

Though an attempt to explain the origin of evil by the war between the old serpent and the human race finds a place in the book of Genesis, it formed no part of the Jewish philosophy; it belongs to the legend on the Egyptian sarcophagus. That man fell from a state of innocence by tasting the forbidden fruit offered to him by woman, was an Egyptian, not a Jewish opinion. Mr. Boswell regards the ancient representations found in the peninsula of India of serpents carved on stones, as the work of a pre-historic race before the Scythians overspread the country; all over the country, are to be seen, on stones, representations of snakes, and throughout the peninsula, the cobra snake is worshipped by all hindoo races, under the designation of Nag-Iswara-Swami. He thinks that the Scythians brought with them to India the worship of the phallus and therewith the original idea of what subsequently became the philosophic principle of Adwaitam, the theory that there is but one soul in the universe, the soul of man being identical with that of God. The phallus is now closely associated with Siva, one of whose chief titles is Naga-bhushana, the snake adorned one, and forms a symbol in the representation of Siva, the destroyer. Siva is described as wearing serpents round his neck as ornaments, and Vishnu reclines on the serpent Adi-Sesha. The Chiun mentioned in Amos, v, 25, is supposed to be the deity Siva, Givun is a Phœnician word signifying serpent. Cabrera thinks Chivun has the same signification as Givun or Hivim, *i. e.*, descendant of Heth, son of Canaan. The Giviun or Hivites (Avims or Avites) see Deut., Joshua xiii, 23, were descendants of Cadmus and Hermione his wife, who according to Ovid's metamorphosis were changed into serpents and had divine honors paid to them. Tripoli was formerly called Chivun, Votar says I am a serpent because I am a Chivim which can also be rendered "I am a Hivite from Tripoli." Stones with the figure of a serpent engraved thereon are either placed by the hindoos beneath a holy fig tree, or under any shady grove. It is not considered lawful to point at these figures, the superstition being that such would cause the fingers of one's hand to rot off. A remedy, is, however, prescribed by biting the fingers with the teeth, and this is supposed to obviate the

danger. Though the serpent is considered a deity, the brahman studiously avoids its sight as a very bad omen. The serpent-god hears, it is said, the prayers of the devotee whose house he occasionally visits. A superstitious woman, filled with awe and fear, instead of turning the venomous god away, beseeches him to retire, and when the god dilates his hood, and sways it to and fro, she thinks that it thereby promises her safety. She will not allow her children to smell a lemon, however fragrant it may be, and warns them that the serpent-god may transform himself into a lemon and bite their noses. This refers to a story of "Pariksiti," which is still prevalent in the hindoo family circle. A Puranic hero was doomed by a sage to die of a snake-bite. In order to escape this fate, the hero retreated to a barren island, believing that as the serpent could not ford the water, he would be quite safe. But the serpent having assumed the form of a lemon swam over to the island. The lemon was beautiful to behold and the hero could not resist the temptation of smelling it. Having done so, the lemon bit the nose of Pariksiti and he fell into a swoon, and died. Of the many temples erected in their honor, the temple at Subramanya, one of the highest peaks of the Western Ghauts, is celebrated in the hindoo world. It is a square in form, with open cloisters on the four sides, and the sanctuary containing the idol "Subbarao" is in the centre. Like most of the pagodas in Canara, it falls short of those in the Carnatic in point of architecture, but is substantial and neat, being built of laterite, sandstone and granite. Many reptiles have taken up their residence within it, in holes made for the purpose. People from all directions resort to this sacred place during the December festival to perform their vows, and make purchases at the extensive cattle-fair held at the same time. Such persons as have made vows roll around the quadrangle of the pagoda, while others roll up to the pagoda from a river about a mile distant. These fanatics on their return home, bring with them some earth taken out of the sacred holes within the temple. This earth is said to possess the virtue of rendering a barren woman fruitful if she daily put it into her mouth ; and the leper rubs with it the part of the skin affected.

In the immediate neighbourhood of Madras, at Trivetoor, Washermanpettah and Perambore, are several snake temples, but one at Vasarapadi is the most famed. There are the sculptured snake stones, either of single snakes or of the two snakes intertwining in the form of the Esculapian rod, called amongst the Tamil people Naga-ga-Jeudram, also the nao naga, or nine-headed snakes; there likewise are many cobra serpents living in the numerous ant-hills, and every Sunday morning, two or three hundred men, women and children attend there to worship, to return thanks, to offer milk, raw rice, camphor, the red led and cradles. All classes of hindoos come, but brahman and vaisya women are the most numerous. There, also, is a local deity named Rangam, whose chief priest, styled kuri-chulikiravin, is a Yenadi. The existing influence of the snake-worship may be illustrated by mentioning that in A. D. 1872, a daughter born to M. R. R. Rama Chendra Rao, Esq., Deputy Commissioner of Police at Madras, a brahman gentleman of rare intellect, was named Nagamuh, or Snake-mother, because a snake was supposed to have been seen at conception.

General Cunningham says the city of Klisoboras has not yet been identified, but he feels satisfied that it must be Vrindavana, 6 miles to the north of Mathura. Vrindavana means the "grove of basil-trees," which is famed over all India as the scene of Krishna's sports with the milkmaids. But the earlier name of the place was Kalika-vartta, or "Kalika's whirlpool," because the serpent Kalika was fabled to have taken up his abode just above the town, in a kadamba tree, overhanging the Jumna. Here he was attacked by Krishna, and the rapid convolutions of his tail in his dying struggles are said to have caused the eddy, which is now known by his name. The Latin name of Clisobora is also written Carisobora and Cyrisoborka in different MSS., from which he infers that the o iginal spelling was Kalisoborka, or, by a slight change of two letters, Kalikoborta or Kalikabarta. In the Prem Sagar this whirlpool of the Jumna is attributed to the poison that was vomited forth by the serpent Kali against Krishna, when he was swimming in the river. Allusion is made to the natural increase of the serpent's poison by offerings of milk, which would seem to refer to a previous state of serpent-worship. Milk offerings are still made occasionally, but only to test the divine nature of the serpent, who is supposed to possess the most miraculous powers of drinking. As a further illustration of the great influence which the snake legends exercise on the hindoo races, it may be mentioned that in the 18th century, raja Chet Singh, of Benares, is said to have poured all the milk of the two cities of Mathura and Vrindavan down the hollow kadamb tree, and as the waters of the Jumna were not even tinged, the serpent Kalika's miraculous powers of milk-drinking were established more firmly than ever. Also, Buddha, died B. C. 543, buddhism was in

India only a struggling, lingering sect, till the time of Asoka, whose edicts B.C. 255 remain engraved on rocks. In the inscriptions of Asoka, buddhism appears as a system of pure abstract morality, no trace being exhibited of the worship of buddha himself, or of the serpent or tree. About the beginning of the christian era, however, a Naga or Turanian revelation became incorporated with it. It had at this time fallen into a state of decadence and was represented by no fewer than eighteen different sects. The buddhist school of this time was known as the Hinayana. At this time Nagarjuna appeared. The sayings of Sakya Muni had been during his life-time recorded by the Nagas, from whom Nagarjuna obtained the documents and he proclaimed them in A. D. 410. The gateways of the Sanchi Tope belong to the first half of the 1st century of the christian era, and though subsequent to the Naga revelation the sculptures scarcely indicate its existence. Buddha does not appear on the Sanchi sculptures as an object of worship. The serpent is there, but rare. The dagoba or depositary of the relics of saints is there, as also are the tree, the wheel and other emblems, and, the whole of the sculptures on the Sanchi tope may be illustrative of the Hinayana school of buddhism, at the period when other doctrines were about to be introduced. The Amravati sculptures again belong to a period 300 years later than that of Sanchi, and in them the new school of Mahayana buddhism may be studied. In these buddha is an object of worship, but the serpent is his co-equal. The dagoba tree and wheel are reverenced and the sculptures contain all the legends of the later books, though in a purer form. Hindoos, Dasya and other men, women, and animals, especially monkeys, appear in the sculptures worshipping the serpent and other gods. The serpents are all divine, five and seven-headed, and representations are numerous of the Naga angelic orders, the female Naga, with one serpent only springing from the back, the male Naga with three.

The Puranas relate that Janumajeeya was sorely afflicted with leprosy as a punishment for having killed some serpents. Hindoos believe that a man who may have killed a serpent in his former life is sure to be attacked with leprosy. The leper, whose very sight is loathsome, is regarded as the worst sort of creature on the earth. After his death, his remains must be buried, and cannot be burnt without certain peculiar rites. Also, now, at the close of the 19th century, a man who has not been blessed with offspring, and whose doom is sealed if he do not beget a son, considers that the serpent has denied him children, and thus barred his entrance to the gates of heaven. The disease of "sore eyes" is also attributed to the serpent's wrath. The worship of the serpent is therefore essential to lepers, the sore-eyed, and the childless who, to appease the wrath of the serpent, perform many costly ceremonies of "Surpa Smaskara" and "Nasamandal," for the former of these ceremonies, a day is selected either the 5th, 6th, 15th or 30th of the month. The family-priest is summoned as the director of the ceremony. The childless sinner has first to take a bath, and next to dress himself in silk, or linen garments. A spot in the house is chosen, and the family-priest sprinkling grains of rice drives away any devil that may have been lurking there. He takes his seat with the performer on two wooden stools. He gets some rice, or wheat finely pulverized, and kneading the dough makes a figure of the serpent. The holy "mantra" are then said to give the figure animation, and transform it, to all intents and purposes, into a live serpent. It is then offered milk and sugar. The image receives the worship common to other gods. After the worship, the mantra snatch away from the figure the life just imparted, for they are said to have the power of giving life and of taking it away again! After the serpent is dead, the sinner assumes the signs of mourning which consist in shaving off his beard and moustaches. Then he carries the figure on his head, and having reached the bank of a river he reverentially places it upon a pile. The figure is carefully fenced in with chips of sandal or jackwood; and camphor and melted butter are poured over it. The pile is then kindled with the fire which the performer brings with him from his house. He previously enters into a vow with the fire that it shall be solely used for the cremation of the serpent-god. The fire reduces the mass to ashes, which are carried to the river, and put into the water. The performer is considered unholy, and cannot be touched for three days. On the fourth day, the funeral of the serpent-god or "Sampaskara" ends with an entertainment to eight unmarried youths, below the age of twenty. They are considered to represent eight serpents, and are treated with the utmost respect. The performer rests satisfied for a time that the ceremony will produce the desired effect. But if such be not his good fortune he then resorts to the other ceremony 'Naga-mandal.' On one of the days named the leper gives a grand feast to a number of his caste-men and unmarried youths. The evening comes, and one of the "Deckayavara," or musicians duly summoned for the purpose, scatters on

the spot already selected some bruised rice, and inscribes the figure of a huge serpent in a large circle. The figure is worshipped, and then the musicians perform their part. They are the children of the Deva-Dasa or temple women. They drink a quantity of toddy in order to sustain them against the fatigues of the night. Their band generally consists of two pipes and several drums. They dress themselves for the occasion in women's clothes, and put on various jewels. The chief man among them pretends that he can represent the deity, and going to and fro reels about expressing the approbation of the deity by uttering some words which are attended to, as if they proceeded from the mouth of the deity itself. The musicians produce a variety of discordant sounds little suited to please an unaccustomed ear. While the drummers tap with their fingers on each side of the drum, their head, shoulders and every muscle of their bodies are in motion. The musicians, the drummers, the observers of the ceremony, and the representative of the deity keep going round the circle throughout the night, singing songs at one time in praise, at another in depreciation of the deity. To keep up their strength, the drummers have frequent recourse to the toddy bottle, and soon become intoxicated. As the night passes away, the ceremony is over.

One of the severe tests to which the leper and the childless expose themselves is as follows: On the 6th day of every month, he entertains a number of unmarried youths at dinner. Though fasting the previous day, he does not himself partake of food in their company. After dinner, and before the leaves whereon the guests had taken it have been removed, he enthusiastically rolls himself over them; but in thus rolling, if he should vomit, his labour is lost. After he has thus rolled, he has, as the next part of the ceremony, to cleanse himself in a bath, and for the remainder of the day, he cannot take any food that contains salt. A rich sudra of low birth is not allowed to observe any of these rites. But the compassionate priest comes to his aid, and offers him his services by observing them on his behalf. After they are over, the priest takes some water in his hand and pours it into that of the sudra. This process is said to transfer every merit of the ceremony to the sudra, while the priest holds himself liable for all the defects in the observance. The two annual feasts consecrated to the worship of these creeping gods, go by the name of "Naga-Panchami" and "Kukka Shesti." The one takes place about August, the other in December. A harmless dark-brown water-snake, with yellow spots, is frequently used as food by the Bayeiye, in Southern Africa. Some races in S. E. Asia, also eat snakes.—*William's Story of Nala, p.* 166; *Taylor's Hind. Myth.*; *Lubbock's Origin of Civil., pp.* 175, 176; *Moor's Pantheon, p.* 342; *Spanheim*; *Milner's Seven Churches of Asia, p.* 241; *Cunningham's Ancient Geog. of India, p.* 375.

SERPENT EAGLE, Circaetus gallicus, *Gmel.*

Common Serpent Eagle.		C. brachydactylus,	*Meyer.*
Sap-maril,	BENG.	Pamula Gedda,	TEL.
Mal-patar,	CAN.	Rawul of the Wagri.	
Samp-mar,	HIND.	Kondatelle of the Yerkali.	
Pambu Prandu,	TAM.		

This serpent eagle is found in the south of Europe, North Africa, common all over India and Asia; has been killed in Denmark, but never in the British Islands; prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food, hovering in the air, and pouncing suddenly like a stone down. It seizes with its talons the snake by the part of the head, and the snake often twines its body around the bird, and encumbers it.

(*o.*) Spilornis cheela, *Daud.* The Crested Serpent Eagle.

Falco albidus,	*Cuv.*	Circaetus nipalentis,	*Hod.*
,, undulatus,	*Vigors.*	Buteo bacha,	*Franklin.*
Circaetus ,,	*Jerd.*	,, melanotis,	*Jerd.*
Tilai-baj,	BENG.	Botta-genda,	GOND.
Sab-cheer,	,,	Murayala,	MAHR.
Furj-baj,	,,	Nalla pamula gedda,	TEL.
Goom,	CAN.		

The crested serpent eagle is found all over India, in Assam and Burmah. It lives on snakes, lizards, rats, frogs, and insects.

(*p.*) Spilornis Bacha, *Daud.* From Java and Sumatra is the Falco bido, of Horsfield.

(*q.*) Spilornis spilogaster, *Blainv.* From Ceylon and Southern India.

(*r.*) Spilornis holospilus, *Vigors.* Is from the Phillipines.

SERPENT'S EGG.

Ovum anguinum,	LAT.	Serpent's gem.
Glain naider,	CELT.	Druid's head.
Glaine nan druidhe,	,,	

It was held in high estimation by the Druids.

SERPENT GEM, a superstition still lingering in Scotland, and amongst the ruins of Tadmor.

SERPENT STONE. Shi-hwang-chin, the bezoar. Tavernier says some are almost oval, thick in the middle, and thin about the sides. The Indians, he says, report that it is bred in the head of certain serpents, but he supposed it rather to be a story of the idolater's priests, and that the stone is rather a composition of certain drugs. Whatever it be, he says it is of excellent verdure to drive any venom out of those that are bit by venomous creatures. If the person bit be not much wounded, the place

must be incised; and the stone being applied thereto, will not fall off till it has drawn all the poison to it. To cleanse it, you must steep it in woman's milk, or for want of that, in cow's milk; after the stone has lain ten or twelve hours, the milk will turn to the colour of an apostemated matter. The archbishop of Goa carrying him to his cabinet of rarities, showed him one of these stones, and after he had assured him of the rare qualities it had, gave it to Tavernier. Once as he crossed a marsh in the island of Salsete where Goa stands, one of the men that carried his pallequis, being half-naked, was bit by a serpent, and healed at the same time. He bought several, but there were none but the brahmins that sell them, which made him believe that they compound them. There are two ways to try whether the serpent-stone be true or false. The first is by putting the stone in your mouth, for then it will give a leap, and fix to the palate. The other is, by putting it in a glassful of water; for if the stone be true, the water will fall aboiling, and rise in little bubbles up to the top of the glass. There is another stone, which is called the serpent-stone with the hood. This is a kind of serpent that has a kind of hood hanging down behind the head, as it is represented in the figure. And it is behind this hood that the stone is found, many times as big as pullet's-egg. There are some serpents both in Asia and America of a monstrous bigness, 25 foot long; as was that, the skin whereof is kept in Batavia, which had swallowed a maid of 10 years of age. These stones are not found in any of those serpents that are not at least two foot long. This stone being rubbed against another stone, yields another flime, which being drank in water by the person that has the poison in his body, powerfully drives it out. These serpents are nowhere to be found, but upon the coasts of Melinde; but for the stones you may buy them of the Portuguese mariners and soldiers that come from Mozambique.—*Tavernier's Travels, p.* 155.

SERPENTINE is a term which has been applied to diallage, to crystallized and fine grained greenstone, and to a magnesian limestone, and when of the latter composition is called verd antique marble. A beautiful serpentinous marble is obtainable in the eastern part of the Cuddapah district, and in the Kurnool district. One species called noble serpentine, green and translucent, is valued as an ornamental stone. Precious serpentine exists in the Hookhoong valley, north-west of Ava, whence it is exported to China, and brought into the southern parts of the empire. It is also found in the country of the Singpho, about 8 or 9 miles to the north of a large lake, the Eng-dan-gyi, over a hilly country of 18 or 20 miles in length. At particular seasons, about a thousand men, Shans, Burmans, Chinese, Shans and Singphos, are at work in the serpentine mines. Epsom salts or sulphate of magnesia may be profitably manufactured from serpentine.—*Waterston; Faulkner; Mason; Walton's State, pp.* 38, 39; *Tomlinson.*

SERRANUS, a genus of fishes of the family Percidæ.

SERRA, the Roman name of Tyre. The place is now known to the natives by its ancient Hebrew name of Tsur, corrupted by the Greeks into Tyrus, and by the Romans into Serra.—*Robinson's Travels, Palestine and Syria, Vol.* i, *p.* 260.

SERRAS, PORT. Saws.

SERRATULA ANTHELMINTICA, *Roxb.*

Vernonia anthelmintica.

Blue flea bane,	ENG.	Nalwa bakshi,	HIND.
Worm saw wort,	,,	Kali-ziri,	,,
Somraj,	HIND.	Kakshama,	SANS.
Bakchi,	,,		

All parts of this plant are bitter. The powdered seeds are used as a worm medicine. Dr. Honigberger, at p. 261, states that Conyza anthelmintica, Vernonia anthelmintica, Serratula anthelmintica—is officinal at Lahore. It is said, that when the flea-bane is roasted, flies take to flight, and when the powder of the flea-bane is sprinkled on the floor, fleas disappear. It acts as a bitter tonic and anthelmintic, and is recommended in the treatment of skin disease, especially in porrigo and lepra. —*O'Shaughnessy, p.* 419; *Powell's Handbook, Vol.* i, *p.* 358. See Amygdala, Bane, Juglans regia.

SERRATULA CINEREA, *Roxb.* Syn. of Vernonia cinerea, *Less.*

SERRATURE, IT. Serrures, FR. Locks.

SERRI, HIND. Cicer, *sp.*

SERRURIA, one of the Proteaceæ require the same treatment as the Protea.—*Riddell.*

SERSOOTI, a town and river in Hissar.

SERSUTTY, see Kattyawar.

SERU-PADI, TAM. Coldenia procumbens, *Linn.*

SERTIP comes from "ser," and "tip," a clump of spears, "tope," a clump of trees, "tepe," a heap of earth, Sanscrit root.—*Ed. Ferrier's Journal, p.* 36. See Tope.

SERT, see Kufra.

SERVA CHETTU, TEL. Casuarina equisetifolia, also Casuarina muricata, *Roxb.* This is doubtless from the Persian, sarv, a cypress.

SERVA-DEVA, see Saraswati.

SERVARASA, see Yavana.

SERWATTY ISLES, or Sea-way isles, in the Eastern Archipelago, consist of Wetta, Kissa, Lette, Moa, Roma, Nusa, Midka, Damma, Lakor, Luan, Baba, Semata, Zeou, and

Nila, with others, too many and too small to particularize. They are situated a little to the southwest of Timor, directly north of Cambridge Gulf in New Holland. They extend about 105 miles in an easterly direction from the east end of Timor towards the south end of Timor Laut, in the Arafura sea. Clusters of hillocks covered with green rise in harmonious arrangement amid cultivated fields, where neat wood-built villages are sprinkled at intervals among groves of trees and crops of rice and maize. Beautiful edifices have been built on them, which are regularly attended by congregations of men, women and children, dressed partly in old European fashions, partly in their ancient costume, but in pious simplicity, accepting the interpretation of the christian faith. School-houses and other structures diversify the aspect of the hamlets. All the buildings are neat, all the people are industrious. Every dwelling has its garden, tastefully laid out with beds of Indian corn, tobacco, cabbages, and other productions shaded by lines of trees. In the fat pastures of the vallies herds of cattle graze.—*St. John's Indian Archipelago, Vol.* ii, *p.* 87; *George Winsor Earl in Journal of the Indian Archipelago Vol.* iv, *p.* 172. See Java, Keffing islands.

SESAMON, GREEK. Sesamum orientale.

SESAMUM INDICUM, *Linn.*

Sesamum orientale, *Linn.*	Sesamum luteum, *Retz.*
Sesamum trifoliatum, *Mill.*	Sesamum laciniatum, *W.*

The Plant.

Jyl-jylau; Duhu,	ARAB.	Semsem,	EGYPT.
Gingelly	of Bombay.	Sesamon,	GREEK.
Hnan; Hnan-ma,	BURM.	Shitelu,	MALEAL.
Indian oil grain,	ENG.	Kunjed,	PERS.
Gingelly oil plant,	,,	Tila,	SANS.
Til,	BENG., HIND.	Tel-tala,	SINGH.
Krishna-Til,	,,	Tun-pat-tala,	,,
Kala-Til,	,,	Yelloo,	TAM.
Safed-Til,	,,	Yelloo-chedi,	,,
Barik-Til,	,,	Nuvu,	TEL.
Wull-ellu,	CAN.	Nuvulu,	,,

The Oil.

Jiritch,	ARAB.	Raughan,	PERS.
Mit'ha-til-ka-tel,	HIND.	Nal-yennai,	TAM.
Mutha tel,	,,	Munchi noonay,	TEL.
Til ka tel,	,,		

The Seed.

Sumsum,		Taila,	SANS.
Bareek Til,	DUK.	Benjam,	SUMATRA.
Wullu ellu; Ellu,	CAN.	Yelloo,	TAM.
Teel, Jingelly, GUZ.,	HIND.	Koory-elloo,	,,
Kunjed,	PERS.	Nowoolo,	TEL.

There are two strongly marked varieties of this plant under cultivation. Black sesamum and white or yellow sesamum, which possess the same properties, and in commerce are met with both in a mixed and separate state. It is an annual plant growing all over India, but cultivated there and in Egypt, the Levant, West Indies and South America. It is an annual, and in a good soil grows generally to be about three or four feet high. In the Dekhan, it is a common plant springing up in waste places, and flowering towards the close of the rains. Roxburgh states that his figure of this plant, called Sesamum indicum by Linnæus, is the Krishna til of the hindoos, which Roxburgh regards as a variety of his S. orientale. It is larger, more ramous, the stem and branches tinged with a rusty reddish colour, the leaves a darker green, but in form and structure the same. The flowers are deeply tinged with red and seed of a darker colour. There are great differences, however, in the seed and harvest times, the white variety being sown in Bengal in February, and the crop got in three months afterwards, so that the dews and the little remaining moisture of the earth, are the only sources of humidity by which it can benefit, as this is generally a period of drought. The black variety of Sesamum indicum is sown on high places, about the beginning of the rains, June, and the crop cut down in September.

The first sort Gingelly, in the Northern Circars, is the produce of the plant, which is sown in the month of March, after the rice crop, and is irrigated twice, once at sowing and once afterwards. The seed, which is black, is called 1st sort gingelly, from the fact of its yielding the largest per centage of oil, it ripens in May, and sells at the rate of Rs. 60 per candy of 500 lbs. The oil obtained from both varieties, sells at the same price, viz., Rs. 2-14-6 to Rs. 3 per maund of 25 lbs. according to quality.

The second sort Gingelly of the Northern Circars is sown in June, and produces a red seed. The plant although a little larger, resembles in most respects the former, it has, however, a somewhat longer leaf, and the flower differs a shade or two in colour. A candy of 500 lbs. of this seed sells at Rs. 57-8-0. The price of the oil is the same as that of gingelly. About A. D. 1845 this seed began to be exported to France, in consequence of which the price doubled. The black-seeded variety has a deep red, or deep rose coloured blossom; while the flower of the white-seeded variety is of a pale purple or whitish rose colour. Both varieties are cultivated in various countries, but especially in India, Egypt, and Syria, and in Southern Asia. They have also been taken to the West Indies, where the plant is called Banglo or Wanglo and Oil-plant. The seeds are slightly oval, small, tasteless and inodorous. Sesamum seeds are sometimes added to broths, frequently to cakes by the Jews, and likewise in the east. It is about the same size as mustard seed, only not round. The expressed oil is as clear and sweet as that from almonds, and probably the Behens oil used

in varnish, is no other. It is called by the Arabs "Siriteth," and the seed "bennie" in Africa. In Mysore, after being cut it is stacked a week, then exposed to the sun for three days, but gathered into heaps at night; and between every two days of such drying it is kept a day in the heap. By this process, the pods burst and shed their seeds without thrashing. Any disparity of colour observed in this oil is to be attributed to the mode of preparation. The method sometimes adopted is that of throwing the fresh seeds, without any cleansing process, into the common mill, and expressing in the usual way. The oil thus becomes mixed with a large portion of the colouring matter of the epidermis of the seed, and is neither so pleasant to the eye, nor so agreeable to the taste, as that obtained by first repeatedly washing the seeds in cold water, or by boiling them for a short time, until the whole of the reddish brown colouring matter is removed, and the seeds have become pefectly white. They are then dried in the sun, and the oil expressed as usual. This process yields 40 to 44 per cent., of a very pale straw-coloured sweet smelling oil, an excellent substitute for olive oil. In India, the oil is chiefly used in cookery, in anointing the person, for making soap, and for burning in lamps. In England, it is chiefly used for the manufacture of soap, and for burning in table-lamps, for which it is better suited than cocoanut oil, owing to the lower temperature at which it congeals. The value in England (January 1855) £47-10 per ton. In different parts of the Madras presidency the price of this oil varies from Rs. 1-5-0 to Rs. 6 per maund of 25 lbs. In S. Arcot it is procurable at Rs. 27-12-5 per candy. The prices per maund of this oil, at the undermentioned stations, for the quarter ending 31st October 1854, were as follow :—

Arcot............	Rs. 3	8	0	Madura.........	Rs.	5	8	3
Bangalore......	,, 3	7	8	Mangalore.....	,,	4	1	8
Bellary..........	,, 3	2	0	Nagpore.......	,,	1	12	0
Berhampore...	,, 2	8	0	Palamcotta ...	,,	4	12	0
Cannanore.....	,, 6	0	0	Paulghaut.....	,,	3	7	0
Cuddapah......	,, 2	13	0	Samulcotta....	,,	2	10	8
Jaulnah........	,, 2	6	0	Secunderabad.	,,	2	8	11
Jubbulpore....	,, 1	5	0	Trichinopoly..	,,	4	1	8
Madras.........	,, 3	14	0	Vellore.........	,,	3	14	0
Masulipatam..	,, 3	9	0	Vizagapatam..	,,	3	2	0

Second sort Gingelly Oil, erroneously called "Rape," (Kharasanee yelloo), is obtained from the red-seeded variety. This oil differs but little from the one abovementioned. In Tanjore, it is procurable at Rupees 3 per maund.

Gingelly Seed.

Year 1847-48.	Year 1848-49.
Qr. 17,518...Rs. 160,184	Qr. 8,594...... Rs. 1,02,726
Year 1849-50.	Year 1850-51.
Cwt. 1,44,125,Rs. 299,412	Cwt. 2,27,779, Rs. 4,37,185
Year 1851-52.	Year 1852-53.
Cwt. 1,09,414, Rs. 302,559	Cwt. 2,51,613, Rs. 5,31,664

Gingelly Oil.

Year 1847-48.	Year 1848-49.
Gl. 19,520......Rs. 14,766	Gl. 14,686......... Rs. 11,535
Year 1849-50.	Year 1850-51.
Gl. 52,721......Rs. 36,294	Gl. 77,262......... Rs. 48,605
Year 1851-52.	Year 1852-53.
Gl. 46,196......Rs. 26,722	Gl. 72,607 ....Rs. 43,608

Of the gingelly seed exported from Madras in 1852-53, the United Kingdom received cwt. 12,713—Ceylon, cwt. 590—France, cwt. 2,87,225—Pegue, cwt. 741—Bombay cwt. 113—Malacca, cwt. 33, and Travancore, cwt. 148. Of the quantity of oil (72,607 gals.) exported in the same year—gals. 42,043 were shipped to the United Kingdom—gals. 2,963 to Ceylon—gals. 4,232 to Mauritius and Bourbon—gals. 19,698 to Pegue—gals. 46 to Bengal—gals. 27 to the French (Indian) ports, and gals. 3,598 to Malacca. The oil might be substituted for olive oil; in Egypt, India, Kashmir, China, and Japan, it is used both for cooking and burning. It will keep for many years and not acquire any rancid smell or taste, but in the course of a year or two becomes quite mild, so that when the warm taste of the seed, which is in the oil when first expressed, is worn off, it is used for all the purposes of salad oil if divested of its mucilage, it competes with oil of olives, it can be raised in any quantity in the British Indian presidencies. It is sufficiently free from smell to admit of being made the medium for extracting the perfume of the jasmine, the tuberose, narcissus, and of the yellow rose. The process is managed by adding one weight of flowers to three weights of oil in a bottle, which being corked is exposed to the rays of the sun for forty days, when the oil is supposed to be sufficiently impregnated for use. Gingelly oil is used in India to adulterate oil of almonds. The flour of the seed, after the oil is expressed, is used in making cakes, and the straw serves for fuel and manure. The oil is much used in Mysore for dressing food, and as a common lamp oil. From 200 to 400 quarters under the name of Niger seed are imported annually into Liverpool for expressing the oil. Sesamum seed contains about 45 per cent. of oil. It is largely cultivated in Tenasserim by the Karen, who bring the seeds to market and sell them to the Burmese, and they express the oil.

In Bengal, S. orientale is sown during February and the crop harvested at the end of May; but S. indicum is sown on high, dry soil, in the early part of the rains of June, and the harvest occurs in September.

About Poonah it is sown in June and harvested in November.

In Nepaul two crops are obtained annually; one is sown as a first crop in April and May,

and reaped in October and November; the other as an autumn crop, after the upland rice, in August and September, and reaped in November and December.

A hectare of land in Algeria yields 1,475 kilogrammes of seed, which, estimated at 50 cents the kilogramme, amounts to 737 francs, whilst the cost of production is only 259 francs, leaving a profit of 478 francs (nearly £20).

The oil obtained from this seed is inferior to good olive oil, but is better adapted for the manufacture of soap. This plant is not unlike hemp, but the stalk is cleaner and semi-transparent. The flower also is so gaudy, that a field in blossom looks like a bed of florist's flowers, and its aromatic fragrance does not aid to dispel such delusion. It flourishes most upon land which is light and fertile. The fragrance of the oil is perceptibly weaker when obtained from seed produced on wet, tenacious soils. A gallon of seed seems to be the usual quantity sown upon an acre. In the United States it yields about 2½ gallons of oil to the bushel: the produce being about 20 bushels to the acre. Flax seed yields a gallon to the bushel. The leaf of the plant has been found an excellent remedy in the bowel complaints of children and adults, and for this purpose put or dip three or four leaves in water which they render mucilaginous, but do not impart any unpleasant taste. The Negroes cultivate it for food using the parched seeds with their meals. In Arabia, the oil (siritch, Ar.) is much used as an article of diet, for frictions, and lighting. The oil-cake mixed with honey and preserved citron is esteemed a luxury. The leaves of the plant are used as poultices. Nine pounds of the seed yield two quarts of perfectly sweet oil, which will keep many years without becoming rancid; the oil made in Persia, and thence largely exported, is called Kurit-schuk. Sesamum oil is of the sp. gr. 911, insoluble in alcohol, readily saponifies with alkalies, and combines with the oxide of lead. For all purposes of medicine and pharmacy it is when well-prepared quite equal to the best olive oil. Ainslie tells us it is highly esteemed amongst the Japanese who cultivate the plant in great abundance.—*Voigt*; *Riddell*; *Roxburgh*; *M. E. of* 1856; *Eng. Cyc.*; *Simmond's Comml. Products, p.* 535; *Ag. Rep. for* 1854 *of Com. Patents, p.* 226; *O'Shaughnessy, p.* 479; *Genl. Med. Top., p.* 200; *Ainslie's Mat. Med., p.* 266; *Malcolm's Travels in South-Eastern Asia, Vol.* i, *p.* 199; *Mason.* See Gingelly seed, Gingelly oil, Oil, Sesamum oil, Til.

SESAMUM LACINIATUM, *Willd.* Sesamum luteum, *Retz.* Sesamum trifoliatum, *Mill.* Syns. of Sesamum indicum, *Linn.*

SESAMUM OIL, Oil of Sesamum orientale.

SESARMA, the genus of painted crabs.

Sesarma tetragona, *Edws.*, Indian Ocean.
„ indica, *Edws.*, Java.
„ quadrata, *Edws.*, Pondicherry.

SESBANIA, a genus of plants of the natural order of Leguminosæ which derives its name from the Arabic name of a species which is indigenous in Egypt, also in India, viz.: S. egyptiaca, a small but elegant tree: its wood is employed for making the best charcoal, for gun-powder.

SESBANIA ACULEATA, *Pers.*, *W & A.*

S. Cochin-Chinensis.	Æ. bispinosa, *Jacq.*
Æschynomene spinulosa, *Roxb.*	Coronilla aculeata, *Willde.*
Æ. cannabina, *Roxb.*, *Kœn.*	

Jayant,	BENG.	Erra jiluga,	TEL.
Dhanicha, Dunchi,	HIND.	Voigt,	URIA.
Brihatchakramed,	„		

This hardy plant grows in the two Indian peninsulas and in Bengal, growing rapidly from six to ten feet high; and is considered an ameliorating crop. About thirty pounds of seed is allowed to the acre. It may be sown in poor, low, wet soil, without preparation. The price of Dhunicha in Bengal is about Rs. 1-8 per maund. The fibres are from six to seven feet long: but unless cut at a very early period, they are coarser and more harsh than hemp. In Bengal, the fishermen make drag-ropes for their nets, on account of its strength and durability in water. It was valued in England at £35, and would probably always fetch £30 to £35. It is an excellent fibre for common chord and twine purposes and certainly superior to jute in strength and durability. The plant is cultivated in northern India, on account of the fibres of its bark, which are coarse, but more durable than some other substitutes for hemp, especially when exposed to wet, and are therefore employed for the drag ropes and other cordage about fishing nets.

SESBANIA ÆGYPTIACA, *Pers.*

Æschynomene sesban, *Linn.*, *Roxb.*	Coronilla sesban, *Willde.*
Æschynomene indica, *Burm.*	*var.* (*a.*) Sesbania bicolor.
	var. (*b.*) Sesbania concolor.

Buro-janti,	BENG.	Jaith,	HIND.
Juyanti,	„	Kedangu,	MALEAL.
Yæ-thoo-gyee, BURM.,	JET.	Jyantika,	SANS.
Juyuntee,	HIND.	Karun chembai,	TAM.
Jaintar; jaint,	„	So'minta,	TEL.

A very elegant rapid growing shrub, or small tree of Ceylon, and British India, suitable for hedges. The var. S. bicolor has orange flowers and a vexillum purple on the outside: while the var. S. concolor has a vexillum yellow speckled with black dots and lines. It is cultivated and used as a substi-

tute for the bamboo ; its wood makes excellent gun-powder charcoal and its leaves as a cataplasm to promote suppuration. Commonly cultivated in gardens as a hedge, and for its bunches of flowers, particoloured, yellow, and occasionally white. It is a ready and quick grower, and the wood sometimes attains 2 feet in girth.—*Drs. Roxb.*, *Mason*, *Voigt.*, *J. L. Stewart*, M.D.

SESBANIA BICOLOR, and Sesbania concolor, are syns. of vars. of Sesbania ægyptiaca, *Pers.*

SESBANIA CANNABINA, the Dhanchi of Bengal, is not found wild. It is cultivated on account of the fibres of its bark, which are coarse, but more durable than some other substitutes of hemp, especially when exposed to wet, and are therefore generally employed for the drag-ropes and other cordage about fishing-nets.—*Eng. Cyc.*

SESBANIA COCHINENSIS, see Dhanchee.

SESBANIA GRANDIFLORA, *Pers.* Syn. of Agati grandiflora, *Desc.*, *W. & A.*

SESBANIA PALUDOSA ?

Æschynomene paludosa, Roxb.

Kath-sola, BENG. | Munta-jiluga mokka, TEL.

An annual, but has the appearance of an elegant tree, it is a native of wet marshy places, in the south of India.—*Roxb.* ; *Flor. Ind.*, *Vol.* iii, *p.* 333.

SESELYUS MALDODA, HIND. Leucas cephalotes.

SESHA-NAGA, in hindoo mythology, a great serpent, with a thousand heads. He is fabled to have aided Nanda to cross the Jumna when flying with the infant Krishna and to have persuaded the king of the Naga race to give the jewel which was to restore Arjuna to life. It has probably some untraceable connection with the Scythic naga race. Ananta, is a name of Sesha, the king of the serpents. Sesha means duration, and Ananta endless, in hindoo theogony, the serpent on which the deity Vishnu reposes in the intervals of creation. It was the serpent Sesha under the shade of whose hood, while resting on the Chira samudra or Sea of Milk, that Vishnu as Krishna reposed for four months. The thousand-headed serpent, is emblematic of eternity, named Ananta, meaning Endless or Infinite, the primeval serpent, on which the deity reposes in the intervals intervening between one Calpa or another creation or formation. See Adisesha, Ballaji, Calpa, Hindoo, Inscriptions, Kalpa, Lakshmi, Sesha, Tripati, Vishnu.

SESHNAGA, see Barhadratha, Inscriptions, Magadha, Yama, or Dhermarajah.

SESIN, CHIN. Pellitory.

SESODI, a rajput tribe, who take their name from their totem Sissoo, a hare.

SESOSTRIS. About 900 years after the deluge, and previous to the destruction of Troy, Sesostris, king of Egypt, started the brilliant idea which M. de Lesseps in A. D. 1869 worked out satisfactorily. The Egyptian monarch caused a canal to be cut from the Red Sea to a branch of the Nile, and had ships built for carrying traffic, but for some reason or other the enterprise did not succeed, possibly because the canal was not made deep enough, or because it was not connected merely with a branch of the Nile instead of the main stream. He is said to have sailed through Babul-mandeb, and to have founded a colony, to check the irruptions of the Scythian hordes. See India.

SESQUICARBONAS SODÆ, see Soda.

SESQUI-OXIDE OF IRON, is a shining crystalline oxide, called Surma, from its resemblance to antimony ore.

SESQUI-SULPHURET OF ANTIMONY, ENG. Sulphuret of antimony.

SESSU or Sissu, HIND. Dalbergia acuminata.

SESUVIUM ANACARDIUM, Syn. of Holigarna longifolia.

SET, appears in HIND., KARN., MAHR., TAM., TEL., in various forms, Setti, Shet, Chitti, an honorific term given to a person engaged in trade, whether hindoo, mahomedan, or Parsi.

SET, the primeval name of God, in Asia.—*Buns.*, iv, 33.

SETA, IT. Silk.

SETÆ, LAT. Bristles.

SETANG, a river of British Burmah. There is neither a road nor a river which can be traversed, at all seasons of the year, connecting the Pegu river with the Setang. In the dry season there is a mere cart road, made by the wheels of Burmese carts, which convey goods across the country at very high rates, and in the rains a creek is of course open to navigation by boats of small draft of water. An approach up that river, by entering its mouth, is a thing, which is not at all practicable on account of the Bore. During the war of 1851, the steamer "Proserpine" was directed to proceed up that river from Moulmein. The attempt appears to have been made but the vessel was nearly lost by the Bore. At its entrance are numerous and extensive sand banks, the channels between which have been properly surveyed. The Tungthu dwell between the Setang and the Salwin, also in Amherst province, and are in their dialect more closely connected with the Yuma languages than with the Burman. The Tung-thu has a large glossarial agreement

with Karen, but it has special affinities with the Kumi and other Yumi dialects, and particularly with the Khy-eng. The Tung-thu are islamized Chinese and are said to resemble the Anamese, but as their dress resembles that of the Anamese, this may create deception. They occupy a portion of province Amherst, and are the only people there who understand the plough. They are esteemed good cultivators. The bore in the Setang river is stated to be at the mouth and for some miles up, thrice as high as the surf at Madras, from 25 to 30 feet. The inhabitants of Setang, however, say that unless in spring tides, at particular seasons, it never exceeded three and a half to four and a half feet in height, and was not dangerous. The tide they say is felt, as high as Shway Ghyeen, the river rising and falling about three feet. The last particulars are from the Setang chief, Moung Goung. During the neaptides in the north-east monsoon, when the wind blows directly off the land out to sea, there can be hardly any bore at all in the Setang river, but during spring tides in the course of the south-west monsoon, the bore might easily enough, attain to a perpendicular height of twenty to thirty feet. Between the south-west, or wet monsoon, and the north-east, or dry monsoon, there is no similarity whatever in the state of the weather on this coast. With the rains pouring down, at the rate of one hundred and fifty inches in the course of a monsoon, the rivers are all swollen and risen thirty to forty feet. The silting up of the alluvial deposit, at the mouth of the Pyne-Choung creek, is doubtless due to this cause. If native tradition is correct, two thousand years ago, the sea washed within eight or ten miles of the old royal city of Pegu.

SETA PAJJA, Hind. Rhamnus virgatus.

SETAR, a three stringed instrument, from sih, three, and tar, wire.—*Pottinger's Travels in Beloochistan and Sinde*, p. 29.

SETARIA ITALICA, *Beauv.* Syn. of Panicum italicum, *Linn.*

SETA-VER, Hind., of Lahore. Asparagus adscendens, *Roxb.*

SETH or Chetty, see Khatri, Set.

SETH, fourth son of Adam. See Abu-kubays.

SETHI, Sans. An honorary term in use in Western India, applied to all respectable mercantile people of the hindoo and Parsee races. See Set.

SETHIA ACUMINATA, *Arn.*

Batta-kerilla-gas, Singh.

A Ceylon tree, in the Ambagamowa and Saffragam districts, at an elevation of 1,000 to 2,000 feet, wood not known.—*Thw. E Pl. Zeyl.*, *p.* 53.

SETHIA INDICA, *DC.*, *W & A.*, *W. I*

Erythroxylon monogynum, *Roxb.*
,, areolatum, *Ains. and Wight.*
,, sideroxyloides, *Roxb.*

Deodaru,	Duk.	Simi natti,	Ta
Sembu linja maram?	Tam.	Devadaram, Thavadaram,	
Sembu-linga maram?	,,	Adavi gorenta,	T

A small tree of the drier parts of Ceylo with timber resembling sandal wood. I Gibson had not seen it in the Bombay fores Ainslie states that the wood is so fragrant, is used in Mysore as a substitute for sand wood. An empyreumatic oil or wood-t used for preserving timber employed in t construction of native boats, is obtained fro the wood.—*Thw. En. Pl. Zeyl.*, *p.* 53; *Dr Roxb.*, *Wight and Gibson*, *Voigt*, *Ainsl p.* 213; *Royle's Ill. Him. Bot.*, *p.* 133; *I E. J. R.*

SETHIA LANCEOLATA, *Wight.* . Ceylon tree growing on the banks of stream at Galagama, at an elevation of 2,000 t 3,000 feet.—*Thw. En. Pl. Zeyl.*, *Vol.* i, *p.* 5

SETHIA OBTUSIFOLIA, a tree of th Central Province of Ceylon growing at a elevation of 2,000 to 4,000 feet.—*Thw. En Pl. Zeyl.*, *Vol.* i, *p.* 54.

SETHU, a former name of the island o peninsula of Ramisseram was, "The Bridge" or causeway, from which the chiefs of th adjoining territory of Ramnad or Marawa derived their title of Sethu-pati or "Lord o the Bridge," and perhaps this name is dis guised under the form Sitia.—*Yule Cathay Vol.* i, *p.* 218.

SETIM, Port. Satin.

SETIPINNA, Bristle-finned Sprat, a small fish of the herring tribe, two species of which are found in Burmah seas. It is, however, easily distinguished by a long filament or bristle, which is attached to each pectoral fin. Both species are often called sprats by Europeans, and they belong to the same tribe. See Fishes, Sprat.

SETOLE, It. Bristles.

SETOLE : Spazzole, It. Brushes.

, Seu, Cho of Ravi, Pyrus malus, *Linn.* The apple tree.

SETROONJEE, river of Kattywar, rises in lat. 21° 15′, long. 70° 25′ E., into the Gulf of Cambay. Length 60 miles.

SE-TSANG, see Tibet.

SEUKUNDIR, see Kohistan.

SEUNI, or Seoni, in lat. 22° 6′, long. 79° 33′, in Berar, near the left bank of the Wyngauga, 82 miles S. S. W. of Jabulpur. The mean height of the cantonment is 2,133 feet —*Rob.*, *Schl.*

SEVA DEVA, see Inscriptions.

SEVA, or Siva-desa-paradhi, the circum-

ference of a circle of longitude in any point on the globe of the earth, removed from the equator ; or, as Europeans would say, which has latitude. The degrees of these small circles of the sphere are taken by the hindoos to be in the direct ratio of the cosines of the latitudes ; and dissolved into assignable quantities from the dimensions of the equatorial circle, which they take to contain 5,059 yojana. Siva-desa-madhya-paradhi, is the circumference of the Terrestrial Equator. Siva-desa wydia, is a term (it seems obsolete) for the oblique ascension of a planet. This element is important in the resolution of all gnomonic problems, and for fixing the longitude of places.—*Capt. E. Warren's Second Memoir, p.* 90. See Ullagna, Yojana.

SEVAJEE, the founder of the Mahratta empire, in A. D. 1646, was encouraged by the weakness of the mahommedan sect to assume independence, in 1674 ; and when he died, in 1682, he had established his authority over the greatest part of the Concan country, which lies between the great range of hills that bounds the Dekhan on the west and the sea-coast, and is now under the Bombay government. The family of Sevaji, rajas of Sattarah, was founded in A. D. 1644 by Shah-ji, a subhadar of the Carnatic under Aurungzeb, bestowing jagires on his sons, giving Tanjore to Ekoji. His son Sevaji, the founder of the Mahratta empire, was born in 1627, he was rigid in matters connected with the hindoo religion. When only 16 years old, he headed a band of people residents of the Mawal or ravines of the ghauts, and subsequently by incessant predatory excursions largely extended his possessions. In 1664 he plundered Surat. In 1659 he treacherously stabbed Afzul Khan, a general of the Adil Shahi family, at an interview. He was alternately making aggressions on the Moghul territories and making treaties with their ruler Aurungzeb and at length, in a pitched battle he completely routed an imperial army of 40,000 men whom Aurungzeb had sent under Mahabat Khan. On the death of the king of Bejapore in 1672, Sevaji annexed all the Concan with the exception of the English, Portuguese and Abyssinian settlements, and assumed royalty at Raighur on the 6th June 1674, and for the next 18 months he was engaged in extending his possession to the south, exacting the Choutha or quarter share of the revenues and annexing the dominions of his half-brother Venkaji. He suddenly died in April 1680 at Rairee. From this time, a troubled period of usurpations occurred till 1707, when, on the death of Aurungzeb, Sevaji II, son of Sambha, nick-named Shao-ji, was released and crowned at Sattarah in March 1708. His nominal successor was Ram Raja in 1749, but the power rested with the peshwa or minister, the last of whom, Baji Rao, surrendered to and was pensioned by the British in 1818. Pertab Siva or Sinh was re-instated at Sattarah by the British on April 11, 1818, but he was dethroned in 1840 and sent to Benares, his brother being raised in his place, and the family became extinct with this brother's demise. See Mahratta Government, Polygamy.

SEVAN, 26° 25′ ; 67° 57′, in Sindh, a large town on the right side of the Indus. Dâk bungalow, 147 feet.—*Schl., Rob.*

SEVATHERIUM GIGANTEUM, a fossil ruminant discovered by Sir P. T Cautley in the Sewalik hills. See Markanda.

SEVEN is a frequently recurring quantity in the social and religious customs of several races. Amongst the Chaldean it seems to have had its origin in the seven-day periods of the lunar changes, but there are other septenarian numberings not reconcileable by this astral system. Amongst the Egyptians were the seven Kabiri genealogies. The race of Kronos and Rhea had seven sons, the seven primeval forces of the visible creation, perhaps identical with the seven Pleiades. The race of Kronos and Baaltis had seven daughters, not supposed to be connected with the Tartars. The Jewish records speak of 7, 70 times 7 and 7,000.—*Bunsen.* See Number.

SEVEN BROTHERS, a group of island on the Sawai bay.—*Bikmore,* 254.

SEVEN PAGODAS, an interesting series of monolithic temples, 34 miles south of Madras, by the natives called Maha-balipuram, the city of the great Baly. Here is the spot where the haughty Kehama, and Lorrinite, the enchantress, imprisoned the Glendovér.

> * * * "The Sepulchres
> Of the Ancient kings, which Baly in his power
> Made in primeval times ; and built above them
> A City, like the Cities of the Gods,
> Being like a God himself. For many an age
> Hath Ocean warr'd against his palaces,
> Till overwhelm'd, they lie beneath the waves,
> Not overthrown, so well the aweful Chief
> Had laid their deep foundations."

So wrote Southey, in the story of Kehama's Curse to these wondrous ruins. The traditional character of Baly was in some respects not unlike the poet's representation of the great rajah Kehama. Like Kehama, the Giant Baly had nearly raised himself to a dominion over the lower gods ; like him, he had nearly driven the Devatas from heaven, and seized for himself the Swerga throne ; when Vishnu came incarnate in the form of a brahmin dwarf, and humbled the Giant to the dust. Unlike Kehama, however, Baly re-

pented and humiliated himself before the deity; and the old tradition is well told by Southey,

"Their talk was of the city of the days
Of old, Earth's wonder once, and of the fame
Of Baly its great founder .... he whose name
In ancient story and in poet's praise,
Liveth and flourisheth for endless glory,
Because his might
Put down the wrong, and aye upheld the right,
Till for ambition, as old sages tell,
At length the universal monarch fell:
For he too, having made the world his own,
Then in his pride, had driven
The Devetas from Heaven,
And seized triumphantly the Swerga throne.
The Incarnate came before the Mighty One,
In dwarfish stature, and in mien obscure;
The sacred cord he bore,
And ask'd, for Brama's sake, a little boon,
Three steps of Baly's ample reign, no more.
Poor was the boon required, and poor was he
Who begg'd, ... a little wretch it seem'd to be;
But Baly ne'er refused a supplicant's prayer.
He on the dwarf cast down,
A glance of pity in contemptuous mood,
And bade him take the boon,
And measure where he would.
"Lo, son of giant birth,
I take my grant! the Incarnate power replies.
With his first step he measured o'er the Earth,
The second spann'd the skies.
Three paces thou hast granted,
Twice have I set my footstep, Vishnu cries,
Where shall the third be planted?
Then Baly knew the god, and at his feet,
In homage due, he laid his humble head.
Mighty art thou, O Lord of Earth and Heaven!
Mighty art thou! he said,
Be merciful, and let me be forgiven.
He ask'd for mercy of the Merciful,
And mercy for his virtue's sake was shown.
For though he was cast down to Padalon,
Yet there, by Yamen's throne,
Doth Baly sit in majesty and might,
To judge the dead, and sentence them aright.
And for as much as he was still the friend
Of righteousness, it is permitted him,
Yearly, from those drear regions to ascend,
And walk the Earth, that he may hear his name
Still hymn'd and honour'd by the grateful voice
Of all mankind, and in his fame rejoice."

SEVERNDROOG, a low island off the coast of Konkan, in lat. 17° 47½' N., long. 73° 5' E. Severndroog Fort, on the small island, is 8 miles north of Dubul. Conagee Angria took it from the Mahrattas when he revolted, as also three forts on the mainland, but in March 1755 all these were re-taken by Commodore James and restored to the Mahrattas.—*Orme.*

SEVRUGA, the species of fish which yield the European supplies of Isinglass are the Great Sturgeon, Osseter, Sevruga and Sterlet, also the Silurus glynis, Barbil, Cyprinus, Brama and Carpio and Perca lucioperca, which do not belong to the tribe of sturgeons.

SEVERUS, see Polyandry.

SEVIYAN, Hind. Vermicelli.

SEVO, It. Tallow.

SEVUKA, Sans. From sevu, to serve.

SEVUTEE, Beng. See Tectona grandis

SEW, a river near Somnee in Nagpoor.

SEWAD, see Kabul, Swat.

SEWALIK HILLS, a sub-Himalayan range, known to science for the numerous fossil remains discovered in them, fossil camels, a fossil gharial: fossil bear (ursus sivalensis); fossil tiger (felis cristata): a new fossil ruminant called Sivatherium giganteum and many other mammals and reptiles. The country below these hills seems to have become depopulated after the advent of mahomedans, the low alluvial tract, known as the Terai, is the valley formed by the junction of the Sewalik with the Himalayan inclined rocks. The Sewalik hills are covered with dense jungle, the principal trees being sal, send, sisam jamun, haldu, and chir, the two first, hard and valuable wood for building timbers; the third resembles rosewood and for furniture, the 4th and 5th are yellowish tinted woods of inferior value, while the 6th is the long-spined Himalayan pine, which grows with a curious corkscrew fruit. The Sewalik hills are about 8 to 10 miles across, and are a mass of boulder and sandstone hills, generally quite dry, but broken up into ravines, through which sudden floods or "raos" rush in the rains. The Sewalik hills, which bound the Dhoon to the south, are in height from four to six hundred feet. The Sewalik range is 155 miles long, its greatest breadth is 10 miles from Hurdwar to Roopur, S. E. to N. W. The height is from 3,000 to 3,500 ft. in the highest part, in long. 30° 17', and lat. 77° 50', is between the Timli and Lal Derwaza passes. In many places each hill might be represented by a right-angled triangle, the base resting on the pass perpendicular facing towards the plains; hypothenuse sloping towards the Dhoons, in the opposite direction. See Bara lacha, Kabul, Lat.

SEWAN, or Sehwan, a town of twelve hundred houses on the right bank of the Indus, erected on an elevation within a few hundred yards of the river, having many clumps of trees, especially to the south. The houses are built of clay, often three stories high, with wooden pillars supporting the floors. To the north of the town are the remains of a very ancient and extensive fortress, sixty of its bastions being still visible; and in the centre the vestiges of a palace still known as Raja Bhirterri-ca-Mahul, who is said to have reigned here when driven from Oojein by his brother Vicramaditya.—*Tod's Rajasthan, Vol.* ii, *p.* 333.

SEWANA MEDIYA, Singh. A fig tree, the rough leaves of which are used as sand-paper at Galle.

SEWANCHI. Jalore is one of the most

important divisions of Marwar. It is separated from Sewanchi by the Sookri and Khari, which, with many smaller streams, flow through them from the Aravalli and Aboo, aiding to fertilise its three hundred and sixty towns and villages, forming a part of the fiscal domains of Marwar. Jhalore fortress stands on the extremity of the range extending north to Sewana and guards the southern frontier of Marwar. Sewanchi is the tract between the Loonie and Sookri. Macholah and Morseen are the two principal dependencies of Jhalore. Beenmal and Sunchore are the two principal divisions to the south, each containing 80 villages. Bhadrajoon, a fief of Jhalore, has a Joda chief and Meena population. The Thul of Goga is very thinly inhabited with many sand-hills, called t'hul-ka-tiba. The t'hul of Tiruroe lies between Gogades and Jessulmer. The t'hul of Khawar is between Jessulmeer and Barmair in the most remote angle of Marwar. Barmair t'hul, also called the Malli-nat'h-ka-t'hul is occupied by cattle-breeders. The Kherdur or land of Kher, and Nuggur Gooroh on the Loonie are the chief t'hul. The Chohan rajput of the desert has on the N. and E. the above tracts of Marwar, to the south Koliwarah and the Runn, to the west the desert of Dhat. The sterile ridge which passes through Chotun to Jessulmer passes west of Bankasir on to Nuggur Parkur. The wells are 65 to 130 feet deep. The Sehrai, Khossa, Keli and Bhil inhabitants are predatory races. The Chohan rajput does not wear the zonar and does not much respect the brahmans. The Pit'hil and Bania are farmers and traders. The Runn or Rinn, is a remarkable feature of the desert. It is a salt marsh, 150 miles broad, into which the Loni or Looni or Salt river enters and then runs on to the sea. The Looni rises in the Aravalli. In Marwar it separates the fertile land from the desert, afterwards runs through the Chohan territory, dividing it into the eastern part called Raj-Bah or Sooi-Bah, and the western part called Parkur or "beyond the Khar or Looni." The Kaggar rises in the Sewalik hills, flows under Bhutnair walls and once emptied itself between Jessulmer and Rori Bukkur.—*Tod's Rajasthan, Vol.* i, *p.* 19 ; *Vol.* ii, *pp.* 289 *to* 330; *The British World in the East*; *Ritchie, Vol.* i, *p*, 7.

SEWATI-RANG, Hind. Toad-colour.

SEWI, see Kaker.

SEWING. The art of sewing is now practised in India chiefly by men, who are mahomedans. They form the class of tailors (darzi), who make the dresses of their mahomedan brethren. One is usually kept in the service of most Europeans.—*Royle's Arts, &c., of India, p.* 505.

SEWISTAN, see Affghan, Kaker.

SEWTI, Hind. Rosa centifolia.

SEWUN, Duk. Gmelina arborea, *Roxb.*

SEYARD, Ben., Hind. Euphorbia antiquorum.

SEYCHELLE ARCHIPELAGO, is an extensive group of more than thirty islands, of which Mahe is the largest. Mahe and the islands in its vicinity are of primitive rock, but well-watered with numerous streams. The desolate and barren appearance of the Seychelles, when viewed from a distance, dies away as you approach. Their mountains rise as high as 2,000 feet above the level of the sea, and are clothed with verdure to their summits, the bamboo, cocoanut, tamarind, plantain, orange, coffee-plant, mango, date and sugar-cane. A coral reef surrounds the island of Mahe, which is said to be composed of granite, and consequently forms an interesting geological feature compared with other oceanic islands. The Seychelles are likewise famous from being the only locality where the celebrated coco-de-mer (Lodoicea seychellarum, the seychelle or double cocoanut tree is found. This graceful palm attracts the stranger's attention on landing at Mahe, where several may be seen in the centre of the town. It has been introduced into the island of Mauritius, but is said not to produce fruit anywhere except in its native islands. Respecting the (Lodoicea sechellarum), many fabulous accounts were formerly related, such as, that it was produced at the bottom of the sea, the nuts being only found thrown up on the coasts of the Maldive Islands. They were called Coco de Maldivia, or Coco de Salomon, by the early Portuguese navigators. Many marvellous medical virtues were ascribed to these nuts by the physicians of the age, both Asiatic and European, and they were consequently sold at a high price. At present they form only objects of curiosity, and are well-known under the name of Double Cocoanuts. The tree yielding them was first noticed by Barre, a French officer of engineers, in 1697, then described by Sonnerat, but for the first time accurately described by Labillardiere, in Ann. Mus., Paris, ix, p. 140, t. 13. A very full description and illustrative plates have been given by Dr. Hooker, in the Botanical Magazine, (N. S., Nos. iv, v and vi, 1827) and a paper on the subject was read at the Royal Asiatic Society by a resident of the Seychelle Islands. To the inhabitants the tree is useful for its timber, which is hard externally, and employed in building their huts and for posts; the leaves and their footstalks are used for the roof, walls and partitions, and for many

other domestic purposes. The nuts weigh from 23 to 25 pounds each, and when fresh contain a white, transparent and jelly-like substance, which is edible. The shells are employed in making vessels and dishes of various kinds, and the entire nuts form articles of commerce, as they are esteemed in other countries both for their fabled virtues and as curiosities. In 1851 the Seychelle islands had a population of seven thousand, and some French capitalists residing at the Mauritius kept up large establishments chiefly for the preparation of cocoanut oil. Mahe is the chief island of both the Seychelle, Chagos and Amirante groups and is visited by the outward and inward bound Mauritius mail steamers every month. The two best harbours are Fort Victoria at Mahe, and Curience Bay at Isle Curience. In Mahe alone, Commander Hardinge, R.N., says there are 72,000 acres of waste land well-suited for cotton cultivation. In 1859 the exports of the whole archipelago amounted to about £12,000 chiefly in cocoanut oil and tortoise-shell. Indian coolies will make the group a wealth of paradise while Pegu and Assam languish for want of labour.—*Eng. Cyc.; Adams.* See Lodoicea, Sea-cocoanut.

SEYEE, near this is the ancient boundary of Vrij, marked by a pillar.—*Tr. of Hind., Vol.* ii, *p.* 116.

SEYER ISLANDS, a part of the Mergui Archipelago, bold islands, visible at sea from a distance of 24 or 27 miles. North Seyer Island is in lat. 8° 41′ N. and the body of the great island in long. 97° 39⅓′ E.

SEYR, Tel., Mahr. Euphorbia tirucalli, *Linn.*

SGAU, a Karen tribe.

SGAU TRIBES, as the sea-board is approached, the Sgau and the Pwo are found mingled together from Bassein to Mergui. They speak the Sgau dialects. They are, however, found from Mergui in lat. 12° N. to Prome and Tounghoo in lat. 19° N. a few have passed westerly into Arakan, and on the east they have wandered to the east of Zimmay over the watershed that separates the Meinam from the Salween. They are the most numerous of all the Karen tribes. They wear a white coat, with a few horizontal bands of a red colour near the bottom, and from this, they are called White Karen. Where the population is sparse they cultivate the most favourable spots, first, before hewing down the trees abjuring the departure of all evil, and then dibbling in the rice seed, which they do not sow broadcast like the Burmese, planting also cotton, capsicum, Indian corn, and Job's tears between the rows. They also fish largely, for they eat all creatures, lizards, snakes, deer, wild hog elephant, rhinoceros, wild ox, buffalo, they gather the wild cardamom, or wash for tin They have no mechanical art, but some of the women weave and embroider. Their betrothals are in infancy and the married couple early associate, but there are frequent separations. All the Sgau and the Pwo burn their dead, but a bone is taken from the ashes and in the dry season it is buried with a festival with music and dancing. The bone is placed in a booth and around it the articles belonging to the deceased are hung, with a torch at the head and another at the foot to represent the morning and evening stars. The Sgau Maunepgha, occupy the hills between the Youk-tha-wa and Meet gnan creeks, their dialect is different from the Sgau.

SGAU, Burm. Psychotria.

SGEENAM, see Kunawar.

SGURMA, a sweetmeat of Little Tibet, made from sprouting wheat, dried, pounded, and boiled, and the strained liquor added to almond or apricot oil.

SHA, Burm. Acacia catechu, *Willd.*

SHA, Burm. Bast.

SHA, Hind., of Kanawar. Fothergilla involucrata, also Parrotia jacquemontiana.

SHA, Tibetan. Ovis montana, occurs in Ladak. It browses in large flocks on the left banks of the Indus below Le. It is of the size of a stag with large wiry hair of a reddish brown colour on the back, gradually changing to white on the stomach. The chest is covered with a long fringe of dirty black hair. Its horns are massive and touch at their bases.

SHAB, Pers., night. Shab-bu, Hind. Mathiola annua, gul shabbu, Hind., is Polianthes tuberosa.

SHABAN, the eighth month of the mahomedans, also a feast so called, the Shaban feast, of Shab-i-Barat, on the 14th day of that month.

SHABGEZ. Every caravan-sarai and halting place between Danghan and Sharud is infested with a bug of this name. The extraordinarily venomous bite of this animal is well known, and as has been remarked by many travellers, if it does not kill, it causes severe illness.—*Modern Traveller; Persian Note on Meani, by Dr. Campbell; Ferrier's Journ., p.* 76.

SHAB-I-BARAT, or night of record, a mahomedan religious festival, held on the eve of the 14th of the month Shaban, it is a solemn vigil with fasting and prayers and illumination. In Northern India, lamps are lit and prayers are said in behalf of deceased ancestors. See Barat, Shaban.

SHA-BIN, Burm. Acacia catechu, *Willd.*

SHABIT, Ar. Anethum sowa, *Roxb.*, also Anethum graveolens, *Linn.*

SHAB-I-YEMENI, Pers. Alum.

SHAB-NAM, Hind. A fine kind of Dacca muslin, literally night-dew.

SHADA-BOORI, Beng. Secamone.

SHADA-HAJURMUNI, Beng. Phyllanthus niruri, Indian annual phyllanthus.

SHADA-HOORHOO-RIYA, Beng., also Shada-hurhurija, Beng. Gynandropsis pentaphylla, *DC.*

Shada-kanoor, Beng. Pancratium triflorum.

Shada-juba, Beng. Hibiscus albo-plenus.

Shada-jati, Beng. Barleria dichotoma.

Shada-jamai-pulishim, Beng. Lablab gladiatum, flore albo.

Shada-jhanji, Beng. Utricularia nivea.

SHAD-A-MANJI, Tam. Spikenard.

SHADA-NUTEEYA, Beng. Amarantus albus, eatable amaranth.

SHADAVELI, Maleal. Asparagus sarmentosus, also Asparagus adscendens, *Roxb.*

SHADDOCK, also pumplemose and pummalo, Eng. Citrus decumana, *Linn.* A large species of Citrus, commonly cultivated in the East and West Indies, for the sake of the delicate, subacid, juicy pulp, with which the fruits abound. The larger are called Pompoleon; the smaller, form the forbidden fruit of the English markets. It is named after Captain Shaddock, R. N., who introduced the Citrus decumana, *W.*, into the West Indies, and there gave to the fruit his name.—*Faulkner.*

SHADEE, lit., rejoicings, marriage. In British India, the most respectable form of mahomedan marriage. See Nikah, Polygamy.

SHADIA, see Jell.

SHADIDA KALLI, Maleal. Euphorbia antiquorum, *Linn.*

- SHADILINGUM, or Enghillicum, Tam. also Jadilingum, Tel. Cinnabar.

SHADIPA, Sans. Hemidesmus indicus, *Rheede*, *R. Brown*, *W. Ic.*, *Contr.*

SHADRE KALLI PALL, also Shadrikalli, Tam. Euphorbia antiquorum, *Linn.*

SHADU, see Kelat.

SHADUPOOR, near a river of Sylhet.

SHAEE, see Kelat.

SHAFAEE, one of the mahomedan sects.

SHAFAF, Hind. Transparent, a hard and transparent ruby, &c.

SHAFAR, or Rangchul, Hind., of Kanawar, Syringa emodi.

SHAFI. Abu Hanifa and Ibn Hanbal, mahomedan religious men, who gave rise to the schools known by their names.

SHAFRI, Hind. Syringa emodi.

SHAFTAL, Hind. Trifolium repens, clover and lucerne. See Grasses.

SHAFT-ALU, Hind. Amygdalus persica, var. Lævis.

SHAG of Kanawar, Betula bhojputra, *Wall.*; *Royle.*

SHAGAL, or Gur Shagal, is Desmodium tiliæfolium.

SHAGALI, Hind. Indigofera heterantha, Ban shaguli, Hind. is Staphylea emodi.

SHAGAR, see India.

SHAGGY-BUTTON-WEED, Eng. Spermacoce hispida, *Linn.*

SHAGHAR, Hind. Brassica rapa.

SHAGREEN.

Chagrin,	Fr.	Schagrim,	Rus.
Schagrin,	Ger.	Schagren,	,,

It is an oriental manufacture, and the method of preparing it was long kept secret. It is employed in the manufacture of small cases and boxes. The leather is prepared in Poland, Astracan in Russia, and various parts of the Levant. Shagreen differs from leather in not being tanned or tawed. It bears some resemblance to parchment, but the grain or hair side is granulated or covered with small round rough specks. It is said to be prepared from the skins of horses, wild asses and camels, those portions being preferred which cover the chine. The fillets of skin are steeped in water until the hair is sufficiently loosened to be scraped off; the skins are then stretched upon a board, and are unhaired and fleshed with a knife. Each fillet is then stretched in a frame, as in the preparation of parchment, and is moistened from time to time and gradually distended. While still moist, the grain or hair side is sprinkled over with the seeds of a kind of Chenopodium; they are hard, of a shining black colour, and about the size of poppy seed. These seeds are forced into the surface of the skin by the pressure of the feet or by means of a simple press, a piece of felt or thick stuff being laid over the seeds. In this state the skin is left to dry in the shade, and when the seeds are shaken out by beating the skin, the surface of the latter is pitted with small hollows corresponding with the forms of the seeds. The skin is now stretched on an inclined plane, by attaching its upper end to hooks and fastening weights to its lower end, it is thinned off with a half-moon knife, care being taken not to cut so far as the bottom of the little pits occasioned by the seeds. On macerating the skins in water they swell, and they become prominent over the shaven surface. The process is completed by steeping the strips in a warm solution of soda; salt brine is then used, and the skins are ready for the dyer.—*Tomlinson*; *McCall.*

SHAH, Hind., Pers. A king, also royal. The term is also given to the faqir or darvesh of India, who is often called shah: the sikhs also applied it to their founder Shah Nanuk, whom also they styled Nanuk Narin-

kar, Nanuk the omnipotent. Shah is the equivalent of the Arabic and Turkish sultan. Shahn-shah, an emperor.

SHAH, BURM. Catechu, or Cutch Tree, Acacia catechu.

SHAH, HIND. A money lender or trader: the principal in relation with an agent, shah gumashta.

SHAH ABBAS, see Hormuz, Ormuz, Kandahar.

SHAHABAD, a revenue district of Bengal, formed out of the ancient Bahar.

SHAH ABDOOLLAH, Shootare-nak.

SHAHAD, HIND., PERS. Honey.

SHAHADAT, AR. Martyrdom. From shahid, a witness.

SHAH ALAM was defeated at Patna on the 25th January 1766. Shah Alum died in his eighty-sixth year. His son Akbar Shah, died at eighty. Bahadur Shah sunk into the grave at about the same age.—*Tr. of Hind., Vol.* ii, *p.* 374.

SHAHAB-UD-DIN, in A. D. 1193 conquered India. Kutub-ud-din, successor of Shahab-ud-din, in A. D. 1205, conducted in person, a war against the northern Jit.

SHAHARANPUR, a town of the Merut district of the N. W. Provinces.

SHAH BALUT, HIND., PERS. Acorns of Quercus incana, Q. semecarpifolia, and Q. ilex.

SHAH-BAZ, HIND. Limnaetus cristatellus, *Temm.* In Sind'h the Baz or Shahbaz is the female, and the Zorru or Jurrah is the male. It is a native of Khorasan. The shah-baz gulab or yellow eye hawk is a noble bird. In Persia the Shahbaz, or hawk-king, is a large grey gos-hawk with yellow eyes, caught in the hills of Affghanistan and its surrounding regions, brought down to the plains and sold, when well reclaimed, trained, and in good condition, for 5*l.* or 6*l.* The tiercelet or male, is as usual, much smaller than the female, and is called Jurrah, in Persian, "the active." Both are uncommonly strong and ferocious. They are accounted the noblest birds; the Sher-baz, "lion-hawk," is the falcon or peregrine of Bokhara and the snowy regions.

SHAH-BU, also Shahbui, PERS. Ambergris.

SHAH BUDDEE-OOD-DEEN, or Zinda shah mudar. See Faqir.

SHAHD, HIND., PERS. Honey.

SHAH DAWUL KI ROTIAN, a mahomedan ceremony.

SHAHDHERI, the site of Taxila which Arrian, Strabo and Pliny described as so magnificent and in the treasury of which the celebrated Asoka found nine millions sterling.

SHAH DOLA, a mahomedan saint, at whose shrine oblations are offered. Shah Dola died in the seventeenth year of the reign of Alumgeer. At first a slave of Kumayandar Sialkoti in Lahore, he seems afterwards to have attained great affluence as well as fame; for having settled at Ch'hotee Goojrat (little Guzerat), he built tanks, dug wells, founded mosques, and bridges, and embellished the city. Though his contemporaries came to visit him from far and near, and made him presents of gold, money, and other objects, he returned to each three or four-fold more than he received.

SHAHD-KI-MEKHI, HIND. The honey-bee.

SHAH HUSSUN, see Hot springs, Kandahar.

SHAHID, PERS., HIND. A martyr for the faith, a mahomedan who has fallen in battle against infidels.

SHAHIN, the Bhairi or Falco calidus, so celebrated amongst Indian falconers for her boldness and power, and her tiercel, is in Sindh commonly called the Shahin. It is found only in some parts of the province. They fly at partridges, hares, bustards, curlews, herons and the saras. They are long-winged hawks or birds of "the lure," and are taught to fly high, to "wait on" the falconer, and to "make the point." Bahree or (bhairi) is the female, and the Bahree-buchee or Shahin is the male. The shaheen, the royal falcon of North India (the falco-peregrinator) has been seen in the centre of the cantonments of Dugshai while it was stooping on a Himalayan pipit.

SHAH ISMAEL, one of the first of the Suffavean kings of Persia reigned about A. D. 1,500. He was supported by seven Turkish tribes, one of whom, the Baharloo are part of the Kazzilbash.

SHAH ISMAIL, see Kajar, Kazzilbash.

SHAHIZYE, see Kelat.

SHAH JAHAN, son of Jehangir, reigned from 1627 to 1665, when he was deposed and confined by his son Aurungzeb. He was the most magnificent of the emperors of Baber's line. His revenues were thirty crores. He erected the Taj Mahal. He survived his dethronement for seven years, during which he was kept a prisoner in his own palace, but was treated by Aurungzeb with great respect. Akbar was one of the greatest sovereigns of India; his grandson, Shah Jehan, has left some noble monuments, Aurungzeb, was son of Shah Jehan. Shah Jehan's expenditure was great in his expeditions to Candahar, his wars in Balkh, and in maintaining a regular army of 200,000 horse, but he left a treasure estimated by Bernier and by Khavii Khan, from 6 to 26 millions sterling and a vast quantity of gold and silver jewels.—*Bunsen, Vol.* iii, *p.* 484. See Affghan, Fasli, Khyber, Panjab.

SHAH JAHAN; Merv, the ancient capital of the province of Margiana, was founded by Alexander the Great, and afterwards embellished by Antiochus Nicator, who gave it the name of Antiochia. It was one of the four imperial cities of Khorassan, and was long the seat of many of the sultans of Persia; but, in particular of those of the Seljukian dynasty. The fruits of Merv were finer than those of any other place, and the walls were, on all sides, surrounded with stately palaces, groves, and gardens. Here Alp Arslan, the most powerful prince of his time, reigned for a number of years, in all the pomp and splendour of oriental magnificence.—*Kinneir's Geographical Memoir*, p. 179.

SHAH JEHANPORE, a town of Rohilcund. The Shah Jehanapore massacre occurred on the 31st May 1857.

SHAH JI, father of Sivaji, was born in 1592. He was a mercenary soldier, employed by the Adil Shahi family of Bejapore. He obtained jaghirs in the south of India. He died in 1664. See Mahratta Governments in India, Sevaji.

SHAH MAKSADI, HIND. A kind of marble from Yusufzai.

SHAH MAMA, or Shah Muma, is the name of the smaller of the idols at Bamian. The words are supposed to be a corruption of Shak-muni. See Bamian.

SHAH NAMEH is one of the longest poems in the world, and contains not less than 120,000 lines. It is the great epic of the east, is a historical poem, comprising a romantic history of the kings of Persia, from the commencement until the conquest of the country by the mahomedans. See Jamshid.

SHAH NUSHEEN or Dad muhal, HIND. See Faqir.

SHAH NAWAZ, see Khyber.

SHAH NIZAM OOD DEEN OWLEEA, by some supposed to have been born at Gazna, A. H. 630 (A. D. 1622-3), and by others in A. H. 634 (A. D 1236) at Badaam, a town in the province of Delhi where he lived. He died A. H. 725 (A. D. 1325), and was buried near Delhi, hard by the tomb of Qutb-ud-Deen. Through his great piety he was considered one of the most eminent saints of Hindoostan, and oblations are offered to him.

SHAH-PASAND, HIND. Centaurea moschata.

SHAHPUR, a suburb of Belgaum in the Southern mahratta country. Belgaum is called by the compound name Shahpur Belgaum.

SHAHPUR lies on both banks of the river Jhelum. Its chief products are grain of all kinds, except rice, cotton, wool, ghee, opium, salt and saltpetre. There are no less than six hundred weaving establishments at Khosab, and about one hundred and fifty at Girot. The cloth woven in Girot and its neighbourhood has a high reputation for its fineness and durability and fetches comparatively high price. In former days nearly the whole of this cloth was carried across the frontier into Affghanistan by the Dera Ismael Khan and Peshawur routes, but of late years, a considerable portion of the trade has been diverted in the direction of Sind. The Povindia merchants are large purchasers of this cloth on their way back to their homes, and the Khoja and Piracha of Bhera convey large quantities of it to Cabul. The shearings of the large flocks in the Thull are collected by the Khutree of Noorpoor (Tuvana), who buy the wool from the sheep-owners at so much a sheep; the rate is four pothi per rupee, the produce of the shearing of each sheep being called a pothi. The average annual produce of opium is 400 maunds, worth not less than 1,60,000 rupees; nearly the whole of this leaves the district under passes, the destination of by far the greater part being Lahore and Umritsur. The standing crop is purchased by resident Khutree, who after extracting the drug either export it themselves or sell it to traders from other districts. Shahpoor and Bukkur are the head-quarters of this trade. The Wurcha salt mines in this district supply the more southern districts, the salt being entirely carried on beasts of burden. The prosperity of the town of Mianee opposite Pind Dadun Khan, is entirely dependent on the trade in salt. The Jhilam and Shahpoor districts are intersected by the Salt Range.

SHAHPOORA, a petty state in the North-west Provinces. The rajah of Shapoora is of the Sesodea Rajpoot clan, and immediately descended from a former rana of Oodeypoor. The founder of the house of Shahpoora was Sooraj Mull, a younger son of the rana, from whom the chief in A. D. 1850, was tenth in direct lineal descent. Sooraj Mull received as his portion the pergunnah of Khyrar, in Meywar, and his son also acquired from the emperor Shah Jehan of Delhi, in reward of his gallant services, a grant out of the crown lands of Ajmeer, of the Pergunnah of Phoolea, upon condition of furnishing certain horse and footmen for service. He abandoned the town of Phoolea, and founded Shahpoora. In 1850, the rajah held Khyrar under the sovereign of Oodeypore, and Shahpoora under the British Government as part of Ajmeer. His possessions are estimated to yield nearly three lakhs per annum. In 1848 he received a sunnud from Govern-

ment, fixing the amount of his tribute at rupees 10,000 per annum. In March 1862 he received a sunnud guaranteeing to him the right of adoption.—*Aitcheson's Treatise, p.* 58.

SHAHPUR, see Khuzistan.

SHAHPUR ARDASIR, see Kutch.

SHAHR, Ar. A month.

SHAHR, Pers. A town. Shahri or "citizen," is used in Persia as a term of contempt, to signify unwarlike; the soldiers of that country being all men of wandering tribes. —*Malcolm's History of Persia, Vol.* ii, *p.* 185.

SHAHREK, see Jehanabad.

SHAH-RUH, son of Timur, succeeded to his father's empire and reigned 42 years. He was not the lineal ancestor of sultan Baber. In A. H. 823-5, (A. D. 1440) as king of Herat, he sent Abd ur Razzaq, his son Jemal ud Din on a mission to the king of Vizianuggur : subsequently to Ghilan, and then to Egypt, and to Ching-tsu, the third emperor of the Ming dynasty. Of this embassy a narrative written by Khwaja Ghaias-ud-din, surnamed Nakkash or the Painter, a member of the mission, has been preserved in Abd-ur-razzak's History of Shah Rukh, and has been translated by M. Quatremere.—*Yule Cathay, Vol.* i, *p.* cxl.

SHAHR-SABZ, a city, formerly called Kesch.—*Malcolm's History of Persia, Vol.* ii, *p.* 252. See Kesh.

SHAH SHUJA UL MULK, was ruler of Kabul, for a short time, in the beginning of the 19th century. In 1812, after a series of reverses, he was seized in Peshawur, by Jehandad Khan, Governor of Attock, and until 1839, he continued at times a wanderer or a prisoner in the Punjab, and after 1816 at Loodianah. He was restored by the British in 1839, but was assassinated shortly after they left, in the reverses of 1841 and 1842.

SHAH SHAMS OOD DEEN, DARIAI is a mahomedan saint buried at Depaldal in Lahore. He is stated to have had even a pious hindoo among his disciples. The latter having expressed a wish to go and bathe in the Ganges, the saint directed him to shut his eyes, when lo! the hindoo found himself among his relations and friends on that sacred stream, in which (as he supposed) he bathed with them. On opening his eyes again, he straightway found himself beside his spiritual guide in Lahore. His tomb is guarded by hindoos, who will not resign their posts to the mahomedans. It is also related that some carpenters having proceeded to cut down a tree which grew near his tomb, split it into many pieces for use. Suddenly a dreadful voice was heard ; the earth shook, and the trunk of the tree arose of itself ; the workmen fled terrified, and the tree did not fail to resume its flourishing condition. Oblations are offered to him.

SHAH SHURF BU-ALI-QALANDAR, a ceremony.

SHAH SHURF-UD-DIN, Yahia moonayree.

SHAH SUJAH, see Khyber, Shah Shuja.

SHAH TARA, Hind. Fumaria parviflora, fumitory.

SHAH TUSH, Hind. Tus.

SHAH TUT, Hind. Morus alba, &c. M. serrata, Hind. Morus nigra, the cultivated mulberry fruit.

SHAHUM, Ar. Tallow.

SHAH-WULLEE, see Khyber.

SHAH ZAMAN, see Runjit Singh.

SHAH ZIRA, Duk. Cuminum cyminum.

SHAH-ZOUNG, Burm. Aloe. This occurs in many varieties, and is used in Burmah both for medicine and chewing with the betel. *Malcom, Vol.* i, *p.* 183.

SHAI, Hind. Brassica, *sp.*

SHAI-I-BAZI, Pers. Toys.

SHAIKH. In India, a division of the mahomedans who class themselves according to their Arab origin, Ansaria, Faroki, Koreshi, Mahaji, and Sadiki. Shaikh is the word generally applied to the principal teachers among the Sufi, and is always used by this author to describe them. Shaikh, amongst the Arab tribes, is the chief of the tribe, but the Shaikhs of the small tribes are subordinate to the greater shaikhs of the potent tribes.—*Malcolm's History of Persia, Vol.* ii, *p.* 413.

SHAIKH ABU ISHAK, of Kazerun, was patron saint of the mariners in the India and China trade, who made vows of offerings to his shrine when in trouble at sea, and agents were employed at the different ports to board the vessels as they entered and claim the amounts vowed, which generally came to large sums. Applicants to the shrine for charity also used to receive circular notes payable by parties who had vowed. When the recipient of such a note met any one owing an offering to the shrine, he received the amount on presenting his bill endorsed with a discharge.—*Ibn Batuta, Vol.* ii, *pp.* 90, 91 ; *Yule Cathay, Vol.* i, *p.* 253.

SHAIK MIRZA, chief of Farghana, father of the emperor Baber.

SHAIK SAFER, a Darvesh. See Kazzilbash.

SHAIK-UL-SHAYUKH, on the Euphrates, 154 miles from Babylon.

SHAIK ASMAN, an aqueduct which leads into Aden.

SHAIKWA, a town in Assam, 335 miles from Calcutta.

SHAIN, also Shain-kanta, Beng. Acacia suma.

SHAINWARI, see Affghan.

SHAIR, a river near the right bank of the Nerbudda in Gurrawara near Nursingpore.

SHAIR, also Dhourra, ARAB. Barley.

SHAIR-UL-JIN, ARAB. Adiantum capillus veneris, maiden-hair.

SHAISTAH KHAN. During the administration of Shaistah Khan, subadar of Bengal, the English were subjected to much oppression. He exacted a duty of 3½ per cent. on their merchandize, and his officers arbitrarily extorted large sums from the factors, till, in 1685, it was resolved to seek redress by force of arms. The hostilities of the English exasperated the emperor Aurungzeb, who ordered that the English should be expelled from his dominions. The Company's factories were seized, and their affairs were brought to the brink of ruin, when negociations for peace were set on foot, and a reconciliation was effected. In 1698 the English obtained permission from Azeem-oos Shah, grandson of Aurungzeb, and Governor of Bengal, to purchase the towns of Chuttawutty, Govindpore, and Calcutta. The sunnud is not supposed to be extant.

SHAITAN KA JHAR, HIND. Alstonia scholaris. *R. Br.*

SHAJINA, BENG. Moringa pterygosperma, *Gærtn.*

SHAJR, AR. A tree; a genealogical tree. Shajar-ul-Jin, Erythroxylon areolatum ?

SHAJRAH-MIRIAM, ARAB. Cyclomen europeum, *W.*

SHAJRAT-UL-MURR, AR. A tree of Arabia, yielding myrrh, supposed to be a species of Balsamadendron.

SHAJRAT-UL-DAB.

Akaj, AR. | Laroos, HIND.

SHAJR UL HYAT, AR. Cupressus sempervirens, *Willde.*

SHAK, BENG. The teak tree, Tectona grandis.

SHAK, HIND. Pennisetum italicum, also Brassica, *sp.*

SHAKAKAL, HIND. Sium, *sp.*

SHAKAK-UL MISRI, a medicinal root.

SHAKAR, HIND. PERS. Sugar.

SHAKAR DANA, HIND. Colebrookia oppositifolia.

SHAKARI or Shakara shora, MALEAL. Cucurbita maxima, *Duch.*; *W. & A.*

SHIKARI, HIND. A hunter, a sportsman. In the centre of the peninsula of India is a hunter race who style themselves Bhowri, but are known as Hirn Shakari and Hirn Pardi.

SHAKARKAND, HIND. Batatas edulis.

SHAKARI-SHORA, MALEAL. Cucurbita maxima, *Duch.*

SHAKARKANDI, HIND. Convolvulus pentaphylla.

SHAKAR-PITAN, HIND. Euphorbia royleana.

SHAKAR SURKH, HIND. Saccharum officinarum, "red sugar" pale molasses or moist sugar.

SHAKAR TAGHAR, HIND. Manna from Calotropis.

SHAKARTARI or Shakarkand, HIND.

SHAKAR UL ASHAR, also Shakar-ut-tighal, manna from Calotropis procera.

SHAKAS, see Inscriptions, Karli.

SHAKASI COPAL or Tree Copal, is so called to distinguish it from the fossil variety; it is known in commerce as jackass copal.

SHAKA-TUNGA, TEL. Cyperus hexastachyus. *Rottl.*

SHAKAVU, CAN. Branch of a tree.

SHAKEI, HIND. Thymus serpyllum, Missiessya hypoleuca.

SHAKENI, SANS. Mulukarang vare patte.

SHAKERA-KOOMATI. Cucurbita citrullus.

SHAKH, HIND., PERS. A branch, also a horn.

SHAKH, HIND., of Kanawar. Betula bhojputra, *Wall.; Royle.*

SHAKHA, SANS. A branch, from shakh, to overspread.

SHAKH CHINARI, HIND., lit., plane tree branch, it is a yellow colour with a suspicion of black or blue.

SHAKHI, HIND. Fraxinus floribundus.

SHAKH-I-AMBAR, PERS. Aromatic sticks used as pastilles brought from Lhassa.

SHAKH-I-HIRAN, HIND. Stag's horns.

SHAKPOOL, PERS. Cytisus cajan, *Linn.* Cajanus indicus, *Spreng; W. & A.*

SHAKINI, SANS. Moolay keeray.

SHAKONG—? Gypsum.

SHAKPA, HIND., of Chenab in Lahoul. Juniperus excelsa, J. arborea, pencil cedar.

SHAKTA, SANS., from shakti, energy.

SHAKTABHISHEKA, SANS., from shakta, a worshipper of the divine energy, and abhisheka, to anoint.

SHAKTEKAS, HIND. Ribes leptostachyum.

SHAKTI, see Sakti, Shakta, Bhavani.

SHAKAK-UL-MISRI, HIND. Eryngium planum.

SHAKUL, BENG., HIND. Cytisus cajan.

SHAL, BENG. Saul tree, Shorea robusta.

SHAL, see Kaker, Shall.

SHALA, of Ravi. Coriaria nepalensis, *W.*

SHALAKAT, HIND. Myricaria germanica.

SHALANGLI, HIND. Skimmia laureola.

SHALANGLU, HIND. Litsæa, *sp.* Machelas odoratissimus.

SHALANGRI, HIND. Daphneoleoides.

SHALAPAPRA, HIND. Hibiscus mutabilis.

SHALATA, see Chaldeo.

SHALE, a term applied to any argillaceous deposit naturally divisible into laminæ parallel to the plane of deposition. Thus there are sandy, calcareous, purely argillaceous, and carbonaceous shales ; there is also a black and a brown bituminous shale. Shales and fire clays, occur at Streepermatoor, Tripasoor, Chingleput, Mettapollium and Cuddapah.—*Tomlinson* ; *M. Exh. Jur. Rep.*

SHALEYA, SANS. Anethum sowa, *Roxb.*

SHALGHAM, HIND. Brassica rapa ; a turnip.

SHALGHAM MISRI, HIND. Convallaria verticillata.

SHALI, HIND. Pennisetum italicum.

SHALI, URIA. Bauhinia vahlii, leaves used for rolling tobacco in, as a cheroot.

SHALI, HIND., SINGH. Unhusked rice, paddy.

SHALI DAG GANCH, HIND. Rubus fruticosus.

SHALIMAR, a garden near the town of Kashmir, famed in Lalla Rookh. The Shalimar contains a building of polished black marble at the upper end of a walled garden. The term is derived, by Vigne, from Shah-ul-imarat, or Royal gardens, but it may be Shahi-mari royal-house. Mohun Lal says, its original name was 'Sholah Mah,' or the flame of the moon. The streams of water running at the four corners, give an idea of the Mahtab Bagh, a palace of Delhi. The gardens of Shalimar, made by the emperor Shah Jehan, were begun in the fourth year of his reign and finished in the thirteenth, on which occasion the emperor gave a grand festival to his court. These gardens were laid out with admirable taste, and cost the enormous sum of a million sterling. At present, their appearance does not give cause to suppose such an immense sum has been laid out upon them, but great part of the most valuable and costly materials have been carried away.—*Mohun Lal's Travels*, *p.* 14 ; *Tr. of Hind.*, *Vol.* ii, *p.* 308.

SHALIMAR, 28° 41′ ; 77° 9′, in Hindostan, 6 miles N. W. of Delhi, 847 feet.—*Schlagintweit's General Hypsometry of India*, *Vol.* ii, *p.* 115.

SHALIMBO-BANSO, TEL. Extreme height 40 feet, circumference 2½ feet. Two species of bamboo which abound in the Ganjam and Gumsur forests.—*Capt. Macdonald.*

SHALKANTA, BENG. Acacia suma.

SHALL is one of the districts of Beluchistan, where snow lies for two months of the year. The population consists of the Kassi tribe of Affghans who claim affinity with the Safi clans, but in spring and summer numerous Brahui toman range over its plains. Its capital called Shall by the Baluch, by the Affghans is called Quettah, an equivalent for Kot or fort, and the town of Shall is often called Quettah, and Kot. It is surrounded by a slight mud crenated wall, and may comprise three hundred houses. These lie at the base of a huge mound, on which stands a citadel. The bazaar is tolerably well supplied, and is a fair one for a provincial town, which appear as if newly planted, the trees being young. There are the vine, the fig, the pomegranate, the plum, the apple and pear ; mulberries and apricots are plentiful, as are also melons in their season. The valley of Shall may be about twelve miles in length, with an average breadth of three or four miles. It is well supplied with water ; and besides good wheat and barley, yields much lucern, with, it is said, some madder. The neighbouring hills—the native region of the wild sheep—provide ample pasture for very numerous flocks of the domestic animal, and Shall is proverbially celebrated for the excellency of its lambs ; many small hamlets belonging to the Sherwani Brahui are towards the south. There are likewise some castles contiguous to the town, the principal of which is owned by Samandar Khan, a Durani nobleman of note. The valley of Shall was originally held by the Kassi Affghans, who still dwell in the town and immediate vicinity. Having passed under Brahui rule, the Sherwani tribe have intruded themselves into the southern parts of the valley ; and some of the villages bordering on it, and included in the district, as Kuchilak, on the road to Peshing, and Berg, on the road to Mastung, are wholly or chiefly held by Khaka.—*Masson's Journey*, *Vol.* i, *pp.* 328-333.

SHALLOT.

Allium ascalonicum, *L.* | Gundhund, HIND.

Shallots are the mildest of the onion tribe, seed seldom ; propagated by the young bulbs like the chive ; used in sauces, salads, &c.—*Riddell* ; *Jaffrey*.

SHALMULI, BENG., HIND., SANS. The roots of Bombax heptaphyllum, supposed by natives of India to have great power in preventing the access of old age, if taken daily, and no acid swallowed.—*Powell's Hand-book*, *Vol.* i, *p.* 333.

SHALOOK, BENG., HIND. Nymphœa pubescens.

SHALPANEE, BENG. Hedysarum gangeticum, oval leaved hedysarum.

SHALPURNI, HIND. Desmodium tiliæfolium.

SHAL-SHAIN-BABULA, BENG. Acacia tomentosa.

SHALU of Chenab, Coriaria nepalensis, *W.*, also Pennisetum italicum.

SHALWI, Hind. Hedychium spicatum.

SHAM, also Sam, a tile of Krishna.

SHAM, in the East, the name of Damascus. See Barrada.

SHAMA, a name of Krishna.

SHAMA, Hind. The Cercotrichus macrourus, not unfrequently designated the Indian Nightingale. It is common to India and the Malay countries and is undoubtedly their finest song-bird; there is a second species (C. luzoniensis) in the Philippines, and a third (C. erythropterus) in Africa. The esteemed Indian songster is le Merle tricolor de longue queue of Levaillant. The Orocetes cinclochyncha is termed Shama in the Madras Presidency.—*Oiseaux d' Afrique, pl.* 114. See Bulbul.

SHAMA, Beng. Purple panic grass, also Oplismenus colonus, also Panicum frumentaceum, wheat-like panic grass or millet.

SHAMAKA, Sans., also Shamakh, Duk. Panicum miliaceum. This is the grain which in N. W. India is used, in the kharif crops, as an offering to the lares or household gods, in the Arwun ceremony. In the rubbee crops, barley is the grain used in the Arwun, as it is called in Rohilcund and the Upper Doab, but it is also called Nuwan from naia, new, and corn, when the arwun is brought home, the grain is taken out of the ear, mixed up with milk and sugar, and every member of the family tastes it seven times; the season is one of festivity. "Phoola-phoola kyun phire? G'hur arwan aya"—Why walk you so gladly? The arwan has been brought home. The Dit'hwun is a similar ceremony, when cutting the sugar-cane, part of it is brought home and spread before the saligram, and the officiating brahmin declares the fortunate moment for beginning operations, the cutting is commenced. The whole village is a scene of hilarity; and dancing and singing are the order of the day:—

> Et cererem clamore vocent in tecta; neque ante
> Falcem maturis quisquam supponat aristis,
> Quam Cereri torta redimitus tempora quercu
> Det motus incompositos, et carmina dicat.

What the ceremony of Dit'hwun is to the sugar-cane, that of Arwun is to the Shamak'h and barley grain.—*Ell. Supp. Gloss., Georg.*, ii, 350. See Arwun, Jooree, Dogur.

SHAMBAR, also dud shambar, Desmodium tiliæfolium.

SHAHZADI KHANUM was the name of Akber's eldest daughter and sister of Jahangir.—*Cal. Review, Jan.* 1871.

SHAMAL, Arab. Literally the North, but in Aden, a name given to the hot sandy north winds which occur there between the months of April and September. It is extremely oppressive, and Vanden Broeck, who visited Aden in 1614, described one vividly.

SHAMAN, a Tunguzian word, meaning exorciser of spirits. Shaman is supposed by Bunsen to be a corruption of Sramana, a term applied to Buddha and to buddhist priests in general. Shamanism found its way from India to Siberia viâ Tibet, China and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, on the acquisition of supernatural powers, on charms, incantations and other branches of Shaman witchcraft, are found in the Strangyour or Tanjur, the second part of the Tibetan canon. Shamanism means a deification of the powers of nature and a spirit-worship. According to Dr. Latham, Saman is the name given by the Turk population of the Lena, called the Yakuts, to their highest divinity. Shaman or Shamanism, are terms which seem to have originated in India, for Megasthenes in B.C.295, in his embassy from Seleucus to Sandracottus (Chandragupta), divided the philosophers of that country into the Brachman and the Sarman, Sraman or Saman. Of these latter, the most famous were such as lived a life of asceticism in the woods, clothed in the bark of trees, and feeding upon seeds and fruits. The modern Shaman, however, affects a peculiar intimacy with the divinities of the stream, cave and forest, and acts as a medium between them and their believers. He fashions rude images of what he calls deities, and in his exorcisms he works himself into a strange mixture of trance and epilepsy. Shamanism exists undisguised amongst the Shanar of Ceylon—among many of the less civilized races of India and mixed with hinduism, in almost every village. It is found amongst the races of Scythic or Tartar origin, who occupied India prior to the arrival of the Arian hindoos. But even to the present day branches of the Tamil race in the extreme south of India continue to practise fetich and shaman rites. Shamanism, amongst the Turanians was evinced by exstatic excitement. In shamanism, the superior deities are far more powerful than man, and of a different nature. Their place of abode also is far away, and accessible only to Shamans. As totemism overlies fetichism so does shamanism overlie totemism. The word is derived from the name used in Siberia, where the shamans work themselves up into a fury, supposing or pretending that in this condition they are inspired by the Spirit in whose name they speak, and through whose inspiration they are enabled to answer questions and to foretell the future. Colonel Dalton states that 'the paganism of the Ho

and Moondah in all essential features is shamanistic. Speaking of the Singe Dyaks, Sir James Brooke says, religion they have none ; and although they know the name for a god, which is probably taken from the hindoos, 'they have no priests, no idols, say no prayers, offer no offerings.' The Kol of Central India worship the sun, 'material idol-worship they have none.' In China it is observable that there is not to be found in the canonical books, the least footstep of idolatrous worship till the image of Fo was brought into China, several ages after Confucius.

From Sloudenka to Koultouk the distance is only twenty miles, but a part of this station is very bad, till the road descends to the shore of the Baikal which it reaches near a mass of rocks named Shaman Kamen. Formerly the religious fanatics executed their criminals here. Their religion and its ceremonies are founded on sorcery; they believe in good and evil spirits, and sacrifice parts of the maral to their god, whom they name Bour-khan. They give themselves little trouble about the good spirit, but for the evil one they have a great reverence. They believe him an inhabitant of our earth, that he has his abode in dense forests and rugged mountains, and that he is ever active in the midst of terrific storms. They also think that he has the power to transform man into whatever shape he pleases. With the shamans, the priesthood is hereditary ; it is a rare instance that a stranger is admitted into it. A few miles further and the Baikal is seen spreading out like a sea, and its rolling waves are heard lashing the rocky shores. The Shaman-Kamen is more distinctly seen. It is held sacred by all of the shaman creed, and they never pass it without offering up their devotions. Rude figures have been sculptured upon its surface, and formerly both men, women and children have been offered upon its summits, or hurled into the flood. On this coast there are several hot mineral springs, that of Tourkinsk is the most accessible, and has become the Buxton of Oriental Siberia. Many families from Irkoutsk spend part of their summer here, and people go more than a thousand miles to take a dip in its waters. Between this place and the Ourt Bargouzine there are other springs, in which the gushing fluid scalds the hand if placed in it. Bargouzine is famed for its sables, no skins have yet been found in any part of the world equal to them. The fur is of a deep jet-black, with the points of the hairs tipped with white, and this constitutes their peculiar beauty. For a single skin the hunter demanded the sum of eighteen pounds. The Argoun river is celebrated throughout Siberia for its carp, which are carried in the winter several thousand miles when they are produced at the tables of the wealthy as a great delicacy.

The government have a glass manufactory, and a very large tan-yard at Shilkinskoi. The leather made here has a great reputation among all the tribes beyond the Argoun and in Mongolia. It is famed even among the Russians in Siberia. Mineral springs are frequently met with on the banks of the Shilka, and some are resorted to by the natives. Some geographers say that the Onon must be considered the source of the Amoor, which, when united with Ingoda, forms the Shilka. But the Kerouln seems to be the parent to this great river of Asia. The religion of the Manyarg is shamanisim. They are exceedingly supersitious, and the priests possess great power over them, influencing all their actions even in their domestic and family intercourse. The Manjourians claim the Soungaria as parent to the Amoor, and say that that part of the river above its mouths is only an affluent.—*The Upper and Lower Amoor, pp.* 372, 382, 389, 390, 408, 411, 416, 437, 444, 450 ; *Latham* ; *Lubbock's Origin of Civil., pp.* 119, 222, 225, 227 ; *Ravenstein's Russians on the Amoor, pp.* 364, 384, 392, 464. See Krishna, Kurilians, Pariah, Shanar.

SHAM-NATH, a name of Krishna.

SHAMANTI PUVVA, TEL. Camomile.

SHAMBABLU, HIND. Vitex trifolia.

SHAMBHU, see Inscriptions.

SHAMDULUN, BENG. Elephantopus scaber, *Linn.*

SHAMEULA, MAHR. Eriodendron anfractuosum.

SHAMEEANA, HIND. A canopy.

SHAM GADHAL, HIND. Bat.

SHAMGURH, a town on the Aravulli range. The extreme breadth of Marwar lies between two points in the parallel of the capital, viz., Girap, west, and Shamgurh, on the Aravalli range, east. This line measures two hundred and seventy British miles. The greatest length, from the Sirohi frontier to the northern boundary, is about two hundred and twenty miles. From the remote angle, N. N. E., in the Deedwanoh district to the extremity of Sanchore, S. W., the diagonal measurement is three hundred and fifty miles. The limits of Marwar are, however, very irregular, and present many salient angles and abutments into other states. The most marked feature that diversifies the face of Maroo, is the river Looni, which, rising on her eastern frontier at Poshkur, and pursuing a westerly course, nearly bisects the country, and forms the boundary between the fertile and sterile lands of Maroo. But although the tracts south of this stream, be-

tween it and the Aravalli, are by far the richest part of Marwar, it would be erroneous to describe all the northern part as sterile. An ideal line, passing through Nagore and Jodpore to Bhalotra, will mark the just distinction. South of this line will lie the districts of Deedwanoh, Nagore, Mairta, Jodpoor, Palli, Sojut, Godwar, Sewanoh, Jhalore, Beenmahal and Sanchore, most of which are fertile and populous ; and we may assign a population of eighty souls to the square mile. The space north of this line is of a very different character, but this requires a sub-division ; for while the north-east portion, which includes a portion of Nagore, the large towns of Filodi, Pokurn, &c., may be calculated at thirty, the remaining space to the south-west, as Godadeo-ka-thul or desert of Goga, Sheo, Barmair, Kotra and Chotun, can scarcely be allowed ten. In round numbers, the population of Marwar may be estimated at two millions of souls. Of this amount, the Jit constitute five-eighths, the Rajputs two-eighths, while the remaining classes, sacerdotal, commercial, and servile, make up the integral number. If this calculation be near the truth, the Rajputs, men, women and children, will amount to five hundred thousand souls, which would admit of fifty thousand men capable of bearing arms, especially when we recollect that the Jit or Jat are the industrious class. The Rahtore character, stands deservedly high in the scale of the "thirty-six tribes," and although debased by the use of opium, the Rahtore is yet noble and requires only some exciting cause to show that the spirit, which set at defiance the resources of the empire in the zenith of its prosperity, is dormant only, not extinct. The Rahtore cavalry was the best in India. At one time, there were several horse-fairs, especially those of Bhalotra and Poshkur, where the horses of Cutch and Cattiawar, the jungle, and Mooltan, were brought in great numbers. Valuable horses were also bred on the western frontier, on the Looni, those of Ravdurro being in high estimation. Of soil in Marwar, viz., Baikal Chikni, Peela and Suffed, the first pervades the greater part of the country, being a light sand, having little or no earthy admixture, and only fit to produce bajra (millet), moong, moth (pulse), til (sesamum), melons and jowar. Chikni or (fat), a black earth, pervades the district of Deedwanoh, Mairta, Palli, and several of the feudal lands in Godwar.—*Tod's Rajasthan, Vol.* ii, *pp.* 162, 163, 164.

SHAMIULA, Mahr. Eriodendron anfractuosum *DC., W. & A., W. Ic.*

SHAMIR, Heb. Corundum.

SHAMI-KA-BIJ, Hind. Seeds of Clitorea ternatea.

SHAMI, Hind. Emblica officinalis.

SHAMLAH, Hind. Simla.

SHAMLOO, Turk. The Shamloo, or "Sons of Syria," are one of the most numerous of all the Turkish tribes in Persia. The Karagoozooloo, the Baharloo, and several other tribes in Persia, are branches of the Shamloo, who were brought into Persia from Syria by Timur. Ismail took full advantage of the enthusiasm of his disciples, to cherish feelings so essential for the political greatness of the empire he governed. The seven Turkish tribes, who had been the chief promoters of his glory and success, were distinguished by a particular dress : they wore a red cap, from which they received the Turkish name of Kuzel-bash, or "golden heads," which has descended to their posterity. The swords of these tribes were consecrated by these distinctions, to the defence of the shiah religion ; and a sense of that obligation has survived the existence of the family by whom it was first created. The names of these tribes were the Oostajaloo, the Shamloo, the Nikalloo, the Baharloo, the Zulkudder, the Kujur, and the Affshar. Each of these had seven subordinate tribes under them ; but this probably refers not to the eel, or tribes, but to subordinate teerah, or branches.—*Malcolm's History of Persia, Vol.* i, *pp.* 390, 391, 502, 503. See Kajar, Kazzilbash.

SHAMMAR, the 24th king of Hamyar, extended his conquests to Mosul. He defeated the Tartars at Azerbijan, subsequently he subdued Khorasan, passed into Balk and Sogd, which he re-built and called Shammar-kand, *i. e.*, Shamar destroyed it. He passed into Tibet, in one of the deserts of which he with his army was destroyed by thirst. This expedition is placed in the reign of Gushtasp, as also in that of Bahman of Persia. See Bhot, Samarcand.

SHAMMY, or Chamois leather.

Chamois,	Fr.	Camoscio,	It.
Shamischleder,	Ger.	Samschanui, Koshi,	Rus.

—*McCulloch's Com. Dic., p.* 1018. See Chamois leather.

SHAMOR, Hind. Zizyphus vulgaris.

SHAMPOO, to press the different parts of the body by the hand. The most common mode of shampooing is to knead, as it were, the body all over ; squeezing and stretching the joints at the same time. There are, however, many other ways of its being done. A writer says, a man lay down and three or four people came and patted every part of him (not even missing his face) until he went to sleep.

SHAMS, Ar. The sun.

SHAMSHAD, Hind. Myrsine africana, also, Buxus nepalensis, and Buxus sempervirens, wild box.

SHAMSHER BAHADOOR, see Mahratta Government.

SHAMS-I-TABRIZ, a great Sufi philosopher. He is said to have resided in Multan and fabled once to have drawn the sun from the heavens to cook his food.

SHAMUKEI, Hind. Taraxacum officinale.

SHAMUKHA, Hind. Panicum antidotale.

SHAN, Hind., of Jhelum. Hibiscus cannabinus, *Linn.*, *Roxb.*, *W.* & *A.*

SHAN, Hind., of Kanawar, Salix, *sp.*

SHAN. The Shan, or Tai as they call themselves, are the most extensively diffused and probably the most numerous of the Indo-Chinese races. Lapping the Burmese round, from north-west by north and east to south-west, from Assam and the Brahmaputra to the Gulf of Siam, they are found from the borders of Munnipur to the heart of Yunan and from the valley of Assam to Bankok and Kamboja; everywhere buddhist; everywhere to some extent civilised, and everywhere speaking the same language with little variation. Their traditions as also those of Siam, speak of a great kingdom held by this race in the north of the present Burmese empire, but the race is now split into a great number of unconnected principalities, and the kingdom of Siam is now perhaps the only independent Shan state in existence; all the others are subject or tributary to Ava, China, Cochin-China or Siam. In lat. 24½° to 25½ north-east of the Kakhyen, the Shan tribe occupy the left bank of the Nam Kathe or Munnipoor river between the 23rd and 24th degree of north latitude south of the Kathe, or Moi tai tribe and west of the Kubo valley; also, near Bamo on the right bank of the Irawadi with the Kakhyen on the north and on the east, mixed up with the Pwo and with the Kadoo on the south. Shan states are extensive at the forks of the rivers which in lat. 18° north form the sources of the Menam river, and in lat. 15 north and between long. 99 and 100 E., they dwell in the mountains on which grow the sappan wood forests. The Shan who are a Siamese or T'hay people, are tributary to the Burmese empire, consist of twelve petty states, the chiefs of which called Tsawbwa, are hereditary, holding from Amarapura. Of the twelve states, seven are on the west and five on the east of the Salwen. Mobye and Mohmo, the states nearest to the Red Karen, pay tribute to them. The other states are named Nyung-yu-we, Myelat, Mone, Legya, Theinne Mormeit and Thung-bain, Kaingma-Maing-maing, Maingleng-gye, Kiang-hung, Kiang-tung and Kiang-khen. The Shan are called Kabu in the Munipurian language. Those residing in Burmah are generally smaller than the Burmese, from whom they are readily distinguished by their black jackets of glazed calico and short blue breeches. The Shan country is the Laos of geographers. Leaving out of view the intruding and partially interspread Shan or Lau tribes, the Burmans march on the north with rude tribes of their own family, collectively termed Singpho (properly Sing Phol) who occupy the upper Irawadi. On the extreme north the linguistic boundaries of the Singpho are unknown. It is possible that they march with the Khampa or ruder Tibetans of the S. E., unless the snowy mountains which there form the water-shed between the Irawadi and the Tsang-po, cut them off, as is more probable, from all intercourse with their northern neighbours. The Shan or Tai, the powerful Siamese, on the extreme south-east, are the youngest, but the most powerful, member of the Shan family: and excepting the Siamese, the whole Tai race are now tributary to surrounding nations. They trace their origin to an offshoot from the Laos whom they formerly denominated Great Tai, while they called themselves Little Tai. They were originally tributary to Cambodia, but became independent in A.D. 1350.

The Ahom, on the extreme north-west, came into Assam about the beginning of the 12th century, about the same time that the Siamese went south.

Before the 13th century, the Tai formed a compact body on the east and perhaps north of Burmah, probably pressed on by the Moghuls in China, Kablai Khan having fixed himself in Assam in the time of the first Ahom chief.

The exact position of the Great Tai, the Laos of geographers, is unknown.

In the basin of the Irawaddi, the Shan are intermixed with the Tibeto-Burman tribes amongst whom they have intruded, but in large portions of it, they are the principal population and in the N. E. corner of the empire, the Khamti may be considered as independent. It is probable that the Siamese, with the tribes of the upper Me-nam and of the Mekong, are directly connected with those of Yun-nan and are not offshoots from the colony of Muang-gaung. The Siamese have advanced more than half way down the Malay peninsula, and but for the check given to them towards the close of last century, by the establishment of Pinang, as a British settlement, their sway would now have embraced Perah, and probably have extended to the confines of Malacca. The northern clans almost everywhere retain their independence,

although owning a nominal allegiance, and in some instances paying tribute to Burmah, to China, or to Siam, those on the frontiers of Yun-nan propitiating both the Golden Foot and the son of Heaven, by an acknowledgment of fealty, and some sending a triennial offering to the latter.

On the south-east of Assam are numerous Shan tribes, many of them subject to the Burmese. These belong to the Siamese or Thay group who are composed of the Siamese proper, the Khamti, the Laos and the Shan who each speak a dialect of their own, none of which are like the Burmese.

Shan and Shyan calling themselves Thi or Thai, occupy great part of Laos and Siam and bordering districts of Burmah. In personal appearance, customs and languages the Shan and Karen are but offshoots of the same stock. The Laos, the Shan and the people called Ahom were originally the same and once held Assam and Bhotan under their dominion.

The Shan race thus swarm in countless tribes over the countries stretching from the vallies between China and Tibet on the north, to the Gulf of Siam in the south, and if united, would form the most formidable state in Eastern Asia. They occupy all the territories between the Irawadi and the mountains of Anam. At Bhamo, to the north, east, and south-east of which they are numerous, the language of the Shan corresponds with that of the Siamese. Their habits, mode of living, cultivation of the ground, correspond with those of the Khyeng and Karen.

Thai is the native name of the Siamese and their chief division are Laos, Shan, Shyan, Ahom and Khamti. Their general complexion is light-brown, their hair black and abundant, nose not flattened. The name of the original conquerors, their alphabet and language was Ahom, and Ahom or Ehom was the designation of the races mixed with the royalty of Arracan and opposed to the pretensions of the king of Ava at a very early period of Burmese history.

The Siamese may be considered as having a remarkable modification of the Burmah-Chinese head, with a peculiar tendency to elongation and verticality. They have large straight faces, flat occiputs, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye and a grave expression. Siamese appears by far the most widely-spoken language of Ultra-India. It was at one time the lingua franca of Kidah, almost as much as the Malay, and even that wandering negro tribe, the Simang, spoke it in some places. It was also current in Asam and Yun-nan at the opposite extremities of Ultra-India. Cambodia, Laos of the Lu country, Luang, Phra Bang and Nan are tributary to Siam.

The Shan tribes as will have been seen, are widely distributed, from lat. 25½° N. to the gulf of Siam, in lat. 13½ N. in the vallies of the Munnipoor river, the Kyendwen river, the Irawadi, the Salwyn and the tributaries of the Menam. Furthest north the tribe occupies for about 60 miles on the left bank by the Namtomai or Kyendwen river from lat. 24½ N. About the fourteenth century of the christian era, the Lau were a powerful and conquering people in the upper portion of the basin of the Irawadi, where their capital was at Mo-gaung (Muang-gaung or Mung Khong) and whence, in A. D. 1224, they sent an expedition which subjugated Asam and established Ahom rule. Their native country was a portion of the basins of the Mekong and the Menam, including Yun-nan. About the same time, they took possession of a higher portion of the upper basin of the Mili, where their chief seat was at Khamti, whence the name by which this branch is still known. At present, the Lau, under the names of Shan and Khamti, are found in Upper Assam, and scattered over a large portion of the northern half of the basin of the Irawadi, near to the confluence of the Khyen-dwen with the principal stream. Sporadic villages are even found in Arakan, on the eastern side. The Lau, on the borders of China, differ little from the Chinese of Yunnan, and their stock was probably the same. Where they are in contact with the old races they have considerably altered. In the valley of the Menam, their height is about 1½ inches less than the average Chinese, but the average stature of the French is the same, viz., 5 feet 3 inches

The Lau or Shan race speak a language which was primarily east Himalaic, like Mon, Kambojan, Anam and Pa-long. Like them, it was carried at some remote period, into the Brahmaputra Gangetic province, and received some Dravidian roots. Subsequently it shared in the great eastern movement of Himalaic dialects from the basin of the Ganges into that of the Irawaddi, where it was intimately connected with some of the intrusive west Himalaic or Tibeto-Burman dialects. It was then pressed further into the east, into the basin of the upper Mekhong and Tongking, and became the language of Yunnan. During the Han dynasty, Chinese colonies began to occupy the valleys of Yunnan, and from that time Lau was exposed to the influence of Chinese and began to receive the modified form it possessed when the pressure of that great race on the older tribes of Yunnan caused the Lau to swarm to the west-

ward and southwaed. When they re-entered the basin of the Irawaddi, they had acquired from their partially Chinese civilization, a superiority over the Tibeto-Burman tribes of northern Ultra-India, which made the Lau clans predominant along the central belt of Ultra-India from the Himalaya to the mouth of the Menam.—*Yule, Jour. of Royal Geog. Soc., Vol.* xxvii, 1857 ; *Dr. Mason, Tenasserim* ; *Latham's Descriptive Ethnology, pp.* 157-257. See Laos, India, Karen, Siam.

SHANAL, or Shanapam, TAM. Shanamu, TEL. Crotalaria juncea, *Linn.*

SHANAR, or Sanan, a race in the south of India, about Tinnevelly and Travancore, who are toddy-drawers. They are a dark-skinned race, with low foreheads, sunken eyes and prominent cheek bones, timid and superstitious. They occupy, in considerable numbers, the districts of Madura and Tinnevelly, and are not so good-looking as the Maravar. The Rev. Dr. Caldwell has so well described the extravagant devil or demon-worship of the Shanar race in the south of India, that it may here well find a place in illustration of the varieties of forms in which what is supposed in Europe to be called hinduism appears. Every hindoo work containing allusions to native life, and the dictionaries of all the hindoo tongues, prove the general prevalence of a belief in the existence of malicious or mischievous demons, in demoniacal inflictions and possessions, and in the power of exorcisms. But the Shanar race systematically worship the demons in which they believe. Their devil-temples are called "Pe-'Koil." Some of them, especially those erected to the sanguinary form of Kali, are small mean tomb-like buildings with an image at the further end of the cloister. But the majority of the devil-temples are of a still more primitive construction. A heap of earth raised into a pyramidal shape and adorned with streaks of white-wash, sometimes alternating with red ochre, constitutes, in the majority of cases, both the temple and the demon's image ; and a smaller heap in front of the temple with a flat surface forms the altar. In such cases a large conspicuous tree—a tamarind,—an umbrella tree, or even a palmyra whose leaves have never been cut or trimmed—will generally be observed in the vicinity. This tree is supposed to be the devil's ordinary dwelling place, from which he snuffs the odour of the sacrificial blood and descends unseen to join in the feast. The devil-pyramid is sometimes built of brick and stuccoed over ; and when thus built of coherent materials it rises into something of the shape of an obelisk. The angles of the pyramid are made to correspond with the cardinal point Its height rarely exceeds eight feet and i generally less than five. This pyramida obelisk is a distinguishing characteristic o devil-worship, and appears to have n compartment in brahmanism or any othe ism in India. Dr. Caldwell often wished t discover what was supposed to be signifie by this peculiar style of image ; but neve met with any one who could give him an information. Sometimes the worshippers g to the expense of building walls and a roo for the permanent accommodation of thei demon, with a porch for the musicians. Th devil in this case being of brahminical lineage they generally erect an image to his honor in imitation of their brahminical neighbours Such images generally accord with thos monstrous figures with which all over Indi orthodox hindoos depict the enemies of thei gods, or the terrific forms of Siva or Durga. They are generally made of earthen-ware, painted white to look horrible in hindoo eyes ; with numerous upraised hands and instruments of torture and death in each, and the representation of infants crushed between their teeth ; or with buffalo-heads and huge spiked clubs. In every such case the artist borrows his realization of the fiend's character from images invented and patronized by the brahmans themselves. In the worship of the aboriginal Shanar devils, the pyramid mentioned is the nearest approach to an image which Dr. Caldwell observed. It is worthy of remark that every word which denotes an image is of Sanscrit origin, and as such must have been introduced from the brahmans. Two particulars connected with devil-worship, are essential features of the system, namely, devil-dancing and the offering of bloody sacrifices. This demonolatrous creed is found in all the hill-regions, and amongst all the semi-civilized or migratory tribes who have not yet been enslaved by the higher castes and completely subjected to brahminism, and prevails more or less throughout India especially as allied with the worship of the female powers of Siva, and in its most primitive shape, it still forms the creed of the greater part of Tinnevelly and Travancore. And though brahmans despise both devils and their worship, as also the worship of the village-gods called Amman, in times of calamity, the brahmans do not hesitate to worship the Amman and even make offerings to demons, though by stealth or through the medium of other persons. Emigrants from the Telugu country, who form a considerable portion of the population in some parts of Tinnevelly, have generally become worshippers of devils. But the system

more usually followed by this class is the worship of the satellites of the brahminical deities, or that of the female energies. Such devils, in the proper sense of the term, as they are found to worship, are of Tamil origin, as their names denote, and were probably worshipped at first from a wish to conciliate the gods of the soil. The origin of the Shanar demonolatry lies in the unknown depths of antiquity, an antiquity apparently equal to that of the worship of the elements or the heavenly bodies. If the allusions contained in the Vedas to the victories gained by the elementary deities over hostile fiends be considered mythic representation of historical facts, the worship of devils would seem to have been anterior to the Vedic system itself. Of elementary worship there is no trace whatever in the history, language, or usages of any portion of the Tamil people.

Notwithstanding their traditional use of the name of one god, practically the Shanar race are destitute of the belief in God's existence, and their only real faith is in demonolatry. They do not appear to believe in any future state or any state of rewards and punishments. When a person has died a sudden, untimely or violent death, especially if in his life-time he had been remarkable for crimes or a violent temper, his spirit is supposed to haunt the place where his body lies, or wanders to and fro in the neighbourhood, as a newly-born demon, an aerification and amplification of the bad features of the deceased person's character, a goblin which, with the acquisition of super-human power, has acquired super-human malignity. A few of the Shanar race, however, imitate the brahminical practice of ceremonies for the dead; and similarly a few are believers in the metempsychosis. The brahminical deities that have obtained a place in their esteem are honored merely with a passing bow and an annual festival. They attend the festival of Subramanya, the second son of Siva, at Trichendoor, and Shasta, the Hari-haraputra of the brahman, and the guardian of boundaries and protector of paddyfields, is worshipped to a considerable extent in his official relations. But it is demons, devils or fiends, of unmixed malignity, spirits of a jealous, watchful and vindictive temper that they worship with earnestness and assiduity as the worship of their every-day life. It is that which governs their minds, sways their wills, and influences their characters, and which they have recourse to in sickness and loss. A large portion of the devils are of purely Shanar or Tamil origin and are totally unconnected with brahmanism. A few of their demons are forms of Kali, or rather that of Amman, the earth-goddess whom the people of Southern India who follow brahmanism, have consented to regard as Kali, and whose worship is performed by a particular class of Sudra priests. Their devils were originally human beings who in their lives had made themselves objects of dread who met a violent or sudden death, and are therefore of both sexes of all ranks, and of native or foreign origin. But all of them are powerful, malicious and interfering; and all desirous of bloody sacrifices and frantic dances. The temples or images built to the honor of the different demons, also differ—as do also the insignia of the priests, who variously prefer for the sacrifice, a hog, a goat, or a cock, and Pariar demons, invariably require ardent spirits. The majority of the demons are supposed to take their abode in trees. Some wander in uninhabited wastes, or seek shady retreats. Demons occasionally take up their abode in houses, and it often happens that a devil will take a fancy to dispossess the soul and inhabit the body of one of his votaries; in which case the personal consciousness of the possessed party ceases, and the screaming gesticulating, and pythonizing are supposed to be the demon's acts. Every malady, however trivial, is supposed by the more superstitious to be inflicted by a devil, and a sacrifice is necessary for its removal; but the unusual severity or continuance of any disease, or the appearance of symptoms which are not recorded in the physician's shastra, are proofs of possession of which no Shanar can entertain any doubt. The medical science of so rude a people not being very extensive cases of unquestionable possession, are, as they think, of frequent occurrence. When a woman is heard to laugh and weep alternately without any adequate cause, or shriek and look wild when no snake or wild beast can be perceived, a Shanar can only suppose a devil to be the cause of the mischief. The native doctor, himself a Shanar, is sent for to give his advice. He brings his library with him, (he can't read, but it is all safe in his memory,)—his "complete science of medicine in one hundred stanzas, as revealed by the sage Agastya to his disciple Pulastya;" but in vain he recites his prescriptions, in vain he coins hard words. As no description of hysterical complaints is contained in his authorities, what can he do but decide that a devil has taken possession of the woman and recommend that a sacrifice be offered to him forthwith, with a cloth and a white fowl to the doctor? Sometimes the possession takes the shape of a stroke of the sun, epilepsy or catalepsy, a sudden fright, mania, or

the vertigo and stupor caused by an overflow of bile. But any ordinary disease when it seems incurable and the patient begins to waste away, is pronounced a possession. Sometimes the friends are not desirous of expelling the evil spirit all at once but send for music, get up a devil-dance, and call upon the demon to prophesy. This is particularly the case when some member of the family has long been sick, and they are anxious to know what is to be the result of the sickness, and are wishing and waiting for a demon's visit. If they desire to expel the devil, there is no lack of moving ceremonies and powerful incantations, each of which has been tried and found successful innumerable times. If the devil should prove an obstinate one and refuse to leave, charm they never so wisely, his retreat may generally be hastened by the vigorous application of a slipper or a broom to the shoulders of the possessed person, the operator taking care to use at the same time the most scurrilous language he can think of. After a time the demoniac loses his downcast, sullen look. He begins to get angry and writhe about under the slippering, and at length cries, "I go I go." They then ask him his name, and why he came there. He tells them he is such and such a devil whom they have neglected ever so long and that he wants an offering: or he calls himself by the name of some deceased relation who as they now learn for the first time, has become a demon. So soon as the demon consents to leave, the beating ceases; and not unfrequently immediate preparations are made for a sacrifice, as a compensation to his feelings for the ignominy of the exorcism. The possessed person now awakes as from a sleep and appears to have no knowledge of anything that has happened.

Native christians sometimes become similarly possessed but the Missionaries have found the attacks always yield to Tartar emetic. The demons are frequently contented with inflicting minor injuries. The failure of rain; a blight on the crops, accidents, diseases which befall cattle, losses in trade, are all considered instances of a demon's malevolence. Or, people hear a strange noise at night and immediately they see a devil making his escape in the shape of a dog as large as a hyena, or a cat with eyes like two lamps. In the dusk of the evening devils have been observed in a burial or burning ground, assuming various shapes one after another as often as the eye of the observer is turned away; and they have often been known at night to ride across the country on invisible horses, or glide over marshy land in the shape of a wandering, flickering light. In all their journeyings they move along without touching the ground: their elevation above the ground being proportioned to their rank and importance. Dr. Caldwell has known a village deserted and the people afraid even to remove the materials of their houses, in consequence of the terror caused by stones being thrown on their roofs, at night, by invisible hands. Demons more malicious still have sometimes been known under cover of the night to insert combustible materials under the eaves of thatched roofs. Even in the daytime, about the close of the hot season, when the winds fail, they may often be seen careering along in the shape of a whirlwind, catching up and whisking about in their fierce play every dry stick and leaf that happens to lie in their path. In short, the demons do much evil, but no good. They often cause terror but never bestow benefits, or evince any affection for their votaries. They must be placated by sacrifice because they are so mischievous; but there is no use of supplicating their favour. If in any case the hope of obtaining a benefit may seem to be their votary's motive in worshipping them, further inquiry proves that it is under the supposition that the demon's malignity stands in the way of what would otherwise be obtained as a matter of course. Natives think that Europeans have no reason to fear from demons, and a similar exception is sometimes made in the case of the mahomedans. The god worshipped by the mahomedans is supposed to be more powerful than the demons, and able to protect his worshippers from their assaults. The demonolaters seem to consider European christians as secure from danger. They suppose them even more than a match for any of the poor black man's goblins. In consequence of this immunity, whilst the servants and followers of a European are exposed to many alarms, their master neither sees nor hears anything unusual. When it is determined to offer a sacrifice to a devil, a person is appointed to act the part of priest. Devil-worship is not, like the worship of the hindoo deities, whether supreme or subordinate, appropriated to a particular order of men, but may be performed by any one who chooses. This priest is styled a "devil-dancer." Usually one of the principal men of the village officiates; but sometimes the duty is voluntarily undertaken by some devotee, male or female, who wishes to gain notoriety, or in whom the sight of the preparations excites a sudden zeal. The officiating priest, whoever he may happen to be, is dressed for the occasion in the vestments and ornaments appropriate to the particular devil worshipped. The object in view in

donning the demon's insignia is to strike terror into the imagination of the beholders. But the party-coloured dress and grotesque ornaments, the cap and trident and jingling bells of the performer, bear so close a resemblance to the usual adjuncts of a pantomime that a European would find it difficult to look grave. The musical instruments, or rather the instruments of noise, chiefly used in the devil-dance are the tom-tom, or ordinary Indian drum, and the horn; with, occasionally, the addition of a clarionet when the parties can afford it. But the favorite instrument, because the noisiest, is that which is called the bow. A series of bells of various sizes is fastened to the frame of a gigantic bow; the strings are tightened so as to emit a musical note when struck; and the bow rests on a large empty brazen pot. The instrument is played on by a plectrum, and several musicians join in the performance. One strikes the string of the bow with the plectrum, another produces the base by striking the brazen pot with his hand, and the third keeps time and improves the harmony by a pair of cymbals. As each musician kindles in his work and strives to outstrip his neighbour in the rapidity of his flourishes, and the loudness of the tone with which he sings the accompaniment, the result is a tumult of frightful sounds, such as may be supposed to delight even a demon's ear. When the preparations are completed and the devil-dance is about to commence, the music is at first comparatively slow, and the dancer seems impassive and sullen, and either he stands still, or moves about in gloomy silence. Gradually, as the music becomes quicker and louder, his excitement begins to rise. Sometimes to help him to work himself up into a frenzy he uses medicated draughts, cuts and lacerates his flesh till the blood flows, lashes himself with a huge whip, presses a burning torch to his breast, drinks the blood which flows from his own wounds, or drinks the blood of the sacrifice, putting the throat of the decapitated goat to his mouth. Then, as if he had acquired new life, he begins to brandish his staff of bells and dance with a quick but wild, unsteady step. Suddenly the afflatus descends. There is no mistaking that glare, or those frantic leaps. He snorts, he stares, he gyrates. The demon has now taken bodily possession of him; and though he retains the power of utterance and of motion, both are under the demon's control, and his separate consciousness is in abeyance. The by-standers signalize the event by raising a long shout attended with a peculiar vibratory noise, caused by the motion of the hand and tongue, or the tongue alone. The devil-dancer is now worshipped as a present deity, and every by-stander consults him respecting his disease, his wants, the welfare of his absent relatives, the offerings to be made for the accomplishment of his wishes, and, in short, everything for which super-human knowledge is supposed to be available. As the devil-dancer acts to admiration the part of a maniac, it requires some experience to enable a person to interpret his dubious or unmeaning replies—his muttered voices and uncouth gestures; but the wishes of the parties who consult him help them greatly to interpret his meaning. Sometimes the devil-dance and the demoniacal clairvoyance are extemporized, especially where the mass of the people are peculiarly addicted to devil-worship, and perfectly familiar with the various stages of the process. In such cases, if a person happen to feel the commencement of the shivering fit of an ague or the virtigo of a bilious headache, his untutored imagination teaches him to think himself possessed. He then sways his head from side, fixes his eyes into a stare, puts himself into a posture, and begins the maniac-dance; and the by-standers run for flowers and fruit for an offering, or a cock or goat to sacrifice to his honour. The night is the time usually devoted to the orgies of devil-dancing. And as the number of devils worshipped is in some districts equal to the number of the worshippers, and as every act of worship is accompanied with the monotonous din of drums and the bray of horns, the stillness of the night, especially during the prevalence of cholera or any other epidemical disease, is frequently broken by a dismal uproar, more painful to hear on account of the associations connected with it, than on account of its unpleasant effect on the ear and nerves. The Shanar, are about half a million in number, a sixth part have embraced christianity. Their religion is a kind of fetishism and their civilization little above that of the Negroes. The people of India are continuously making new deities or demons. On the left bank of the stream at the village of Assaye, at which Scindiah's artillery was posted during that battle, is a tree, beneath which is the tomb of an officer who fell during the battle, and his spirit is punctually worshipped by the people of Assaye and all the neighbourhood. Sir Battle Frere mentions that he accidentally found an order in existence at government house, Dapoorie, handed down by each non-commissioned officer, for the native sentry on guard to present arms if a cat or dog, jackal or goat, entered or left the house or crossed near his beat during certain

hours of the night, because it was a ghost of a former governor who is still remembered as one of the best and kindest of rulers. The rajah of Wunpurty, one of the Reddi race, who have founded small principalities along the banks of the Kistnah river, died in 1868 at Hyderabad. He had led a turbulent life and retained to the last much of the spirit of his youth. At the close of that year, an outbreak of cholera occurred in that neighbourhood, which the people attributed to the spirit of Wunpurty, and they made a clay image of him, riding on an elephant, and placed near him the clay image of a Brinjari and worshipped all with the Maha Bali sacrifice. The Shanar of Tinnevelly occupy a middle portion between the Vellaler and their Pariah slaves. Their hereditary avocation is that of cultivating and climbing the palmyra palm, the juice of which they boil into a coarse sugar. A considerable number have become land-owners and farmers and engaged in trade. They are in humble circumstance, rude and unlettered. Their traditions state that they were emigrants from Ceylon, where the Shandrar, a similar caste, still exists. They are said to have come to Tinnevelly from Jaffna, but one class of them now called Nadan, or lords of the soil, entered Tinnevelly by way of Ramnad, bringing with them the seed nuts of the palmyra of Jaffna and obtaining from the Pandya princes the sandy waste lands of Manad in the south-east of Tinnevelly. To the present day, the Nadan claim rights of seignorage over this tract. The labouring Shanar, on the other hand, are said to have come by sea, to the south of Travancore, where vast numbers of them are still to be found, and from whence they spread over Tinnevelly on the invitation of the Nadan and other land-owners, who would derive little profit from their immense forests of the palmyra palm without the aid of their poorer neighbours as climbers. Some of these emigrations have probably taken place since the christian era. The Syrian christians of Travancore assert that one portion of the Shanar race, the slaves, were brought over from Ceylon by their christian ancestors for the cultivation of the cocoanut palm. The Shanar, however, though from Ceylon, is not a buddhistic Singhalese. The traditions of this latter race connect them with Behar and the Arian or brahmanical race, while the Shanar are of the Tamil people, the descendants of early Tamil colonies or of marauding bands of Chola who frequently invaded the island both before and after the christian era, and still occupy all the north of Ceylon. The Shanar of Ceylon occupy a higher social status than those of Tinnevelly. In the south of the Peninsula the Shanar are only second to the Maravar in numbers, and more than one-half of them profess the christianity of the protestant or Romish churches. The other half follow demonology, the usual bloody sacrifices and devil-dances. In the sandy sea coast wastes of the south of the peninsula they have widely extended the cultivation of the palmyra tree, they are largely occupied in extracting the palm wine. A man will attend to about 50 palm trees. Shanar women lately wished to cover their bosoms, and their attempt to do so was interfered with by the nair race. A large portion of them are proprietors of small patches of ground in which they grow the palmyra. But the majority are as poor as the Pariar and pullar slaves of the rice-growing districts. The Nadan are in possession of extensive tracts of land, besides claiming hereditary rights of seiguorage over the lands and habitations of the Shanars, and as a class are in comfortable circumstances. Shanar or Sanan tribe, in the south of India, about Tinnevelly and Travancore, are a dark-skinned race, with low foreheads, sunken eyes and prominent cheek bones, timid and superstitious. They occupy, in considerable numbers, the districts of Madura and Tinnevelly, but are not so good-looking as the Maravar, either as to physique or features.—*Madras Government Proceedings* ; *The Reverend Dr. Caldwell on the Tinnevelly Shanar.*

SHAN BLACK DYE is obtained from the Diospyros mollis. See Dyes.

SHANDANAM, Tam. Santalum album.

SHAND, Hind., of Kohat. A third quality of land, it is allowed to be fallow, and is cultivated for paddy.

SHANDAI GUL, Hind. Tulipa stellata.

SHANDA LAGHUNE, Hind. Buxus semper-virens.

SHANDUSE, a cotton scarf, coloured border and ends, used in Khyrpoor.

SHA-NE, Burm. A bast of Aracan, of a reddish-brown colour, rough and coarse.

SHANG, the 2nd Chinese dynasty, began B. C. 1559, lasted 509 years to 1050. Twenty-eight reigns in fifteen generations.

SHANG, or Shangal, Hind. Fraxinus xanthoxylloides.

SHANGALA, Hind. Ilex dipyrena.

SHANGAM KUPI, Tam. Volkameria inermis, Clerodendron inermis.

SHANGAR, Hind. Prosopis spicigera.

SHANGARF, Pers. Cinnabar.

SHANGHAI, in lat. 31° N., and long. 121° 30, E., is situated 14 miles from the mouth of the Wu-sung river, on its northern bank. The Wu-sung opens into the Yang-tse-Kiang, below the town of Wu-sung. The

country around is flat and uninteresting. In the town of Shaughae as well as in many other large Chinese towns, there are a number of public hot water bathing establishments. There are two outer rooms used for undressing; and dressing the first and largest is for the poorer classes; the second for those who wish to be more private. A placard hung near the door, informs you what the charges are, and a man stands there to receive the money on entrance. Arranged in rows down the middle and round the sides of both rooms are a number of small boxes or lockers furnished with lock and key, into which the visitors put their clothes. The bathing-room is about 30 feet long and 20 feet wide; the water occupying the whole space except a narrow path round the sides. The water is from 1 foot to 18 inches deep, and the sides of the bath are lined with marble slabs, from which the bathers step into the water and on which they sit and wash themselves: the furance is placed on the outside and the flues are carried below the centre of the bath. In the afternoon and evening this establishment is crowded with visitors, and on entering the bath room the first impression is almost insupportable, the hot steam or vapour meets you at the door, filling the eyes and ears and causing perspiration to run from every pore of the body; it almost darkens the place, and the Chinamen seen in this imperfect light with their brown skins and long tails sporting amongst the water, render the scene a most ludicrous one to an Englishman. Shanghai, is the most northerly and most important of the five ports that have been opened to foreigners; is a heen, a district city of Sun-keang-foo, in the province of Keang-soo, is situate on the right bank of the Woo-sung river, lies in lat. 30° 25′ N., and in long. 120° 32′ E., being distant from Chusan about one hundred miles, in a north-westerly direction. The Woo-sung river flows into the Yang-tsze-kang (child of the ocean) which is called by many, and most appropriately, the the main artery of China, as it flows through many provinces, and some of the most wealthy cities of China are built upon its banks. The Woo-sung, or Shang-hae river, is deep, and easily navigable when the bearings are understood. Canal coal is found in abundance near Shang-hae. The interior of the island of Chusan is remarkably beautiful and picturesque, and no part is more beautiful than the long valley, christened by Europeans "Anstruther's Valley," as it was there that officer fell into the hands of the Chinese. Coal was used very early in China as fuel; it is mentioned by Du Halde as "black stones dug out of the mountains, which stones burn when kindled, and are used by many persons in preference to wood, of which there is abundance." It is found in the north and in the south, and probably might be had in nearly every province in the empire. At Shanghai, it has been used on board the government steamers. Le Compte assures us that there is not any country better supplied with coal than China, and he particularizes the provinces of Shan-se, Shen-se, and Chihle.—*Sirr's China and Chinese, Vol.* i, *pp.* 209, 224, 236, 424, 425; *Fortune's Wandering, p.* 262-63.

SHANGHAI BUTTER, Solid oil of Brassica chinensis.

SHANGKUPI, HIND. Volkameria inermis.

SHANGRI, or Sangri, HIND. The seed-pods of the jhand, Prosopis spicigera, one of the common shrubs of the rakh or waste lands of the Panjab.

SHANGNIZ, HIND., PERS. Ginger.

SHANI—? see Linden.

SHANI, TAM. Cow-dung, see Bratties.

SHAN OIL, a peculiar oil used in Burmah for mixing with paints. It derives its name from being made by the Shan people, from, it is said, the fruit of the wood-oil tree, a species of Dipterocarpus.

SHANK, the chank shell. See Chank, Kurma, Sankasura.

SHAN KA JOGI, see Jogi, Yogi.

SHANKANRAI, HIND., PUSHTU. Fire clay.

SHANKASH WAR, see India.

SHANK PUSHPU, HIND. Evolvulus alsinoides.

SHANKU KARAM, HIND. Dracocephalum heterophyllum.

SHANMA, HIND. The pea, Pisum sativum.

SHAN MAI, also Mai nay, BURM. Indigofera tinctoria, *Linn.*

SHANPEE ISLANDS, in the Gillolo passage, a group of three or four, extending north and south, 9 or 12 miles in about lat. 0° 30′ N. They are mostly level, of considerable size.

SHANTEE, SANS., from sham, quiet. Shantee-poora, SANS., from shantee, peace, and poora, a town.

SHAN-SE, one of the smallest provinces in China, it resembles in form an oblong lozenge, and is bounded on the north by Tartary, on the south and south-west by Ho-nan, on the east by Pe-che-le, and on the west by Shen-se.

SHAN-TUNG, is in the form of a long peninsula, extending towards Corea, dividing the Gulf of Pe-che-le from the Yellow Sea; it is bounded on the north-west by Pe-che-le, on the south-east by Ho-nan, and on the south by Keang-se. Its surface is estimated at 56,000 square miles, and the population is nearly twenty-nine millions. Besides grain, this province supplies large

quantities of fish, a great portion of which, packed in ice, is sent to Pekin by the Imperial canal. Among the vegetable oils imported into Ningpo and other Chinese ports, from Shantong, Leatong and Teisin, are "oil of teuss," obtained from green and dried peas, black oil of the fruit of the tree kin (?) and oil from the pea of Suchau.—*Fortune.*

SHANUCHI, BENG. Alternanthera sessilis.

SHAO-JI, see Sevaji.

SHA-PHYU, a bast of Aracan, long, thin, smooth layers, light-coloured, tough and flexible.

SHAPIANG, HIND. Withania coagulans.

SHAPOO, or wild sheep of Ladakh. Moorcroft in his Travels, mentions seeing one killed near Lameru.—*Adams.*

SHAPOOR ISLAND, on the Arracan coast, its north-west point is in lat. 20° 46′ N., and long. 92° 20′ E.

SHAPOOR, a city built by the monarch whose name it bore, the Sapores of Greek and Roman historians.

SHAPROCHI, HIND. Saxifraga ligulata.

SHAPUR, I., the son of Ardashir of Persia, he captured and flayed alive the Roman emperor Valerian.

SHARA, or Shara-gachh, BENG. Ramoon tree, Trophis aspera.

SHARA, BENG., HIND. Epicarpurus orientalis.

SHARAWANI, HIND., of Dera Ismail Khan, Flacourtia sepiaria.

SHARAET, TAM. Agathotes chirayta.

SHARBAT, HIND. A cooling beverage, made of lime juice or pomegranate juice, or merely sugar and water, the French Eau-sucré. When a Bedouin turns his back on a person, he intends an insult. When a man prepares coffee he drinks the first cup—the "Sharbat-i-kajari" of the Persians, and the "Sulaymani of Egypt, render this precaution necessary The Sharbat-i-kajari is the "Acquetta" of Persia, and derives its name from the present royal family. It is said to be a mixture of verdigris with milk : if so, it is a very clumsy engine of state policy, more probably a poison of more activity. In Egypt and Mosul, Sulaymani (the common name for an Affghan) is used to signify "poison." The banks of the Nile are infamous for these arts, and Mohommed Ali Pacha imported, it is said, professional poisoners from Europe.—*Burton's Pilgrimage to Meccah, Vol.* iii, *p.* 43.

SHARBATI, HIND. "Wine-coloured," a yellow or reddish husked rice.

SHAREGI, see Jehanabad.

SHARGAR, HIND. Rhododendron campanulatum.

SHARGUNDEI, HIND. Lepidium sativum.

SHARI, HIND. Prunus armeniaca.

SHARIAR, or Sarbazas, see Sassanian kings.

SHARID, HIND. Philipæa calotropidis.

SHARIFA, HIND. Anona squamosa.

SHARIVA, SANS. Sarsaparilla.

SHARKARA KUNDA, SANS. Convolvulus batatas.

SHARUNNAY, Trianthema obcordata.

SHARK.

Kalb ul bahr, AR. | Auwal, HIND. | Iyu, yu, MALAY.

The sharks belong to the cartilaginous fishes, they abound in numbers and species, and are remarkable for their wide geographical distribution. They enter rivers to a considerable distance from the sea. Shark skin is used by the native workmen for polishing wood and ivory ; and shark-fins are largely exported to China. Sharks are numerous along all the coasts of Southern Asia. In the Sunderbuns, the hammer-headed shark, (Zygæna), is occasionally caught off the Sandheads. Sharks are said to attack the fair-skinned races more frequently than men of darker hues, and the Pearl-divers of the Persian Gulf used to blacken their skins with a view to avoid these monsters. In the Gulf of Manaar they are taken for the sake of their oil, of which they yield such a quantity that "shark's oil" is a recognised export. A trade also exists in drying their fins, for which, owing to the gelatine contained in them, a ready market is found in China ; whither the skin of the basking shark is also sent to be converted, it is said, into shagreen. Ceylon divers, Mr. Kerr and his assistant Mr. Creasy, after five days proved successful in their search after the missing treasure chest, the box was found covered with sand though sufficiently raised above the bed of the sea to interfere with the free perambulations of the diver who stumbled against it and was thus led to pick it up. Mr. Kerr had heard much of the sharks frequenting the roads, but excepting that he saw a large shark moving through the water preceded by a number of pilot fish, his labors suffered no interruption of the kind most dreaded.—*Tennant's Sketches of the Nat. Hist. of Ceylon, p.* 325. See Arts and Manufactures, Fisheries, Fishes, Zygæna

SHARKS' FINS.

Paak, DUK., GUZ., HIND. | Soora meen sepputay TAM.
Iyu sirap, Yu sirap, MALAY |

Sharks are numerous and of great size in the seas of the Eastern Archipelago, and their fins are a regular article of trade for the market of China, where they are prized for their real or imaginary stimulating and restorative qualities. The name for the shark in Malay and Javanese is Iyu, or, abbreviated Yu, and this name has a very extensive currency, for it is even found in some dialects of the islands of the Pacific. Sharks' fins are largely exported from Bom-

bay and Madras to China, where they are much esteemed as a strengthening food. They are chiefly collected in the Persian and Arabian Gulfs, on the Coasts of Mekran and Malabar, and other places along the sea coasts.' The Chinese fishmongers of the Straits' Settlements, obtain sharks' fins from the same localities which supply them with fish maws. These fins are not extensively selected from sharks (Squali), but equally from (Raiæ). Quantities examined at Pinang were composed of fins of the genera Stegostoma, Carcharias, Sphyrna, Pristis, Rhinobatus, Trygon, and Myliobatis. Of all fishes, sharks and rays are the most valuable to the Chinese. The fish and entrails of all, not even the electric rays (Torpedinidæ) excepted, are eaten either fresh or dried, the skin is used for polishing or converted into shagreen; gelatine is obtained from the larger fins, glue from the smaller. All, except the caudal fins, are cut at the root so as to leave as little flesh as possible. The root is dipped in wetted lime (chunam) in the erroneous belief of preventing attacks of insects, and then the fins are dried in the sun. Those imported in Straits' Settlements are packed promiscuously in gunny bags, each containing from one-half to one pikul. According to the value in the Chinese market, the fishmongers assort the fins in two kinds, "white" and "black." The white consists exclusively of the dorsal fins, which are on both sides of a uniform light colour and reputed to yield more gelatine than the other fins. In China, the lovers of gelatinous soups pay from 30 to 40 Spanish Dollars per pikul of white fins. The pectoral, ventral and anal fins pass under the denomination of black fins. The colour, however, varies according to the species from buff to grey or brown, and most of them are of two different colours, the upper surface being dark, the lower light. The black fins, for obvious reasons the most numerous, are supposed to yield a comparatively small quantity of gelatine and sell in China from 15 to 20 Spanish Dollars per pikul. Mr. W. T. Lewis has communicated the annexed table, showing the quantity of sharks' fins imported into, and exported during 10 years from Pinang to China. The total quantities of sharks' fins imported into and exported from Prince of Wales' Island, from *1832-3 to 1842-3*, were:—

IMPORTS.			EXPORTS.		
1832—33 to 1841—42	Quantity in Pikuls	Value in Spanish Dollars	1832—33 to 1841—42	Quantity in Pikuls	Value in Spanish Dollars
Total..	1,350	19,216	Total..	3,177	48,036

Sharks' fins are sought for from the Indian ocean to the Sandwich islands to supply the Chinese market. The chief supply is from Bombay and the Persian Gulf. They are fat, cartilaginous, and when cooked, esteemed by the Chinese as a stimulant and tonic. They should be thoroughly dried and kept from any moisture. About five hundred pieces are contained in a pikul. The price is from 6 to 60 Spanish Dollars per pikul. There seems to be little or no choice as to what species of shark the fins are from, but those of a whitish colour are valued much higher than the black sort. Sharks and rays of all kinds form a common article of food on the Chinese sea coast. The trade in sharks' fins is likely to extend at the north. From Travancore sharks' fins are largely exported to China, also from every maritime country, between the Arabian Gulf and the East Indian islands. A pikul of shark-fins usually sells in China as high as 32 Sp. Dollars, or £6 1*s.* per cwt., which high price makes it evident, that they are only articles of luxury for the use of the rich. In the market of Macassar the ordinary price is about 15 Sp. Dollars, or £2 16*s.* 8½*d.* per cwt. In the four years 1857–8 to 1860–1, shark-fins, to the value of £60,467 were exported from India to China and other places, nearly all of it from Bombay. There are many large boats with crews of twelve men each, constantly employed in the shark-fishery at Kurrachee. The value of the fins sent to Bombay varies from Rs. 13,000 to Rs. 18,000 a year. Of this a portion only passes directly into the hands of the fishermen, each boat earning perhaps Rs. 1,000 annually, or Rs. 100 for each man. From this falls to be deducted the cost of material and other charges. This trade was noticed by Dr. Royle in 1842. It affords on some occasions to Bombay alone, taking fish-maws and shark-fins together, as much as four lacs of rupees—£40,000, and furnishes the chief means of support to at least three thousand fishermen or, including their families to probably not less than fifteen thousand human beings. One boat will sometimes capture at a draught as many as a hundred sharks of different sizes, but sometimes they will be a week, sometimes a month, without securing a single fish. The fishermen are very averse to revealing the amount of their captures: inquiries of this sort are supposed by them to be made exclusively for the purpose of taxation. The great basking shark, or mhor, is always harpooned: it is found floating or asleep near the surface of the water, and is then struck with a harpoon eight feet long. The fish once struck is allowed to run till tired, and is then pulled in and beaten with clubs till

stunned. A large hook is now hooked into its eyes or nostrils, or wherever it can be got most easily attached,—and by this the shark is towed in shore : several boats are requisite for towing. The mhor is often forty, sometimes, sixty feet in length ; the mouth is occasionally four feet wide. All other varieties of shark are caught in nets in something like the way in which herrings are caught in Europe. The net is made of strong English whip-cord, the mesh about six inches : they are generally six feet wide, and are from six to eight hundred fathoms, from three-quarters to nearly a mile, in length. On the one side are floats of wood, about four feet in length, at intervals of six feet ; on the other, pieces of stone. The nuts are sunk in deep water from eighty to one hundred and fifty feet, well out at sea : they are put in one day and taken out the next, so that they are down two or three times a week, according to the state of the weather and success of the fishing. The lesser sharks are occasionally found dead,—the larger ones much exhausted. On being taken home, the fins are cut off and dried on the sands in the sun : the flesh is cut up in long stripes and salted for food, and the liver is taken out and crushed down for oil. The head, backbone, and entrails, are left on the shore to rot, or thrown into the sea, where numberless little sharks are generally on the watch to eat up the remains of their kindred. The fishermen themselves are only concerned in the capture of the sharks : so soon as they are landed they are purchased by Bania merchants, on whose account all the other operations are performed. The Bania collect them in large quantities, and transmit them to agents in Bombay, by whom they are sold for shipment to China. Not only are the fins of all the ordinary varieties of shark prepared for the market, but those also of the saw-fish, of the cat-fish, and of some varieties of ray or skate —the latter, indeed, merges almost insensibly into the form of the shark. The cat-fish, known in India by the same name as in Britain, has a head very like that of its European congener, from which it differs in all other respects most remarkably. Its skin is of a tawny yellowish brown, shading from dark-brown on the back to dirty-yellow on the belly : it is beautifully covered all over with spots, of the shape and size of those of the leopard, similarly arranged. The value of sharks' fins annually exported from Bombay amounts to betwixt a lakh and a half and two lakhs of rupees : the largest fishery at any given port is probably that of Kurrachee, which affords nearly one-tenth of the whole, but the shark-fishery is conducted all along the Bombay coast. The fishermen along the Bombay coasts are divided into four great castes, over each of which a headman or jemadar presides : 1, Wayttree ; 2, Son-koli ; 3, Dongur-koli ; 4, Thankur-koli. One great jemadar or chief, rules supreme in the craft over all the fisher-castes. The value of sharks' fins annually exported from Bombay amounts to betwixt a lakh and a half and two lakhs of rupees : the largest fishery at any given port is probably that of Kurrachee, which affords nearly one-tenth of the whole, but the shark-fishery is conducted all along the Bombay coasts. Sharks' fins and 'tripang,' or sea slug, are exported by the Bugis boats from the eastern parts of the island of Borneo ; they are first sent to Singapore, afterwards to China.

In the Fiji says a writer, we were puzzled at one time to make out the use of a curiously formed piece of wood, about four feet long, and in shape very much like a whale boat, but solid : from a hole in the centre descended a strong cord of twisted rattan, forming a running noose, like a hangman's knot. The mystery was solved shortly after. As I was leaning out of the cabin windows, when there was just sufficient wind to give the ship steerage-way, I observed a shark swimming leisurely along some twenty fathoms below the surface. The natives from their canoes observed the monster about the same time. In a few minutes several of these oddly-shaped buoys were dropped into the water. Some of our people fancy they saw them sprinkle a powder in a sort of magic circle round the buoys ; I did not observe them use any bait : what charm they used, if any, we did not ascertain, but certain it is that the shark shortly after rose, and was fool enough to shove his head into the fatal noose, when he was as completely hanged in his own element as ever rogue was from the gallows' tree. The buoyancy of the float prevented his diving with it. Having flourished his tail about for twenty minutes, he was drawn up by his head on a level with the water, and there belaboured with the heavy end of their paddles until he seemed satisfied that resistance was useless ; they then tumbled him bodily into the canoe, and hurried on shore amidst the yelling of the whole flotilla, where no doubt he underwent the further process of dissection.—*Keppel's Ind. Arch., Vol.* ii, *pp.* 205-6 ; *Low's Sarawak, p.* 89 ; *Bombay Monthly Times, from 11th to 24th May* 1850 ; *Dr. Royle, on the production of Isinglass, London,* 1842. See Fisheries, Fishes, Zygæna.

SHAROI, Sharoli, or Shurlige, PANJ. Corylus colurna, *Linn.*

SHARON, a fertile strip of land on the sea

coast between Joppa and Cæsarea. Over the valley of Sharon, the road passes to Rama, wild roses are to be found upon it, and it is sprinkled with flowers. 'It shall come to pass,' says Ezekiel, in that day, 'I will give to gad,' or the Scythians, 'a burial place in Israel, the valley of the passengers on the east of the sea. And it shall stop the noses of them that pass by, and there shall they bury gad and all his multitude.'—*Skinner's Overland Journey, Vol.* i, *p.* 186 ; *Sharpe's History of Egypt, Vol.* i, *pp.* 32, 133 ; *Diod. Sic., lib.* i, 6, 7.

SHARPEY, Captain Alexander, visited the Red Sea and Aden, in A. D. 1609, in the Ascension, a vessel belonging to the E. I. Company.

SHARRA, AR. HIND., PERS. Law ; equity, the precepts of Mahomed ; religion ; faith, justice. The faquir or darvesh act in accordance with religion (ba-sharra) or differently (be-sharra). They are classed as

Ba-shara, family-men and living according to the laws of the Koran.

Be-shara, without the law, majzub, celobates, whose sanctity places them above the laws of the Koran.

In India, the chief fakirs are

Kadaria or Banawa whose founder lived at Bagdad.
Chistia followers of Banda nawaz whose shrine is at Kulburgah.
Shuturiah.
Tabkatia or Madria.
Malanej.
Rafai or Gurzmar.
Jalalia.
Sohagia.
Naksh bandia.
Bawapiari ka Fakir.

—*Wilson's Gloss.*

SHART, ARAB., HIND. From shart karna, to wager, a term employed by mahomedans in Southern India to indicate a horse conveyance, either buggy or palankin carriage. In Bombay, the Tamil words Sikram-po, literally go quickly, are applied to the latter conveyance.

SHARUDIYA, SANS., from sharada, the clear sky season.

SHARUNNE, TAM. Trianthema obcordata, *Roxb.*

SHARUNNE-KIRE, TAM. Glinus trianthemoides.

SHARVELI-KIRE, TAM. Trianthema.

SHARWA, HIND. Brassica, *sp.*

SHA-SI, BURM. Catechu.

SHASTRA, SANS. The holy books of the hindoos. Of the six Vedanga or bodies of learning, three belong to grammar ; one relates to religious ceremonies ; a fifth to the whole compass of mathematics ; and the sixth, to the explanation of obscure words or phrases in the Vedas. Subordinate to these Anga (though the reason of the arrangement is not obvious,) are the series of sacred poems, the body of law, and the six philosophical shastras. Shastra, SANS., is from shas, to rule. See Veda.

SHASTRI, see Bhairava.

SHATAWAR-KA-PATTA, HIND. Asparagus racemosus.

SHATAWI, MALEAL. Asparagus adscendens, *Roxb.*

SHATCHAKRA, see Yug byasa.

SHATHA-KUPPA, TEL. Anethum sowa.

SHATIR, a running footman, or messenger.

SHATKRATU, see Indra.

SHATOOL, see Kanawer.

SHAT-UL-ARAB, literally the river of the Arabs, is the united stream of the Tigris and Euphrates, and is about 700 yards broad ; its ordinary depth 30 feet. Within a distance of 22½ miles by water, or 20½ miles direct, S. 70° E. it forms three large islands between its fork and the small town of Mohamarah. Here the Karum enters it, after a long course from the Koh-i-zard through Shuster, Ahwaz and other places. After the junction of the Euphrates and Tigris rivers, this one tidal channel has the well-known appellation of Shatt-el-Arab, when five miles below Kurnah the united waters receive those of the Kerah, or Kerkhah, which, coming from the mountains of Ardelan through an extensive tract of country, passes a short distance westward of the ruins of Susa and likewise of the town of Hawizah. After receiving this accession, the Shatt-el-Arab flows through date groves and near several villages, chiefly on the left bank, and at length arrives opposite Basrah, which is 39½ miles by the river, and 36 miles S. 34° E. direct from Kurnah. In the whole of this distance there are but two islands, both of them large : and the river has an average width of 600 yards, with a depth of 21 feet ; it has a current of two knots per hour during the flowing, and three knots per hour during the ebb tide, empties itself into the Persian Gulf, 80 miles from Bassorah.—*Euphrates and Tigris, Col. Chesney, p.* 39 ; *Ed. Ferrier's Journ., p.* 28. See Kerman, Koorna, Khuzistan.

SHATRA, PERS., DUK. Fumaria officinalis, Fumaria parviflora, *W. & A.*

SHATRANJI, HIND. A cotton carpet.

SHATT-AL-DIJLAH, see Tigris.

SHATURUJ, PERS. Fumaria parviflora, *W. & A.*

SHATUT, DUK. Morus atropurpurea.

SHAVALI, IT. Shawls.

SHAVING. There are amongst hindoos propitious days for this.

SHAVIRUM, TAM. One of the mercurial preparations of India.

SHAUNIZ, HIND. Cuminum cyminum, black cummin.

SHAWA, HIND., PUSHTU. Dalbergia sissoo, sissu tree.

SHAWA, HIND. Populus ciliata.

SHAWALI, HIND. Rosa webbiana.

SHAWLS.

Chals, Chales,	FR.	Chales,	PORT.
Schalen,	GER.	Schavalos,	SP.
Shawl, GUZ., HIND., PERS.		Saluvaigal,	TAM.
Shavali,	IT.	Saluvalu,	TEL.
Kayin-rambut,	MALAY.		

These well-known articles of dress, made of wool, silk, or more commonly of silk and wool mixed. Fine shawls are made at Cashmere, and are largely exported from Bombay to London. The chief seats of the shawl manufacture in Britain are Paisley and Norwich; the French shawls are, however, much more esteemed than the English. Although in many branches of textile manufacture, England has outstripped her oriental teacher, there is still found among the workmen of the east, a degree of taste in the adjustment of their designs, an amount of skill applied to the getting-up of the fabric and the blending of patterns and colours so aptly combined, as to leave nothing to be desired, but rather to show that what we are now arriving at in arts design by the aid of scientific teachings, has been practised amongst that ancient race during the last thousand years. The correct principle which science has laid down in the schools of the west, that the patterns and colours of woven goods should diversify plain surfaces without disturbing the impression of flatness, has evidently been known to them from the earliest times. Nor is it in this alone that the workmen of the east excel: they are equally celebrated for the rich and varied beauty of their patterns, and the strict appropriateness of these to the colours employed. Foremost amongst the woven fabrics of India are the world-famed shawls of Cashmere, the finest of which, in spite of many imitations in Europe, are still produced in the "Vale of Cashmere," whence continues to come the supply of the most valuable wool employed in the manufacture. The Cashmere goat thrives nowhere so well as amidst the grassy ravines and shady clefts of the Cashmerian hills; and from the neck and underpart of the body of the animal is taken the fine, flossy, silk-like hair, which is worked up into these beautiful shawls with an exquisite taste and skill which all the mechanical ingenuity of Europe has never been able to imitate with more than partial success. Mention may be found of these shawls in the Mahabharata and other ancient works of the east. The people of the countries adjacent to Cashmere are there spoken of as bringing skins and cloths of wool embroidered with gold as tribute to the sovereign. From the Ayeen Akbari, written in the sixteenth century, we gather that the emperor Akbar encouraged the manufacture of these shawls by every means in his power, even designing some himself, and introducing a greater and richer variety of colours in their patterns. The same work informs us of the extension of this manufacture to the state of Lahore, where it is said there were then a thousand manufactories employed on them. A mixture of wool and silk for turbans is also spoken of; and some space is occupied with an enumeration of the various qualities of the shawls and turbans, and the mode of classifying them for value. Since the above period, the many troubles and political changes in the position of the country have materially affected this branch of industry; and we accordingly find that from 30,000 looms, which was at one time the number at work in Lahore, there were, some years since, but 16,000. Doubtless the more settled state of the country, and the increasing demand for the article in various parts of the world, will now help to revive this manufacture. In all eastern countries the shawl is ever considered the most essential and graceful part of ornamental dress; and even in Europe, with their many beautiful imitations, the true Cashmere shawl is still sought and paid for at enormous prices. Even in India it is by no means unusual for a rajah to pay ten thousand rupees (1,000*l.*) for one of the finest of those productions; and which, in all probability, will have cost the labour of a whole family for a life-time. The annual value of these shawls imported into Great Britain does not exceed six or seven thousand pounds, and forms no sort of criterion as to the yearly produce of the Cashmerian looms, since by far the most valuable are taken by native rulers and rajahs, and large quantities are also despatched to Russia, Turkey, Greece, America, and continental Europe. Previous to the imitation of these goods at Paisley, the imports had amounted to as much as 16,000*l.* annually. In embroidered shawls, scarfs, handkerchiefs, &c., in silk, cotton, and mixed fabrics, India stands pre-eminent. Here also, as in the make of Cashmere shawls, the hindoos, by their skilful and delicate manipulation, are able to produce fabrics of such exquisite fineness, as to defy the more scientific labours of European nations. Their scarfs of brocaded gold and silver, laid upon red, white, and green grounds, and worked in and interspersed with beetle's wings and other ornaments, are at once the wonder and admiration of the world.

Bangalore Silk Shawls.—At the Madras Exhibition of 1855, two Bangalore Silk Bed Quilts, exhibited by Moonshee Nunjapah Dondala Esmursan were good specimens of this description of native manufacture, but were priced so much above their real value as to

prevent their being brought into general use. A Bangalore silk shawl by Moonshee Nunjapah, weighing 2 lbs., 3 oz., 5½ dr., price 125 Rs., was the best woven fabric of this description, and the jury awarded him a 2nd Class Medal.

Mr. Moorcroft in the early part of the 19th century estimated the annual value of the Cashmere manufacture of shawls at £300,000, but this seems a small estimate if the raw material be worth £75,000 alone, that is, 1,000 horse loads of 300 pounds, each pound being worth five shillings. In the 11 years, 1850–51 to 1860–61, the quantities and values of Cashmere shawls exported from India, were as under :—

Years.	Pieces.	Value.	Years.	Pieces.	Value.
1850-51	13,405	£171,709	1856-57	?	£290,640
1851-52	10,594	146,270	1857-58	?	227,618
1852-53	16,711	215,659	1858-59	?	310,027
1853-54	?	170,153	1859-60	?	252,828
1854-55	?	197,890	1860-61	?	351,093
1855-56	?	209,279			

Of the above, 90 per cent. was shipped from Bombay ports, and 80 per cent. to the United Kingdom, Suez, the Arabian and Persian Gulfs,—America, France and China taking the remaining part. The Central Committee, Lahore, reported that this is now by far the most important manufacture in the Panjab ; but thirty years ago it was almost entirely confined to Kashmir. At the period alluded to, a terrible famine visited Kashmir ; and, in consequence, numbers of the shawl weavers emigrated to the Panjab, and settled in Umritsur, Nurpur, Dinaugar, Tilaknath, Jellapur and Loodianah, in all of which places the manufacture continues to flourish. The best shawls of Panjab manufacture are manufactured at Umritsur, which is also an emporium of the shawl-trade. But none of the shawls made in the Panjab can compete with the best shawls made in Kashmir itself ; first, because the Panjab manufacturers are unable to obtain the finest kinds of wool, and secondly, by reason of the inferiority of the dyeing, the excellence of which in Cashmere is attributed to some chemical peculiarity in the water there. On receipt of the raw pashm or shawl wool, the first operation is that of cleaning ; this is done generally by women ; the best kind is cleaned with lime and water, but ordinarily the wool is cleaned by being shaken up with flour. The next operation is that of separating the hair from the pashm ; this is a tedious operation, and the value of the cloth subsequently manufactured varies with the amount of care bestowed upon it. The wool thus cleaned and sorted is spun into thread with the common 'churka' or native spinning-machine. This is also an operation requiring great care. White pashmeea thread of the finest quality will sometimes cost as much as £2 10*s.* a pound. The thread is next dyed, and is then ready for the loom. The shawls are divided into two great classes, viz., woven shawls, called 'Teliwalah ;' and worked shawls. Shawls of the former class are woven into separate pieces, which are, when required, sewn together with such precision that the sewing is imperceptible. These are the most highly prized of the two. In worked shawls, the pattern is worked with the needle upon a piece of plain pashmeea or shawl-cloth. A woven shawl made at Cashmere of the best materials, and weighing 7 lbs., will cost in Cashmere as much as £300. Of this amount, the cost of the material, including thread, is £30 ; the wages of labour, £100 ; miscellaneous expenses, £50 ; duty, £70. Besides shawls, various other articles of dress, such as choga, or outer robes, ladies' opera cloaks, smoking-caps, gloves, &c., are made of pashmeea. Latterly great complaints have been made by European firms of the adulteration of the texture of Cashmere shawls ; and there is no doubt that such adulteration is practised especially by mixing up Cashmere wool with real pashm. In order to provide some guarantee against this, it has been proposed, that a guild or company of respectable traders should be formed, who should be empowered to affix on all genuine shawls a trade-mark, which should be a guarantee to the public that the material of the shawl is genuine pashm, especially as the Indian Penal Code provides a punishment for those who counterfeit or falsify trade-marks, or knowingly sell goods marked with counterfeit or false trade-marks. At Delhi, shawls are made up of pashmeea, worked with silk and embroidered with gold lace. A very delicate shawl is made of the wool of a sheep found in the neighbourhood of Ladak and Kulu : the best wool is procurable in a village near Rampur, on the Sutlej ; hence the fabric is called 'Rampur Chudder.' The other woollen manufactures in the Panjab and Peshawur are choga, made of the wool of the Dumba sheep, and of camel's hair, and choga made of Patti, or the hair of the Cabul goat. The shawl bafs or weavers of the Panjab, according to their means, keep up an establishment of from three to four hundred shagird, or apprentices, of children from five years of age, to old men and women of eighty. The shawl baf pays to government a capitation tax of from 16 and 18 to 50 rupees per annum, for each shagird that he employs. The Argoun merchants and traders of Ladak

and Chanthan have made it a point, from time immemorial to advance large sums of money for the purchase of pam throughout the different districts of pam-producing provinces. The Cashmere woollen fabric is now manufactured in other towns, in the form of shawls, coats, scarfs. Formerly Cashmere shawls were exquisitely woven, with unrivalled elegance and chasteness of design, softness and finish in quality, arrangement of colours and use of dyes, which the finest Paisley and French shawls do not approach. These exquisite shawls of Cashmere became rarer and rarer every year, and their place has been usurped by hand-embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Panjab and in Delhi, of late years, workmen have commenced to embroider Cashmere cloths and net with floss silk and braid, but solely for sale to Europeans, who wear them as tunics, jackets, scarfs, and the like. In the hand-worked Cashmere shawls, as also in the Delhi work, wooden needles of hard wood are used slightly charred, with a hole in the centre of the needle to receive the yarn. Cashmere weavers have settled at Umritsir and Jellalpur and other places, and have flourished. Cashmere shawls have still, however, a wide-spread fame, on account of their extreme softness, brilliancy, and elegance; and it has long been the aim of European nations to imitate, and if possible to equal them, applying to their manufacture the more speedy and elaborate methods which modern science has placed within reach. The oriental shawls are woven by an extremely slow process, and are therefore very costly. The date of the manufacture is unknown, but Cashmere shawls have been celebrated ever since the British established themselves in India. As far as can be gathered from the observations of various writers, the Thibetan wool, being imported from Tibet and Tartary into Cashmere, is first bleached to rid it of a greyish hue which naturally belongs to it, then spun into yarn by women, and dyed of various colours. The yarn is next given out to the weavers by a merchant, who perhaps enters largely into the shawl trade, and engages a number of shops in which men work for him; or else he supplies a certain number of overseers called Ustad with yarn, delivering to them at the same time instructions as to the quality, colour, patterns, &c., of the goods, and these men carry on the manufacture at their own houses, with the help of ordinary weavers. The Ustad receive six or eight pice a day for their wages, the common workmen from one to four pice, the value of a pice being about three half-pence. Though the shawl-weavers of Cashmere are thus scantily rewarded, the fabric they produce has often been sold in London at from 100*l.* to 400*l.* the shawl. But it is fair to state that the manufacture of a remarkably fine and elaborate shawl will sometimes occupy a shop for a whole year, two or three or perhaps four persons, being constantly engaged on it. Plain shawls are simply woven with a long narrow and heavy shuttle, but variegated shawls are worked with wooden needles instead of a shuttle, there being a separate needle for each colour. In some of the richest shawls, scarcely a quarter of an inch is completed by three persons in one day. Sometimes, in order to hasten the process, a shawl is made in separate pieces in different looms, and the pieces are afterwards sewed together This is done with great dexterity, so that it is not immediately detected. An overseer at each loom, superintends the workmen, and if the pattern be new, he directs them as to the figures and colours, keeping before him a paper-pattern of the device which is to be produced. The rough or inferior side of the shawl is uppermost on the frame, nevertheless the pattern is most accurately preserved by the workers, who sit on benches while so employed. The shawls are made both long and square, the former generally measuring 54 inches wide, and 126 long, the latter 63 to 72 inches square. They are exquisitely soft and warm, surpassing in these respects every other clothing material. In some parts of Asia these shawls are worn just as they come from the loom; but all those destined for India are carefully washed and packed near Lahore. The extent of the manufacture in Cashmere has been differently stated: some years ago there were said to be 16,000 looms in that kingdom; and if it be correct that above five shawls (including the inferior qualities: are made on an average at each loom during the year, this gives a total of 80,000 shawls as the annual produce of the kingdom. When Cashmere was tributary to Affghanistan, a considerable portion of the revenue was exacted in shawls instead of money.

The beauty and value of Cashmere shawls has led to various imitations, which at length have proved successful, both in France and Great Britain. The government of the former country gave encouragement to a patriotic and zealous man, M. Jaubert, who exposed himself to great risk and hardship, in bringing from the East in 1823, a flock of Tibet goats, part of which were successfully reared at St. Oven, near Paris. The climate suited them well, so that for several years the pro-

prietor was enabled to sell a great number of male and female goats, which were called Cashmere goats. Cashmere wool is still imported from Tibet and comes into Europe by way of Casan, on the eastern bank of the Volga. The mills for spinning it are very numerous in France where three principal descriptions of Cashmere shawls are manufactured, at Paris, Lyons, and Nismes. The Paris shawls are principally of the kind known as French Cashmere, in which, by the aid of the draw-loom and of the Jacquard, a surface appearance is given precisely similar to that of the oriental shawls. Both the warp and the weft are the yarn of pure Cashmere down: the figures and colours of Indian shawls are faithfully copied, and the deception would be complete, did not the reverse side show the cut ends. What is called the hindoo shawl, manufactured at Paris, has its warp in spun silk which reduces the price. These imitation shawls are executed by as many shuttles as there are colours employed, which are thrown across the warp according to the requirements of the pattern, and being in many cases introduced only at intervals, the yarn remains floating loose at the back of the piece, and is cut off afterwards. To contrive a method of weaving shawls that should be, like the eastern ones, both sides alike, was a difficult task, but was at last accomplished by Parisian ingenuity. In this case the yarns of the weft are not only equal in number to the colours of the pattern, but there are also as many little shuttles or pirns filled with these yarns as there are colours to be repeated in the breadth of the piece. Each of these small pirns or bobbins passes through only that portion of the flower in which the colour of its yarn is to appear and stops on the one side and the other of the cloth exactly at its limit: it then returns upon itself, after having crossed the thread of the adjoining shuttle. From this reciprocal interweaving of the various yarns of the shuttles, it happens that, although the weft is made up of a great number of different threads yet they form a a continuous line in the whole breadth of the web, upon which the lay or batten acts in the usual manner. The great art consists in avoiding confusion of the shuttles, and in not striking up the lay till all have done their part. A woman assisted by two girls is able to conduct the whole operation. But this close imitation of the oriental shawl is a very slow process, and therefore the shawls must be necessarily costly. Lyons is famous for its Tibet shawls, the weft of which is yarn, with a mixture of spun silk. The shawls of Nismes are celebrated for their low price, and the ingenuity with which spun silk, Thibet down, and cotton, are all worked up together.

The Cashmere shawls are usually divided into three groups, the "Border Shawl;" the Rizai or shawl of the finest texture, and the ordinary Cashmere shawl. Cashmere, and the next in quality Umritsir shawls, possess unequalled fineness, delicacy, and warmth. These shawls are brought to Bombay in large quantities direct from Cashmere, which are almost entirely exported to London. The trade is entirely in the hands of the natives.

The great Punjab mart for Cashmere shawls, is Amritsar. The largest import is of pashmina goods, consisting of shawls, needle-worked goods (amlikar), embroidered chogas, &c., plain pashmina cloth, shawls of kinds, square, long, and double, both woven and worked by hands, the latter being called "amlikar." About A.D. 1860 the maharajah of Cashmere, to check the deterioration in the quality of shawls manufactured in his dominions, issued the following circular:—Be it known that in the city of Siree Nugger, alias Cashmere, a Paradise on earth, the number of men and women employed in the occupation of shawl-weaving aggregates 70,000, and in fact nearly all the inhabitants of this far famed city are connected with the trade. That owing to the dulness of the market in England and France, caused chiefly by the inferior description of shawls manufactured, many tradesmen and merchants have been subjected to heavy loss and some to bankruptcy, and a large proportion of weavers have been thrown out of employ. On the maharajah's late tour through Cashmere the circumstance occupied his chief attention and from the information he obtained he ordered the following rules to be established in order to serve both manufacturers and traders:

1.—Shawls to be uniform in size as follow:—

Lady's shawls,	3½	yards	by 1½
Turbans,	2	„	by 2
Jamawar,	4½	„	by 3

2.—Any shawl badly wove to be destroyed—the value to be recovered by the proprietor from the weaver. Should the fault lie with the proprietor, he will be punished by the Government.

3.—A designer is at liberty to dispose off his designs, but should he attempt to conceal any part of a design which is purchased from him, he will be severely punished.

4.—Any person convicted of robbing a firm of a design will be severely punished.

5.—One designer is not at liberty to transfer designs to another, and as the Government has now relinquished the tax, it is hoped that

there will be considerable improvement in the art.

6.—Not more than six shawls are to be wove from one design, or a heavy fine will be inflicted.

7.—The seller of a design is not to retain a duplicate or attempt to form another exactly like the one sold, in such a case fine will be levied equal to ¼th its value.

8.—In future duty will be levied by measurement of wool and worsted and not by weight as heretofore, this will induce spinners to produce a finer description of the material and will be more profitable to the wearer.

9.—His Highness taking into consideration the distressed condition of all manufactories for want of sufficient funds, and seeing that tradesmen are not disposed to assist them with advances, has placed in the hands of Pundit Hunna Nundjoe and Hajee Mooktiar Shah, a sum of Rs. 1,00,000 for the purchase of raw material, the same to be delivered proportionately to manufacturers, the value of which is to be refunded to Government on the sale of shawls.

10.—His Highness the maharajah is greatly indebted to Dewan Kirparam, who from his experience had assisted greatly in framing these rules and encouraging this important branch of manufacture.

Shawl-Weaving, is practised at Nurpur and Adinanagar, but with greatest success at Amritsar; none of these cities, however, equal either in fineness of texture or beauty of colors and design, the genuine fabrics of Cashmere. The shawl-weaving of Gujrat and Gurdaspur is quite inferior. In Lahore, shawls are made from "Kabuli pashm," a wool which is inferior to the Thibetan shawl wool. These shawls are plain and not patterned like the others. They are called "Lahori chaddar." Shawl-weavers of Cashmere have largely emigrated into British territory though the maharajah of that province uses efforts to prevent their departure. Pashm wool can now be brought into Kooloo and Amritsar through Ladak, paying only a five per cent. transit duty.—*Bengal Hurkaru, Dec.* 15; *Moorcroft's Travels, Vol.* ii, *pp.* 165, 194; *Cunningham's Hist. of the Sikhs, p.* 4; *Powell's Hand-book, Econ. Prod., Panjab, pp.* 8, 9, 181–82; *M. E. J. R.; Dr. Watson*; *Tomlinson, p.* 337; *Capper's Three Presidencies*; *Faulkner's Com. Dict.*; *McCulloch's Com. Dict.*; *Madras Ex. on Jur. Reports*; *Cal. Cat. Ex.,* 1862. See Shawls, Wool, Arts and Manufactures.

SHAWL, a name of Quetta. See Quetta Shal.

SHAWL-GOAT, Eng. Capra hircus, *Linn.* The Shawl Goat of Spiti, yields inferior wool to that of Tibet. Shawl Goat's hair is called Pashm in Hindi, and Kashmiri Lena in Tibetan. The common domestic goat of Ladak is the well-known shawl-goat. It thrives only in the most elevated districts. It is bred in Nubra, Zanskar and Rukchu, but the finest wool is brought from Ruthog and Gnari, which formerly belonged to Ladak, and from Chang Thang, or the southern and mountainous districts of Kotan. It is only shorn once a year, and the wool is at once separated from the coarser hair. The hair is manufactured into blanketting, for tents, coarse sacking, and ropes for home consumption. The wool is exported to Kashmir, and to Nurpur, Amritsar, Lahor, Ludiana, Ambala, Rampur on the Sutlej, and Nepal. To Rampur and Nepal, the wool is exported direct from Ruthog and Gnari, but Leh is the entrepot between the other shawl-marts and the wool-producing countries. The fine shawl wool is called Le-na, the common wool Bal, and the hair Pu. These Tibetan names being the same as the Latin lana and English wool. In Kashmir, the wool is sold to the merchants at Kashmiri Rs. 4–8, or Co.'s Rs. 2–10 per seer. The average quantity of shawl wool exported from Ladak to Kashmir and other places is about 16 lacs or 6,400 maunds of 16 seers each, half of which goes to Kashmir alone. The average price in Ladak is about two rupees per seer or £20,400 a ton. Each shawl goat yields about half a seer. The goats are about 30,000 in number, and their value £32,000, each goat being priced at four rupees. The shawl goats imported by Napoleon were brought from the province of Talish, on the western bank of the Caspian. The Kashmirian merchants purchase the wool at Leh, at the rate of 80 pul (small handfuls,) for a small rupee. Shawl wool is produced most abundantly and of the finest quality in the steppes between the Shayuk and the main branch of the Indus. About £10,000 worth may be carried down the Sutlej to Loodianah and Delhi. Mr. Moorcroft estimated the importation into Kashmir alone at £75,000 of value, and the annual value of the shawl manufacture of Kashmir at £300,000. In Thibet, there are two varieties of Shawl wool goats; one is a large animal, with great horns, called Rappoo; the other smaller, and with slender horns, is called "Tilloo." The latter yields the finest wool, but they are mixed for ordinary purposes. Dr. Hooker was assured that the sheep, of which he saw large flocks afford the finest wool of any. The animals are caught by the tail, their legs tied, the long winter's hair pulled out, and the remainder cut away with a broad flat knife, which was sharpened with a scythe stone. The operation was clumsily performed and the skin much cut. One of the

most valuable imports is the Thibetan shawl wool, and which supplies the shawl-weaving cities of Amritsar, Gujrat, &c., comes from Changthan viâ Leh and Rampur. Wool, the produce of Rampur itself, is also imported.—*Vigne* ; *Cunningham* ; *Hooker's Him. Jour.*, *Vol.* ii, *p.* 88.

SHAWULLA, see Khyber.

SHAYANG KOTTE, also Shayrang kotte, TAM. Marking nut, Semecarpus anacardium. *Ains. Mat. Med.*, *p.* 111.

SHAYANG COTTE YENNAI, TAM. Marking nut oil ; Semecarpus anacardium. oil.

SHAYUK, a valley and river in the N. W. Himalaya, is very bare of vegetation. The cause of this difference seems to lie in the frequent floods which have at different periods, devastated the whole course of the Shayuk valley, from the glaciers of Sassar. These floods, which appear to be due to the blocking up of the upper course of the river by the ice, have been most destructive to the prosperity of the valley. An encamping-ground on the plain of the Shayuk river, is called by the Turki merchants Murgai, by the Tibetans, Murgo-chumik ; the former name being probably a corruption of the latter.—*Dr. Thomson's Travels in Western Himalaya and Tibet*, *p.* 422. See Ladak, Tibet.

SHAYRAIT, TAM. Agathotes chirayta, *Don.*

SHAZOUNG, BURM. Euphorbia ligularia, *Roxb.*

SHEA, HIND. Lonicera glauca.

SHEA BUTTER is a solid oil obtained from the nuts of Bassia parkii, a tree of the interior of Africa, the nuts are allowed to ripen on the tree, and are gathered from the ground in the morning by women and children. The pulp surrounding the nuts is rubbed off, and generally eaten. As a fruit it resembles an over-ripe pear ; but it is too sweet to be much relished by Europeans. The nut is next dried by exposing it to a slow heat in large clay caldrons with perforated bottoms. This, besides carrying off moisture, causes the nut to shrink in its shell, of which it is divested in the next operation, viz., threshing. This is done on floors, or sometimes it is slightly bruised in large wooden mortars instead. The nut, now free, is next thoroughly pounded with pestle and mortar, then ground between stones : at this stage it looks just like black mud in paste. This mass is washed in cold water, then boiled till the butter rises white, and is skimmed from the surface. Shea butter remains hard at a high temperature when well prepared, and does not become rancid with age. It has a slightly smoky taste, acquired during its preparation. Some people dislike it. It has been used in cooking, and Mr. Barter often, in the boat, lived on it and yams without inconvenience.—*Letter from Mr. Barter to Sir William Hooker.*

SHEA KAI ELE, TAM., properly Sikaia ele, TAM. Leaves of Mimosa abstergens.

SHEAR GARH, see Kunawar.

SHEBA, mentioned in Ezek. xxxviii, 13. "The merchants of Sheba and Raamah," &c. Haran and Canneh and Eden, "the merchants of Sheba, Ashur and Chilmad, &c." Ezek. xxvii, 21-23, is Saba or modern Ard-us-Saba. The Balad-ul-Jahaf, a district of Yemen, is the land of Sheba, the Ard-us-Shaba, so called to the present day, by the Arabs. There are two hills of Balak in the district, six hundred paces apart, between which Balkis queen of Sheba built a masonry dam, which burst, and the bursting is famed as the Sail-ul-Arun ; Balkees queen of Sheba, was stated to Soliman to have hairy legs ; the Koran, (Ch. xxii) mentions the plan he adopted to ascertain the fact.—*Ouseley's Travels, Vol.* i, *p.* 336. See Balkis, Nureh, Saba.

SHEBB, also Shabb, AR. Alum.

SHECHEM, the modern Nablus, has in its neighbourhood the two mountains, Gerizim and Ebal, each about 2,500 feet high with Joseph's tomb and Jacob's well at the eastern end of the valley, the former near the foot of Ebal and the latter near the foot of Gerizim. One Tur, is the mountain mass near Sinai. Another Tur, the Et Tur, is mount Gerizim near Nablus. Shechem was made the metropolis of the conquering Israelites. Jerusalem only became of importance after the vision of David in II Chron. iii, 1. It was from Gerizim and Ebal that Moses ordered the law to be read. It was here that the field was bought by Jacob, (Gen. xxxiii, 19, and xxxiv, 2-4.) Shechem of Samaria, was a refuge city. See Bast.

SHEDAKH-NINDI, AR. Amarantus oleraceus, *Linn.*

SHEEAH, followers of Ali, a mahomedan sect, and opposed to the Soonnee sect.

SHEEKAI, TAM. Acacia concinna.

SHEELANDEI ARISI, TAM. Cyperus geminatus.

SHEELASSETTO, TEL. Agathotes chirayta.

SHEEM, BENG., HIND. Canavalia gladiata.

SHEEMI or Simi Pooshini-kai, TAM. Cucurbita ovifera.

SHEEN ?—cover for pots.

SHEENDI CODEI, TAM. Menispermum cordifolium, Cocculus cordifolius.

SHEEN-THAN, BURM. Platina.

SHEEOABAD, is regarded as the farthest town in which the polished Oordoo of the

quondam mogul court of Agra is to this day spoken without any taint of rural corruption. *Tr. of Hind., Vol.* i, *p.* 370.

SHEEP.

Brebis, Moutons,	Fr.	Ovis,	Lat.
Betes-a-laine,	,,	Gosfand,	Pers.
Schafe,	Ger.	Owzi,	Rus.
Ois,	Greek.	Avi,	Sans.
Bhera,	Hind.	Pecora, Ovejas,	Sp.
M'henda,	,,	Luk,	Tib.
Pecore,	It.		

The shawl-goat, and a dwarf variety (black, with short horns), also a race of black-faced sheep, and the dumba, or broad-tail, are reared in Ladakh in great numbers. Four horned varieties of this sheep are not uncommon. The "black-face," or hunniah, stands much higher than any seen elsewhere, and is a handsome animal. A herd of shawl-goats, and two of the hunniah sheep were brought to the Punjaub. Although the former throve very well all the sheep rapidly lost flesh and pined away within a month after their arrival on the plains. The Yak seldom survives beyond a few months, and even rapidly degenerates in the valley of Cashmere. The heat and insects are evidently its greatest enemies in the tame as well as wild state; and none of these animals, not even the goats, seemed to care for the luxuriant vegetation of the lowlands, preferring whatever resembles their Tartaric furze and bent to the rich clover and grasses of Cashmere.—*Adams.* See Ovis.

SHEEP-SKINS. Besides local supplies, many thousands are imported into Britain from the Cape of Good Hope, British India. Those of the Cape are distinguished by the greater width of the skin that covers the tail. They are simply tanned, and employed for various purposes for which a thin, cheap leather is required; such as for common bookbinding, leathering for common bellows, whip-lashes, bags, aprons, &c. Sheep-skins also form the cheaper kinds of wash-leather for breeches, gloves, and under-waistcoats; as also coloured and dyed leathers and mock morocco, used for women's shoes, for covering writing-tables, stools, chairs and sofas, lining carriages, &c. See Hides, Leather, Skins.

SHEER, Pers. Milk.

SHEERANNEE. On the mountainous border of Dera Ismael Khan, the most formidable tribe are the Sheerannee; they frequently descended to rob and murder. Previous to annexation, the Sheerannee made themselves the terror of the border.—*Record, Govt. of India, No.* 11.

SHEERAZ, is one farsakh, 3¾ miles in circumference; and is surrounded with a shabby-looking wall of sun-dried bricks and mud; outside of which is a moat nearly dry.

SHEER-BIRINJ, or Kheer.

SHEER-DARAKHT ZEKOOM, Pers. Euphorbia canariensis, *Linn.*

SHEERI-GUMUDU, Hind. Gmelina parviflora.

SHEER-I-KHASH-KHASH, Pers, also Ufyun, Pers. Opium.

SHEERU KALLY, a river near Noondla in Nusseerabad.

SHEER KULLA, see Kulla.

SHEERNEE, sweets.

SHEERUDEK, Tam. See Ganta baringa.

SHEERWATERS are birds of the skimmer (Rhynchops) genus.

SHEESH, Duk. Lead.

SHEESHAH, Pers. Glass.

SHEET KHYÆ, Burm. Semecarpus longifolia, *McClell.*

SHEET MA TET, Burm. Asparagus acerosus, *Roxb.*

SHEETALA, Sans. Cold.

SHEETALA, in hindoo mythology, the goddess who cools the body when afflicted with the small-pox, she receives many honours from the lower orders of hindoos.—*Ward's view of the Hindoos, Vol.* i., *p* 38.

SHEETALA-PATEE, Beng., Sans., from sheetala, cold, and patee, a mat, from pat, to move. The mat is from the Maranta dichotoma.

SHEFTAH, or Shafta, called in Syriac, Agal, is a skein of camel's wool thread, about nine feet long, bound at distances of about twelve inches with silk and gold thread. It is wound round the kufia, forming a large turban, and is principally worn by the Aneyseh. —*Hamilton's Sinai Hedjaz, London, p.*183.

SHEGAL, Hind. Pyrus variolosa.

SHEGAPU THUNDU KIRE, Tam. Amarantus atropurpureus.

SHEGAPU - MUNTHARI - MARAM, Tam. Bauhinia purpurea.

SHEGGURU, Sans. Hyperanthera moringa.

SHEIKH, amongst mahomedans a father of tradition, a term given to descendants of Arabian origin, some of whom claim Oomar as their ancestor, also applied generally to all of the Sunni sect other than syuds, pathans or moguls. The Sheikh therefore is of the most varied origin, and is engaged in all avocations, military and civil, as soldiers, in regular and irregular armies, as police, shopkeepers, and a very few, a mere sprinkling of them, in learned professions or occupations requiring prior education. The Sheiks are of three origins, the Koreishee, Mahomed's tribe; the Siddeqee, Aboo Bukr's tribe; and the Farooqee or Oomar's tribe.

SHEIKH BAHA OOD DEEN, ZAKARIA, born at Cotcaror in Mooltan. He was

a great traveller, having it is said, overrun Persia and Turkey, and a disciple for some time of Shahab ood Deen, Sohurmurdee, at Bagdad. He died on the 7th Sufur, A. H. 665 (A.D. 7th September 1266), and was buried at Mooltan. See Sunna.

SHEIKH FAROOQEE, sheikhs descended from Oomar.

SHEIKH MAHOMED ALI, HAZIN, JILANI, his tomb is at Buxar, where he died in A.H. 1180 (A.D. 1766-67), distinguished for his science, learning, and literary talents. He wrote in both prose and verse with equal skill.—*Herkl.*, *p.* 432.

SHEIKH MAKRANI, see Wahabi.

SHEIKH QORAYSHEE, Mohummud and all his companions and descendants.

SHEIKH ALI SHADULI, IBIN OMAN, see Mocha.

SHEIKH SALEH, see Lohaia.

SHAIKH SHARIF BOO ALI, QALANDAR, born at Paniput, a town thirty coss north-west of Delhi, to which capital he came at forty years of age, and became a disciple of Qootb-ood-Deen. He devoted himself for twenty years to external sciences ; after which he threw all his books in the Jumna, and began to travel for religious instruction. In Asia Minor he profited greatly by the society of Shams Tabreez and Mulvi Roomi. He then returned home, lived retired and worked miracles, and is said to have died A. H. 724 (A. D. 1323-24 ?)

SHAIK SIDDEEQEE, sheikhs, descended from Aboo Bukr, Siddeeq.

SHEIK SULTAN KULI, see Hyderabad.

SHEIKH SUDDOO, a Musulman who became a demon. Sheikh suddoo kee kurraee, is a ceremony.

SHEIKH SHAH, see Malwa.

SHEIKH UL SHAYUKH, see Mesopotamia.

SHEIKH UL BALAD, ARAB. President of the municipal affairs of a Turkish town. Chief of a village.

SHEKHAN, see Khyber.

SHEKHAWATTEE. This country extends about eighty miles from north to south, and less from east to west. It has the extensive dominions of the rajah of Jypoor on the south ; on the east the dependencies of the British Government, and on the west the territories of Bikaneer; on the north-west it has the barren country of the Battee clan, formerly a plundering tribe, remarkable for carrying on their depredations on foot, and still more so, for the length and rapidity of the incursions thus made : on the north is Hurreeana, the scene of the exploits of George Thomas.—*Elphinstone's Kingdom of Caubul*, *p.* 3.

SHEK-U, CHIN. A mineral substance used in China as a dentifrice, also as a tisan, in fevers. It is brought from the north of China and is said to be gypsum or alabaster. —*Bennett.*

SHELAH, HIND., of Kobat, a torrent or hill stream.

SHELANDI ARISI, TAM. Rice of Cyperus bulbosus, *Vahl.*

SHELL, the protective covering of the molluscous class of animals widely distributed throughout the earth, the fresh water, and the ocean. This covering is in most cases exterior, and large enough to enclose the whole body ; but in some cases it is interior, and only of sufficent size to protect the heart and lungs. Shell is a secretion from the skin which covers the back of the animal, and which is of a peculiar thickness and fleshy consistence, and is called the mantle. This fleshy mantle is very evident on the back of the common grey slug, in which it covers only a portion of the body, and contains in general, within the substance, an internal shell, small, flat, transparent, and oval. The snail affords a familiar instance of an external shell. Shells are called univalve or bivalve according as they consist of one part, or of two parts joined together by a hinge. The snail is univalve, the oyster is bivalve. Bivalves are inferior in the scale of existence to univalves, both as it respects powers of motion and organs of sense. The generality of the bivalve shells, including various oysters, muscles, &c., are termed nacreous shells, from nacre, the French for mother-of-pearl. The so-called shell of the tortoise, is merely a bony covering, and different in structure from true shell : it is obtained from Ceylon, the Eastern Archipelago, France, Trinidad, &c. The beautiful lining of oyster-shells, known as mother-of-pearl, is manufactured into articles of great beauty. Most of the univalve shells are of the character called porcelanous from their brittleness, translucence, and the resemblance of their fracture to that of porcelain. In the manufacture of Cameos, it is best to leave the edge of the figure quite square, for the thickness of about $\frac{1}{50}$th of an inch. The surface of the cameo should be finished as nearly as possible with the cutting tools, as all polishing with abrasive powders is liable to remove the sharp angles of the figures, and deteriorate the cameo by leaving the form undefined. When, however, the work has been finished as smooth as possible with the cutting tools, the final polish may be given by a little putty-powder used dry, upon a moderately stiff tooth-brush, applied with care, and rather to the dark ground than to the carved surface ; this is the concluding

process, after which the cameo is ready for removing from the block prior to mounting. The covering of the tortoise is called its shell, but it partakes of the nature of horn. Sir J. E. Tennent tells us that the trade in shells is one of extreme antiquity in Ceylon. The Gulf of Manaar has been fished from the earliest times for the large chank shell, Turbinella rapa, to be exported to India, where it is sawn into rings and worn as ankles and bracelets by the women of Hindustan, Dacca being the chief place of manufacture : another use for those shells is their conversion into trumpets which are sounded in the temples on all occasions of ceremony. A chank, in which the whorls, instead of running from left to right, as in the ordinary shells, are reversed, and run from right to left, is regarded with such reverence that a specimen formerly sold for its weight in gold, but one may now be had for four or five pounds. Cosmas Indicopleustes, writing in the fifth century, describes a place on the west coast of Ceylon, which he calls Marallo. Thevenot translates this name 'oysters,' in which case Marallo might be conjectured to be Bentotte, near Colombo, which yields the best edible 'oysters' in Ceylon. But the shell in question was most probably the chank and Marallo was Mantotte, off which it is found in great numbers. In fact, two centuries later Abu-Zeyd, an Arab, who wrote an account of the trade and productions of India, speaks of these shells by the name they still bear, which he states to be schenek; which is merely an attempt to spell the local term, chank, in Arabic characters. In general, shells are more prized for their beauty than valued for their rarity, though some of the 'Argus' cowries have been sold as high as four guineas a pair. One of the principal sources where the Ceylon supplies of shells are derived is the beautiful Bay of Venloos, to the north of Batticaloa, formed by the embouchure of the Natoor river. The scenery at this spot is enchanting.

Near Singapore, says Dr. Traill, there are numerous sheltered bays and inlets, with large tracts of level sand, and in other places, shelving rocks clothed in part with a variety of algæ. It may, however, be questioned whether the geological formation of the coast is such as favours the growth of shells; naturalists are but imperfectly acquainted with the primary formation of the calcareous coverings of these animals; it is known that the membrane which is called the mantle of the animal, secretes a fluid more or less tenacious, which gradually hardens into the consistence of shell, and the manner in which it is deposited, layer by layer has been minutely described by authors, yet it is not known from whence the mineral substance is derived, or what change it undergoes to convert it into the material forming shell. It appears probable, however, that soluble salts, or other combinations of lime existing in the water, are absorbed into the body of the animal, and from thence by the proper ducts conveyed to the surface for the formation and nourishment of the shell. Should this be the case it might, cæteris paribus, be expected that shells of the largest size would be found where calcareous rocks fringe the coast and vice versâ : here indeed an explanation of the difficulty seems at hand, for there are no rocks of a calcareous nature in this neighbourhood ; on the other hand, it is difficult to account for the immense extent and rapid growth of the corallines which line that coast for many miles, and in the elegance of their forms, and variety of their species, almost vie with our land forests. This description of animal vegetation, if it may be so called, appears also to obtain its nourishment by absorption from the sea water; and he considers it not altogether unlikely that this constant and active process maintained by the corallines may interfere with the growth of shells in the immediate neighbourhood. One evident cause of the scarcity of many species of shells, near Singapore, is, that the poorer Malays and Chinese use most kinds of shell-fish as food, and search the shores for them with such diligence as to have caused a dearth of such as are common in less frequented parts of the coast. Among the group of small islands, 30 or 40 miles south of Singapore, where human habitation is rarely seen, the general character of the shells is similar to those of Singapore, but they are more abundant and of larger size, particularly the genera Hippopus, Tridacna, Spondylus and Chama, which, especially the two latter, are much used as food by the natives. Shells are used as a flux in the Beypore blast furnace instead of lime and along the coast, near Madras the finest plaster is made from calcined shells. The Placuna placenta or window shell is still used as a substitute for glass.—*Tomlinson*, *p.* 129 ; *Journal of the Indian Archipelago*, *No.* v, *November* 1847, *p.* 228 ; *Tennent's Sketches of the Nat. History of Ceylon*, *p.* 369-371; *Cosmas Indico-pleustes, in Thevenot's ed.*, *t.* i, 21 ; *Shells of Singapore by Dr. Traill*; *Cat. Ex.*, *p.* 162. See Cement, Chunam, Lime, Mollusca.

SHELLAC or shell-lac.

Chapta-lac, DUK., GUZ., HIND. | Lak, MALAY.

The most common form in which lac is gene-

rally known, is the substance liquified, strained, and formed into thin transparent laminæ.—*Faulkner*. See Lac.

SHELLOK. The Berber and Shellok are untamed, warlike tribes, dwelling on the mountains of N. Africa; when possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race as those whom the French call Kabyle and Zouave. The Moors are little idle men, who grow fat from indolence, they are lowlanders, traders, dwellers in cities, avaricious, perfidious, cowardly, cringing and insolent. The Riff-dwellers of Kalhiya, Cape Tres Forcas, correspond to the Arab Saheli on the Red Sea coast, the name being evidently from 'ripa' a bank.

SHELLU, TAM. Termes, White ants.

SHEM, son of Authur, restored three cities. See Calah, India, Nineveh, Semitic.

SHEMA KALANGU, TAM. Colocasia antiquorum, *Schott.*

SHEMBADAWAR, fishermen of Southern India.

SHEMBRA VALLI, MALEAL. Vitis indica, *Linn.*

SHEMBAGUM, TAM. Michelia champaca.

SHEMBAU-KAMA—? Azadirachta indica.

SHEMBU, TAM. Copper.

SHEMGAR, see Affghan, Kabul.

SHEMITES, see Arians, Iran, Semitic races.

SHEMLIT, PERS. Fenugreek seed, Trigonella fœnum-græcum.

SHEM MARAM, TAM. Amoora rohituka, *W. & A.*, also Swietenia febrifuga, or Soymeda febrifuga, one of the Cedrelaceæ, *Roxb.*, c. 17. The Choar Kulli of N. India. It is a large tree, tolerably abundant, timber very durable and strong, yet light and easily worked, deserving of attention. Its bark is called Rohun ka chilka, Rohun bark. A decoction is made of ten drachms, water two pints. In preparing compound chalk powder, powdered Rohun bark is substituted for the Tormentil of the London Pharmacopæia, which is only used for its astringency.—*Beng. Phar.*, *p.* 404.

SHEM MULI, TAM., TEL. Barleria prionitis, *Linn.* Shemmoolli elley, leaves of Barleria prionitis, *Linn.*

SHEMOOGAH, a town in North-western part of Mysore.

SHEM PARITI, MALEAL. Hibiscus rosa-sinensis, *Linn.*

SHEMTSCHUNG, also Perlu, RUS. Pearls.

SHEMSAQ, an inferior deity of the Kuki, a rude block of wood is put up in every quarter of a village: to him a goat is offered, and they place before it the heads of the slain in battle or the heads of animals killed in the chase. See Khumia, Kuki.

SHENBAGA MARAM, TAM. Michelia nilagerica, also Michelia champaca.

SHEN-CHANDANAM, MALEAL. Pterocarpus santalinus.

SHENDE CODI, TAM. Cocculus cordifolius, *DC.*

SHEN-DOO, a Burmese tribe, who call themselves Heu-ma, and dwell in the mountains north of Arakan. The Khyoung-tha or children of the river, are of Arakanese origin, speak the old Arakan dialect and conform to buddhist customs. The Toung-tha, or children of the hills, are of mixed origin, if indeed they are not aborigines of the country. They speak numerous dialects and worship the deities of the elements and spirits of the hills and streams. The Shen-doo occupy the very remote mountainous country at the heads of the several rivers. They are said to comprise twelve powerful clans, whose habitations extend from the Blue Mountains to Cachar and Burmah proper. They are much feared but little or nothing is known respecting them. Captain Lewin describes them as much taller than ordinary hillmen, and of much fairer complexion: and the faces of those he saw bore no signs of that Mongolian type of physiognomy, which generally prevails amongst the Toung-tha tribes. Both males and females are more decorous in their dress than the other hill tribes, and field labour as a general rule is performed only by the men, and never by the women, excepting in the case of poverty. The Shendoo possess muskets which do not appear to be of European manufacture: the stocks are painted red, black and yellow, and are highly varnished. Their powder flasks are made of gyal horns, and are polished and beautifully inlaid with silver and ivory. Captain Hughes, in charge of the Arracan hill tribes, writing in 1872, mentioned that they have no Ka-mi, or Koo-mee, or Quay-mee; Koon, or Mru. The Shendoo tribe divides itself into five or six branches, who all speak a different dialect; the most powerful of whom are the "Shaing Tee" and Tna-krai-mi, the latter approaching Burmah proper, "Chyn or Khyn." Dr. Mason never before A. D. 1872 heard of the "Tee and Tna-krai-mi," but thought it probable the names only are new.—*Dr. Mason in literis.* See Heuma.

SHENG, CHIN. The sheng are not produced by any alteration of the vowel sound, for sounds which we can only write with one and the same vowel, as for instance, *a* in *fang*, *fan*; *u* in *chu*, are pronounced with all the different sheng.—*Meadows' Desultory Notes*, *pp.* 29-60.

SHENGAZHANIR PU, TAM. Nymphæa odorata.

SHENGHARF, PERS. Cinnabar.

SHENG-KOTTE, TAM. Nut of Semecarpus anacardium.

SHENI, HIND. Rubia cordifolia.

SHENKODI VELI, TAM. Plumbago rosea, *Linn.*

SHENKU, SANS., TEL. Chank shells.

SHENSI, one of the most extensive Chinese provinces, but the western part of it has been erected into a province under the name of Kan-su.

SHENSOY, one of the two Parsee sects in India.

SHENTU, Tseiudu or Shiamdu, see India.

SHENUZAN, see Kabul.

SHENWARI KHYBERI, a race even more infamous for their robberies than the Afridi Khyberi.—*Moorcroft's Travels, Vol.* ii, *p.* 354. See Khyber.

SHEO, HIND. Wine.

SHEOPUR, or Siva-pur, the city of Sheo or Siva, the hindoo god of war, whose battle-shout is Hur ; and hence one of his epithets, as Heri is that of Krishna or Kaniya.

SHEORA, BENG. Epicarpus orientalis, *Blume*, also Trophis aspera.

SHEORANEE. Below the Wuzeeree limits, a little south of the Goomul river, are the Sheoranee hills, stretching from the latitude of Dehra Ishmael Khan downwards to nearly the latitude of Dehra Futteh Khan, a distance of fifty miles. In these hills is the lofty square-shaped mountain called "Solomon's Throne," (Takht-i-Suliman) which gives its name to the Suleemanee range, running parallel for 300 miles to the Indus and forming the western frontier of British India. At the base of this mountain runs the important Zerkunnee pass, the high road for caravans to and from Kandahar. The Sheoranee are of Pathan lineage, of inferior stature to the Wuzeeree; they are warlike and predatory, and quite independent. The number of their fighting-men has been set down at 10,000 ; but this is high. They can muster 1,000 men within a day's notice ; in the course of three or four days they will muster 3,000 more. They adjoin the British tracts of Tak (partially) in the north, then Kolachee then Durrabund, and lastly Choudwan—all in the Dehra Ishmael Khan district, and forming the border plains of the Upper Derajat. With all the above tracts the Sheoranee, up to A. D. 1850, had been at feud. They would be the aggressors, attacking towns, burning villages, carrying off prisoners and cattle. The people of the plain would make reprisals and retaliation and thus the feud would be inflamed. The Sheoranee however were so much feared, that the arable lands skirting the base of the hills were all left untilled and the neighbouring plain villages paid them regularly one-fourth of their produce to buy off depredation : such was the state of things up to annexation by the British, the Sikh government being unable to restrain them. See India, Khyber, Panjab, Sheranee.

SHEPHALIKA, BENG., HIND. Nyctanthus arbor-tristis.

SHEPHERD. The chief shepherds of the S. of India, are the Kurumbar race, their name being from Kuru, a sheep. In the south of India, the shepherds and milkmen, wool-shearers, cow-herds, cow-keepers, Oree golla wanloo, Coraba golla wanloo, Hunde Coraba wanloo, are divisions of the shepherd or cow-keeper races who intermarry. There are several other sections of this people. Golla is the Greek gala milk. In the Tamil country, shepherds are divided into many classes, as, Manyakarar, Kuruku, Pavalangattee, Sambar, and Sival Edyar, &c. &c. They are called Pillay and Kouar. The Dhangar shepherd race are a very numerous body, known in the south as the Kurumbar, from "Kuru," a sheep. There are 55,947 Dhangar in the Berars. In Hindustan, the Dhangar are in some places called Hatkar, and a considerable body of the Hatkar tribe dwell in the peninsula from Bassim north of Hingolee into Berar, and in the hills on the northern bank of the Pain Ganga. They are a warlike race, obstinate and quarrelsome, independent in bearing and pretensious in character, and arrange themselves into the Poli, Gurdi and Muski clans. They eat with the Kunbi ; they burn the dead who die in battle or in the chase, but inter those who die of disease, seating the body cross-legged, with a small piece of gold in the mouth of the corpse. This mode of interring the corpse in a sitting posture is followed by the goldsmith, carpenter, stone-mason, blacksmith and brazier, and by all the vira-saiva lingaet religionists.

Another cow-keeper race is the Gaoli or Goli people, who have been settled from time immemorial along the Satpurah range, and once ruled the hill country round Baitul. It has been suggested that the very numerous "Gaoli" of Bengal are Koli, but such a supposition is as regards the Gaoli of the Peninsula, wholly untenable, the latter being a tall, fair race, evidently of northern origin. The Gaoli of Seoni have many sub-divisions. In the centre of the peninsula the Gaoli are generally robust fair men, and they are scattered all through the Hyderabad country. A settlement in Secunderabad are great, bulky men and women. The shepherds of India have a custom, which is purely Asiatic,

of preceding their flocks of pasture; "He shall feed me in a green pasture, and lead me forth beside the waters of comfort," said the Psalmist; and the daily custom of the shepherd tribe of Hindustan, proves that this poetical and beautiful simile, was drawn from the practices of common life. The Ahir of Northern India now rear cattle, though seemingly in former times shepherds. Near Benares, there are 16 clans. The Ahar of Moradabad and Rohilcund seem identical with the Ahir. The Gurariya of Hindustan rear sheep and goats. The Rewari of the Rajputanah oases rear camels.—*Campbell, p.* 7; *Postans' Western India, Vol.* i, *p.* 196. See Jat or Jet, or Jut, Sherring Castes.

SHEPHERDIA, see Elæagnaceæ.

SHEPHERD'S DOG, see Canis.

SHEPHERD'S TINDER, Eng. Chaptalia gossypina.

SHEPPEY, see Kunkur.

SHER, Hind. Pyrus malus.

SHER, Pers. A lion: a tiger.

SHERAIT-KUCHI, also Kiriat, Tam. Cheretta.

SHERKHIST, Hind. Manna from Fraxinus floribundus.

SHER KHAN BABI, see Kattywar, India.

SHERWAN, a province of Beluchistan. See Kelat.

SHERAWANE, Hind. Flacourtia sepiaria.

SHERANI, a tribe who occupy the Takht-i-Suliman, with hard features, grey eyes, and high cheek bones. They marry late and receive a dowry with the bride. They are engaged in agriculture. See Affghan, Sheorance.

SHERAROW, in lat. 25° 2' N., long. 52° 18' E., a small island on the south side of the Persian Gulf.

SHERBET, Eng. Sharbat, Arab., from sharb, he did drink, water sugared, and generally flavoured,

Sharab ul laimun, Lemon sherbet.
„ „ banafshah, Violet „
„ „ toot, Mulberry „
„ „ hommeyd, Sorrel „
„ „ zebeed, Raisin „

Sherbets are favourite, cooling, and refreshing beverages used in the east; and made with the juice of limes, pomegranate, pine-apples, and other fruit, mixed with water and sugar, with the addition of rose-water, or some other fragrant ingredient. The Persian sherbets are most esteemed.—*Faulkner.*

SHERE, Hind., of Sutlej and Kanawar, Coriaria nepalensis, *Wall.*

SHERE AFKUN, the mightiest name in the annals of sportsmanship, whose pugilistic victory over an enormous tiger is a recorded fact in Mogul history. He lies buried in old Burdwan far away from the place of his birth in Turkomania.—*Tr. of Hind., Vol.* i, *p.* 157.

SHEREF-UD-DIN, see Kabul.

SHERGHOTTI, in lat. 24° 33' 4"; long. 84° 47' 0", in Bahar, 58 miles N. W. of Hazaribagh. Its dâk bungalow, 439 feet, *Robt. Schlagent*; 460 feet above the sea, *Hook.*

SHERIF, Ar. Noble; in British India, a title of a mahomedan whose father was a shaikh, and mother a syudani; also the title of the ruler of Mecca. The sherif of Mecca is very erroneously regarded by some persons in Europe as a sort of mussulman pope, a comparison which is utterly destitute of foundation. He combines no spiritual with his temporal power; the cadi and the mufti give decisions in law and religion with which he cannot interfere, he bears the sword, not the crosier; in the house of God he has no distinguishing place. Hamilton, an old writer describes the sherif of Mecca of this day as having three slashes on each side of the face called masha-ly, which though then falling into disuse had been till lately the mark of all persons born within the sacred territory. In his hand he carried the mashab, the camel stick of almond wood, which is undoubtedly the original of the jackal-headed wand with which some of the Egyptian deities are represented and which is here almost regarded as the symbol of royal power. In his Cashmere waist band was stuck a poniard with a gold and jewel studded handle.—*Hamilton, Sinai, Hedjaz and Soudan, p.* 116.

SHERI MANU, Tel. Anogeissus latifolius, *Wall.*

SHERKI, Ar. The east-wind of scripture. Rich notices an exclamation: "The sherki is come!" As soon as this wind came on, the thermometer rose 10 degrees, from 80 to 90°. The so much-dreaded sherki, seems to blow from any quarter, from E. to N. E. It resembles the Italian sirocco, pronounced scirocco, and no doubt the same word as sherki, *i. e.*, easterly. The Koords call it Baya Rish, or black wind.—*Rich's Residence in Koordistan, Vol.* i, *pp.* 125, 145.

SHERKIST, Guz., Hind., Pers. Manna.

SHERKUN, a six-pointed diagram for which the brahmans have several mysterious names; but it is generally called Sherkun, which means little else than six-pointed. If it have five points, it is also replete with mythological allusions: Siva and Brahma have, or had, five heads. The diagrams have also mathematical properties of a mysterious description; and they serve, like our fox and

goose or solitaire boards, for a game, played with cowries, or with dice, guiding the movements of the men. It is a popular game, and the instruments of play are always at hand: the lines drawn in the dust with the finger, and a few stones picked up, will furnish the means of gaming: cowries being used as money, two or three of them are rarely wanting to a party disposed to play. The triangle, is called Trikun, which it literally means; and has been explained by a brahman as the symbol of certain deities or powers, and the type of triune, co-equality: and hence applied by some to the three great powers conjointly. A point, called Purm, represents the deity; having neither length nor breadth, self-existing, containing nothing. A circle is Brahm, Eternity; having neither beginning nor end, unity, perfection.—*Moor, p.* 404.

SHERRY, a well known wine, of a deep or light amber colour. When good, it has a fine aromatic odour; its taste is warm, with some degree of the agreeable bitterness of the peach kernel. It is principally produced in the vicinity of Xeres in Spain. It is extensively used as a dinner wine.—*Faulkner.*

SHERVAROY HILLS or Shevaroy Hills, a few miles N. E. from Salem, are a mass of densely-wooded flat topped hills, the mean height being 4,600 feet and the highest peak 5,260 feet. These hills are an irregular mass of mountains separated by deep valleys in the Salem district of Peninsular India, in the Madras Presidency, in lat. 11° 50 N., and long. 78° 20′ E. They form the northern boundary of the valley in which the town of Salem lies. The Shevaroyen or Green-mountain, is about 5,200 or 5,300 feet of elevation. Their entire length from north to south is about 17 miles and their breadth 10 or 12 miles. The superficial area of the higher plateau has been estimated at one hundred square miles. The highest portions of the plateau are from 4,500 to 5,000 feet.

SHERZA, HIND. Eagle.

SHESHA, see Inscriptions, Sesha.

SHESHAVAT, SANS., from shesha, the end.

SHETTI, MALEAL. Ixora coccinea.

SHETTI KODIVALI, MALEAL. Plumbago rosea.

SHEWA DARU, HIND. Nigella sativa.

SHEWAN, see Jell, Sehwan.

SHEWUN, or Sewun, MAHR. Gmelina arborea, *Roxb.*, also Gmelina asiatica.

SHEYALKANTA, also Sheyala, BENG. Valisneria octandra.

SHIA, HIND. Dalbergia sissoo.

SHIAH, mahomedan sectarians, followers of Ali and the twelve Imams. The shiah mahomedans of India, on the 18th Zihaj, make three images of dough, filled with honey to represent Abu Bakr, Omar and Osman, and stick knives into them. The shiah mahomedan often marry by the mita ceremony, for a brief period.— *Wilson's Gloss.* See Kajar, Kabul, Kashmir, Kazzilbash, Khajah, Khulm, Kohat, Sikhs, Mahomedan.

SHIA-DZA, BURM. Catechu.

SHIA-DZAON, BURM. Euphorbia canariensis, *Linn.*

SHIAH TURI, see Affghan.

SHIAL-KANTA, BENG., HIND. Argemone mexicana.

SHIBBEGAM. Across the Moorghab, and towards Balk, which city is in the territory of the king of Bokhara, lie the small states of Andkho, Maimuna, Shibbergam, Siripool and Akchee; a connection subsisted between them and Herat, but since they are divided against each other, their aid is of small avail. In A.D. 1830, all of them were engaged in the slave trade, and independent, though they send presents of horses both to Herat and Bokhara.

Maimuna is the most important of the whole: the chief in 1840 was Mirzah Khan, an Uzbek of the tribe Wun, and his country extended from Maimuna to the Moorghab, and adjoined that of Sher Mahomed Khan, Huzara. Maimuna itself is an open town, or rather village, of about 500 houses; but the strength of the chief consists in his "il," or moving population, who frequent Ulmur, Jaukira, Sorbagh, Kaffir-Killa, Khyrabab, Kusar, Chuçkaktoo, Tukht-i-Khatoon, and other sites, which can scarcely be called villages. He also numbers Arabs among his subjects, many of that tribe having been long settled here.

Andkho, or Andkhoee, in 1840, was ruled by Shah Wali Khan, an Affghan Toork, who settled here, with others of his tribe, in the time of Nadir. They were then of the shiah sect, but are now soonee. The "il" of the chief, besides his own race, are Arabs, and he could furnish 500 horses. Andkho has a larger fixed population than Maimuna, being in one of the high roads to Bokhara, but there is a scarcity of water in this canton. Wheat is here a triennial plant. Andkho was the place where Moorcroft perished.

Shibbergam, in 1840, belonged to an Uzbek chief. Shibbergam is considered to be a very ancient place, being given to the days of the Kaffir (Greek), and still the strongest fort in these parts. The "ark" or citidal is built of brick and mortar, and surrounded by other walls of mud. Kalik Ali Beg, a chief of Balk, besieged it for seven years without success, but it must only be understood to be strong against Uzbeks, who are badly supplied with

artillery. Water is conducted to it from the rivulet of Siripool.

Siripool, in 1840, an Uzbek of the tribe of Achumuelee, governed Siripool. His "il" are in Sungcharuk, Paogau, Goordewan, and Daghdrab. Siripool itself is as large as Maimuna

Akhchee is a dependency of Balk, and in 1840 was held by a son of Eshan Khoja, the governor of that once vast city.

All of these chiefships are situated in the plain country, which in general is well-watered by rills or canals, and has an abundance of forage for camels and horses, which are numerous. The soil is dry, but there are many gardens near the towns. The style of building, from a scarcity of wood, is that of the bee-hive shape. There is a good open caravan road from Meshid to Balk, which is a journey of 16 days; thus, from Meshid to Shurukhs, 4; to the Monghul, 3; to Maimuna, 4; and to Balkh in 5 days. This is much the nearest route to Cabool from the west.—*Burnes, Papers, East India, Cabool and Affghanistan, pp.* 136-37.

SHIBLACH, Hind. Saxifraga ligulata.

SHIBLING, Hind. Bryonia, *sp.*

SHIBLINGI, Hind. Desmodium, *sp.*

SHIBS-TVEBAK, Dan. Biscuits.

SHIBT, Hind, Anethum sowa, fennel.

SHIBUL, Duk. Cardiospermum halicacabum.

SHIBUJH, Beng. Cardiospermum halicacabum.

SHIELD.

Daraq,	Ar.	Tarbil, dadap,	Malay.
Dhal, Hind., Tam., Tel.		Salukong,	"
Tameng, paris,	Malay.	Siphar,	Pers.
Prisai; Otar-otar,	"		

The use of the shield or buckler seems to have been universal over all the Malay and Philippine Archipelagos before the introduction of fire-arms, and is still continued by all the ruder tribes. In Malay there are no fewer than seven different names for it, four of which are native,—two taken from the Javanese, and one from the Telugu. These names, however, refer to the different forms of it rather than constitute synonyms. Wherever the sword, the javelin, the spear, the bow and arrow, and blow pipe are used as weapons in war, the shield is still carried for protection. —*Crawfurd's Dict., p.* 379.

SHIGAR, three small districts on the Scardo frontier, on the rivers of Shigar, Khartaks and on the main stream of the Indus, from 7,000 to 9,000 feet high. The chief is entitled Gyal-po. The Shigar river is a feeder of the Indus, north of Balti.

SHIGRAM, Tam. A somewhat enlarged palanquin on wheels. In India they are much used principally as hack-carriages.—*Frere's Antipodes, p.* 193.

SHIGRI, a river of Spiti in the N. W. Himalaya, with a great glacier, which about A. D. 1830, burst and a great inundation ensued, destroying much life and property. See Glacier.

SHIJ, Beng. Euphorbia nivulia, *Buch.*

SHIJRA, prop. Shujra, a list of the saints or holy predecessors given by the murshid of the mahomedans to their disciples.

SHIKAR, Hind., Pers. Game, prey, field sports. Shikar-gah, jungle tracts, reserved for hunting dynasty.—*Buries.*

SHIKARGAH or "hunting places:" Bela, as the people call them, formed a peculiar feature in the face of Sind. The Talpur amirs of Sind calculated that every head of deer killed cost them £80, and this is no exaggeration, duly estimating the loss of revenue occasioned by converting valuable land into hunting forests. The Shikari (huntsmen), or dapher, of Sind are, if possible, an even more degraded race than the Bale-Shahi. Their second name is probably derived from the dapho, or broad-headed javelin with a shaft six or seven feet long, their favorite weapon. The Sindhi deduce from the word etymological reasons for proving that they are descended from a plurality of fathers. The Shikari are neither moslems nor hindoos They are very numerous about Omerkot and the Thur, where they subsist by manual labour, agriculture and hunting. In these regions there is something remarkably wild and savage in their appearance. The only garment worn is a cloth round the waist, except in winter, when a tattered blanket preserves them from the cold. Armed with his usual weapons, the Shikari generally seeks the wildest part of the country where he can find the greatest number of hogs, jackals, lynxes, and a kind of lizard called Giloi.—*Burton's Sindh, Vol.* ii, *pp.* 82 *to* 307.

SHIKARI MEWA, Hind. of Kuhat, Grewia betulæfolia.

SHIKARPUR, 27° 55′; 68° 52′, a town in Sindh, on the right side of the Indus. Mean height 250 feet, *Griff.* It is to the west of the Indus river and contains 30,000 people. It is a great central enterpot, trading with Central Asia, Affghanistan and Bokhara. Its hindoo merchants have the whole commerce of Central Asia in their hands, through an extensive agency, established in Hyderabad, Bombay, Jaipur, Bahawalpur, Multan, Dera Ghazi Khan, Dera Ismael Khan, Amritsar, Khorasan, Peshawur, Kabul, Khulm, Kunduz, Balk, Bokhara, Mashad, Herat, Sistan, Persia, Turkestan, Candahar, &c., &c. It has no manufacture of any description, but derives

SHIKARPUR.

its distinction solely from its situation in the midst of the commercial routes; Herat, Candahar, Shal and Kalat, are its western marts; Bombay and Hyderabad are its southern marts. Candahar supplies Shikarpur with the silk of Herat, Yazd, and Tun, which is sold at a profit of from five to three and four rupees per seer. It is only used by women in embroidery. The city, renowned for its wealth, is particularly celebrated for its hindoo bankers and money-dealers, whose connections are ramified throughout the countries of Central Asia and of Western India. It is especially the home of these people, where their families are fixed, and where are detained those of the gomastah, or agents, located in foreign countries. As the city is not understood to be one of great antiquity, it is possible that the influx of hindoos to it is not of very distant date, and that it was occasioned by the fluctuations of political power. That Multan preceded Shikarpur as the great money mart, and that from it the hindoos removed, converting the insignificant village of the chace into a city of the first rate consequence. Shikarpur, no doubt, attained its high rank under the Durani monarchy of Affghanistan, and much of the prosperity of its bankers was due to the vicious operation of that dynasty. As a city, Shikarpur is indifferently constructed. The bazaar is extensive, with the principal parts rudely covered, so as to exclude or moderate the heat, which is extremely powerful. As usual in Indian cities, there is the inconvenience of narrow and confined streets. Shikarpoor is sixteen coss distant from the island fort of Bakkar in the Indus, and twenty-one coss from Larkhana. About four coss from it, on the road to Bakkar, is the once considerable town of Lakki, which, populous and flourishing under the Affghans, is said to have contributed one lakh of rupees as annual revenue.

Between the domain of Shikarpur and Beluchistan stretches a barren, naked tract; known as the "pat" of Shikarpur. It is between thirty and forty miles across. Not a tree or shrub vegetates on this expanse. Westward it extends to the superior hills, and separates the lands of the Magghazzi, subjects of Kalat, from those of the Chandi tribe, dependent on Sind. In the hill range east of the plain of Kachi, and intervening between it and the provinces of Harand and Dajil, are the abodes of the Doda Marri, who have been there located above three centuries. Their principal town Kahan, became memorable in A. D. 1840 through its occupation and abandonment by British troops, as well as by the disasters and losses it involved. The Marri had long been disti guished as daring depredators, and ha proved themselves to be a brave race. T Doda are but a division of the great Ma tribe, which is widely dispersed.

The Harand and Dajil, provinces bor on the river Indus, it is impossible to co cede to Kach Gandava one hundred thousa or to the Marri hills, with Harand and Da above fifty thousand inhabitants. Granting equal number to Saharawan, including Nush Kalat and Jhalawan, and again an eq number to the Western Provinces, we obt a total of four hundred and fifty thousand i habitants for the territories of the khan of K lat; Numerous as are the tribes dispersed o the extensive Baluch regions, those conside Baluch may be reduced to three great clas the Brahui, the Riud, and the Lumri. those not Baluch, there are the Dehwar of t capital and the fixed villages, the Jet Katch Gandawa, the maritime tribes of t coast, the Affghan of Shall, and, to compl the review, the hindoo residents in villa and towns. The race calling themselves B luch, extend from the eastern limits of Ka Gandawa and the valley of Sind to the fr tier of Persia. In this community are co prised many tribes of very different desce inferring from the physiological distincti which prevail amongst them, setting asi the variety in the dialects spoken by the Some of them have dark countenanc which savour much of an Indian pedigr while others are so much fairer, that can scarcely believe them to be of east origin. If we examine the system of th portion of the Baluch community call Brahui, we find the tribes acknowledging t superiority of one, the Mirwari, from whi they select their head, or chief. This tribe located in the provinces of Mushki, Jow, a Kolwah, which may be considered its he quarters, and which are intermediate betwe the central provinces of Saharawan, Jhalaw and the western one of Kej. There is eve reason to believe that the Brahui entered t central provinces from the west, as th position, demonstrates; and they consid Khozdar as their ancient capital, or that whi they occupied previous to the acquisition Kalat. In Kach Gandava we find them o as proprietors of land acquired within known period, and on a certain occasion. we analyze the appellation they have assume we learn little from it, and of that little w may not be certain. It has been conjectur to be the equivalent of Varaha, and a race that name figured in contentions with th Rajputs. The Brahui may be divided int

three sections, with reference to the parts of the country they inhabit ;

SECTION I.

Inhabitants of the Western Provinces.

Mirwari	dwell in	Mushki, Jhow and Kolwah.
Gitchki	do.	Panghaur and Kej.
Nushirwani	do.	Kharan.
Homorari	do.	Kolwah.
Mehmasani	do.	Mushki.
Rodahi	do.	Kolwah.
Kalmatti	do.	at Kalmat and Pessani, on the coast of Mekran.
Sangur	do.	Malan and Batt, do. do.
Gujar	do.	do. do. do.
Hallada	do.	Jhow.
Zigger Minghal	do.	Nushki.
Rakshani	do.	do.
Saka	do.	Greshar in Mushki.

SECTION II.

Inhabitants of Saharawan.			Fighting men.
Raisani	dwell at	Mastung, Shall, &c.	500
Sirpherra	do.	Gurghina	1,000
Shirwani	do.	Mastung	2,000
Mahmudshahi	do.	do.	1,500
Bangul Zai	do.	do.	2,000
Kurd	do.	on Dhasht-be-dowlat and Merv	500
Lari	do.	at Mastung	1,500
Langhow	do.	Mangachar	1,500
Rodeni	do.	Ashi Khan and Puden.	400
Shazghi	do.	Ghazg	400
Shekh Husseni	do.	in hills, west of Khanak.	300
Sumalari	do.	do. do. do.	500
Samari	do.	Dasht Guran	200

SECTION III.

Inhabitants of Jhalawan.

Zehri	Dwell in	Zehri	
Minghal	do.	hills, north of Las	18,000
Bizunsu	do.	same hills, west of Minghal	18,000 ?
Kaidrani	do.	hills near Khozdar.	
Saboli	do.	do. do.	
Jetako	do.	hills, east of Zehri.	
Lutiani	do.	Zehri.	

Of the Mirwari it has been already observed, that it is the more illustrious of the tribes, and of the Mehmasani it may be noticed, that branches of it reside in the province of Seistan, and again in the hills of Luristan, W. by N. of Shiraz.—*Mohun Lal's Travels, pp.* 353–412 ; *Masson's Narrative, pp.* 333 *to* 358 ; *Pottinger's Travels in Beloochistan and Sinde, p.* 20 ; *Pottinger's Travels in Beloochistan and Sinde, p.* 90.

SHIKHOE, BURM. A Burmese obeisance made by raising the two hands to the forehead and bowing to the ground.—*Yule, p.* 82.

SHIKHI VAHANA, SANS., from shikhi, the name of a peacock, and vahana, a vehicle.

SHIKH, SANS., from shishyu, a disciple.

SHIKHA, see Hindu or Hindoo.

SHIKHAN. The Shikhan, Mishti and Raken-khel tribes occupy districts in the British territory.

SHI-KING, the sacred books of the Chinese, they were translated into Latin by Father Lacharme, a Jesuit missionary in China.

SHIKOH. A darvesh (and likewise a hindoo) named Baba Lal who dwelt at Dhinapoor in the province of Lahore, the founder of a sect called Baba Lalee. He held frequent conversations on the subject of religion with Dara Shikoh, eldest son of Shah Jahan, and brother of Aurungzebe, which have been published in a Persian work by Chundurbhan named Shah Juhanee.

SHIKORIAH, AR. Cichorium intybus, *L.*

SHIKRA, a hawk ; Shikrah, female ; Chipak, male.

SHIKROEN, HIND. Acacia amara.

SHIKSHA, SANS. To learn.

SHILANCHI, see Kelat, Kadjak.

SHILANDI, TAM. Cyperus bulbosus, *L.*

SHILI, HIND. Eremurus spectabilis.

SHILI GHA, HIND. Chrysopogon glaucoptis.

SHILLI, HIND. Fraxinus xanthoxyloides, the crab-ash.

SHILLONG, a mountain in Assam, in lat. 25° 30′, long. 91° 40′, with a height of 6,124 feet above the sea. Shillong on the Cossyah hills, is about 30 miles north of Cherra-poonjee. It overhangs the northern ridge of the range, overlooking the valley of Assam, and it is with relation to Gowhatty as Cherra is to Sylhet. The southern ridge of the range of hills is precipitous. The northern ridge descends by longer and more gradual steps. The sea formerly washed the base of the southern line of hills and the prospect from Cherra is now called a marine view. Shillong is not so grand as Cherra, neither is it so abundant in mountain streams, full of life and health, refreshing to both ears and eyes, as Cherra, which is called the "station of streams." It is however a fine open station, with a view of the snowy Himalayan range. A road is made from Shillong to Gowhatty, distance 62 miles. There are two rivers to cross, formidable enough in the rains, and causing considerable inconvenience. The Shillong mountain is between Assam and the Cossyah hills. It is six thousand feet at its apex, above the sea level, and is within but one day's journey of Gowhatty in Assam, which is accessible from Calcutta by steamer. Shillong is also approachable from the Sylhet side viâ Cherra Poonjee.

SHILPU, SANS. An art.

SHIM, TAM., MALAYALAM. A tree, which grows to an enormous size, commonly known as the buttress tree, 45 feet in circumference and 110 feet long. It has a soft, spongy sort of wood of a white colour ; not durable, nor of much use, unless it be oiled, when it may last for five or six years for canoes or cata-

marans, provided they are taken out of the water when not wanted. If it be kept in water, two years will render it water-logged and useless.—*Edye, Forests of Malabar and Canara.*

SHIM, Beng. Kidney bean, Phaseolus vulgaris.

SHIM-BATTRAJEE, Beng. Dolichos glutinosus.

SHIMBEAMS, in Madras, are planks 20 to 30 feet long ; ¼ to 2 feet in breadth and from 4 to 8 inches thick.

SHIMLEE, Sans. Canavalia gladiata, *De Cand., Roxb., W. & A.*

SHIMOOL, Beng. Bombax malabaricum, or Salmalia malabarica, called the silk cotton tree.

SHIN, Hind. Dalbergia sisso.

SHINA, see Dard. The name is derived by Pococke from Sinwar, the people of the Indus. See Kesra.

SHINAR of Scripture, ancient Babylonia.

SHINAZ, Hind. See Shirna.

SHINDAR, Hind. Pyrus variolosa, also Quercus incana.

SHINDU, see India, Shendoo.

SHINDUGA, Tel. Acacia odoratissima.

SHING, Hind. Fraxinus floribunda, also Jasminum officinale ; som shing, Hind., is Pinus excelsa.

SHINGAHAR, Beng. Nyctanthes arbor-tristis.

SHINGAN, Burm. Hopea odorata.

SHINGARA or Singara, Beng. Water caltrops, Trapa bispinosa.

SHINGARF, Hind. Cinnabar, sulphide of mercury. Shingarfi rang is a vermilion or scarlet colour from finely ground cinnabar.

SHINGARI, Hind. Rosa macrophylla.

SHINGE, Tib., is the Yama of the hindoos.

SHINGRA, Duk. Quercus serrata.

SHIN-NONG. In Chinese mythological history, a king who instituted agriculture.

SHINGSHUPA, Beng. Dalbergia sissoo.

SHING TIK, Hind. Lonicera glauca.

SHINKI, see Kurdistan.

SHIN-TAO, see Ka-mi-no-mi-tsi.

SHINTIYAN, is the common sword-blade of the bedouins, in Western Arabia, it is called Major (from the Magyras ?), and is said to be of German manufacture. Good old weapons of the proper curve, marked like Andrew Feraras with a certain number of lines down their length, will fetch, even in Arabia, from 7*l.* to 8*l.* The modern and cheap ones cost about 10*s.*—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 365.

SHINWALA, Hind. Rhododendron campanulatum.

SHINWARI, an Affghan tribe, besides their portion of the hills, have the lands immediately west of them, and some of the valleys of the Safed Koh range. More westerly stil[l], under the same hill range, they are fou[nd] south of Jelallabad, and are the neighbours o[f] the Khogani.

SHINZ-KUBI, Brahui. Alhagi mauro[rum].—*Tourne, W. & A.*

SHIONA, Hind. Calosanthes indica, *Bl*[…]

SHIOOLI, Beng., Hind. Nyctanthe[s] arbor tristis.

SHIP.

Safika ; Markib,	Ar.	Navis,	La[t].
Grab ; Zoraq ; Kosal,	,,	Jahaz ; Kishti ;	Pe[rs].
Navire ; Vaisseau,	Fr.	Nave ; Navio ; Bazel,	S[p].
Schiff,	Ger.	Buque,	,,
Nao ; Jahaz,	Hind.	Ghemi ; Tekne,	Tu[rk].
Nave;Naviglio;Vascello,	It.		

Notices of the various kinds of ships will b[e] found given under the head of Boat. On th[e] eastern side of the Peninsula of India, th[e] ship is built with her keel parallel to the sho[re] and, as it may happen, from 200 to 300 fe[et] from low water-mark. When completed, sh[e] is placed on two strong pieces of timbe[r] called dogs, (in the nature of a sledge of eno[r]mous dimensions) ; and on these, a sort o[f] movable cradle is constructed, to keep th[e] vessel upright. Two long palmyra trees, [a] lever of the second kind, are then applied [to] the ends of the dogs, and by means of the[se] powers, they, together with the vessel th[at] rests on them, are gradually pushed forwa[rd] over a platform of logs, until they arrive [at] the lowest pitch of low water, or as fa[r] beyond it, as the levers can be used. Tackl[es] are applied to the ends of the levers, t[o] increase the power : the fulcrums, are wreat[hs] of rope, fastened to the logs on which th[e] vessel slides :, and are removed forward as she advances. Two cables from the land side, are fastened to the vessel, to prevent he[r] from sliding too rapidly, and these are gra[-]dually let out, as she advances. It is com[-]monly the work of two days to transport the vessel to the margin of low water. If the tide does not rise high enough to float her from thence, (which it seldom does, if the vessel be of any considerable burden), part of the cradle is taken away, and the ship left chiefly to the support of the cradles till high water, when they are suddenly let go, and the vessel falls on her side ; and with the fall, disengages herself from the remains of the cradle, and at the same time plunges into deeper water. A ship of 500 tons has been launched in this manner.—*Rennell's Memoir, p.* 245. See Boats, Chittagong or Islamabad.

SHIPKE, see Kunawer.

SHIPU, Tam. Combs.

SHIR, Hind. Machilus odoratissimus.

SHIRA, Sans. A fibre.

SHIRA, Hind. Treacle used in distilling spirit.

HIRAMI, see Kaysar.

HIRASH of Beas. Hornbeam.

HIRHAWTI RIVER, falls into the lf of Arabia; at its embouchure, it is t one-fourth of a mile in width, and in rainy season some thirty feet in depth. e immense body of water rushes down a y slope for 300 feet, at an angle of 45°, he bottom of which it makes a perpendir plunge of 850 feet into a black and al abyss, with noise like the loudest nder. The whole descent is therefore 1,150 or several times that of Niagara; but volume of water in the latter is somet larger than in the former.

HIRAZ, a neat bustling town. Its bazaar f great extent, with a lofty arched roof. ands in a beautifully irrigated Vega. The of Sadi stands by itself in a recess, but of Hafiz requires to be pointed out from ltitude of others around it. The wine of az, is a fine powerful dry wine, not so as brown sherry. Near the Jahan Numa hiraz is a building called Chahal Tan, e forty bodies or persons." Another, the Tan or "seven persons," (from the ber of holy men there buried.) At Shiraz, a and other towns, African slaves are nguished by flowery names or epithets, essing beauty and fragrance, in proporto their natural ugliness or offensive l, as yasmin the "jessamine," sumbul hyacinth," jauhar, "the jewel," and bul "the pleasing" "or agreeable."—ne; *Ouseley's Travels, Vol.* ii, *pp.* 2, See Jews, Kanat, Kemancheh, Sheraz.

HIRESH, Beng., Hind. Acacia speciosa.

HIRE, an author of Notes on Indian rs, severely and searchingly analysing ish rule in India.

HIRI GUMUDU, Tel. Gmelina parvi-.

HIR-I-DARAKHT-I-ZAKAM, Hind., s. Gum of Euphorbia.

HIRIN, Hind., of Kanawar. Acacia julin, also A speciosa; kut shirin, is Costus,

HIRIN, Hind. Sweet. Pers., fresh, as water, not brackish.

HIR-I-REWAND, Gamboge.

HIRISH, Beng. Acacia sirissa.

HIRIVENCHA, or Siruncha, lat. 18° N. long. 79° 59′ E. in Berar, on the left nk of the Pranhita, 389 feet above the sea. -*Schl. Ad.*

SHIRJA, Hind. Coloured cloth.

SHIRKHIST, Hind. Manna from Fraxinus, *sp.* Khorassan manna, from Khorassan is supposed to be the produce from an olive.

SHIRNA, Hind. The inflated large buffalo or bullock skin used for crossing streams in the Himalaya hills. In Kashmir these large skins are not used but small ones tied two together.

SHIROKA, Hind. Hordeum hexastichum.

SHIROMANI, Sans., from shiras the head, and mani, a jewel.

SHIR-THOHAR, Hind. Euphorbia tiruculli.

SHIRVAN, see Persia.

SHIRWA, Hind. Brassica rapa.

SHIRWA, a lake on the east of Central Africa, reached by Dr. Livingstone.

SHIRWAN, see Iran, Kelat, Kufra.

SHIRIWAL, Hind. A kind of rice, in Kashmir.

SHIRZY RAO, Ghatgay, a Mahratta leader and minister of great notoriety. He was the father of Baiza Bai, who married Dowlat Rao Sindhiah.

SHISHAI, or Shisham, Hind. Dalbergia sissoo.

SHISHA-LUN, or Nimak, Hind. Crystal salt.

SHISHAM, or Tali, Dalbergia sissoo, the sissu tree, it attains full size and becomes useful in 50 years. Trunk of the tree to the first branch 10 feet in length (some say 20 feet), and circumference 4, 5 or 6 feet; wood in old tree dark-bay, veined, hard and of great durability; well adapted for all articles of furniture and also as timber for building purposes.—*Balfour's Timber Trees of India, para.* 151 *of Mr. Barnes' Settlement Report*; *p.* 33 *of Roorkee Proceedings*; *Papers on Gwalior Timber*; *Powell's Handbook, Vol.* i, *p.* 542; *Lt. Col. Lake.*

SHISHOO, Beng. Sissoo tree, Dalbergia sissoo.

SITTAMOOTTI, Tam. Pavonia zeylanica.

SITTAMUNAK, Tam. Ricinus communis, the Castor oil plant.

SHITTAM TREE, mentioned by Isaiah, and also in Exodus, is supposed to have been an Acacia. Hippocrates speaks of the Egyptian Acacia and of the white Acacia, distinguished, he says, by its white bark, white wood, and white flowers; and from this tree his "white fragrant ointment" was probably made. See Gums and Resins.

SHITRAJ, Hind. Fumaria parviflora, also Plumbago europea and Pl. rosea.

SITTRAPALADI, Hind. Euphorbia thymifolia.

SHIVA, one of the chief gods of the hindoos. See Siva.

SHIVA-NIMBA, Sans. Aspalathus indica.

SHIVA RATRI, a hindoo festival occurring in the latter end of February or beginning of March. See Siva-ratri.

SHIVE-OO-DOUNG, a great mass of mountains which runs parallel to the Irrawaddi as far as Amarapura, one peak is estimated to be 6,000 feet in height.

SHIVINAR VEMBU, TAM. Aspalathus indica, or Indigofera aspalathoides, *Vahl.*

SHIVOPAKHYANA, SANS., from Shiva, oopa, prep., and akhyana, to speak.

SHIU-DAGON, a budd'hist temple at Rangoon, built on the summit of a laterite hill. This has for two thousand years "shot upwards, like a pyramid of fire" athwart the flats of the delta of Pegu. The height above the ground level is 487 feet, and above the platform 321 feet. See Shooay Dagon.

SHKA, HIND. Cornus macrophylla.

SKHO, HIND. Ulmus campestris.

SHLONGA-KUSPI, MAHR. Clitoria ternatea, *Linn.*, *Roxb.*, *W. & A.*

SHLUI, HIND. Hedychium spicatum.

SHAMASHANA-KATEE, SANS. From shmashana, a cemetery.

SHNE, HIND. Turpentine of Pistacia integerrima, Terebinthus.

SHOA. In 1840, Sahela Selassie, king of Shoa in southern Abyssinia, expressed a desire to cultivate the friendship of the British Government and wrote to the Government of Bombay asking to be furnished with guns and warlike stores. Shoa was then one of the most powerful and important provinces in Abyssinia. It is inhabited by the Galla tribe. At the time when Sahela Selassie made these advances, the steam navigation of the Red Sea had given an exaggerated importance to the tribes of Abyssinia. It was therefore determined to send a mission to the court of Shoa, with which country the French also appeared anxious to establish friendly connections. A commercial treaty, was concluded with the king on 15th November 1841.—*Treaties, Engagements and Sunnuds, Vol.* vii, *p.* 310.

SHOES.

Schœnen,	DUT.	Kasut ; Sapatu,	MALAY.
Soulier,	FR.	Baschmaki,	RUS.
Schuhe,	GER.	Zapatos,	SP.
Jora,	GUZ.	Cherupu ; chapatu,	TAM.
Juti,	HIND.	Cheppu,	TEL.
Scarpe.	IT.		

The sandal was doubtless the foot-clothing of all ancient times, and the flinging of one on a territory was a symbol of taking possession. The Psalmist says upon the land of Edom do I cast my shoe. In Ireland after the chief took the white rod, the sub-chieftain placed sandals on his chief's feet, retained one as an honorable perquisite and threw the other over his chief's head as an augury of good luck. The sandal is still used by the hindoo and mahomedan nations in the south of Asia, shoes as articles of covering for the feet, are generally made of leather, but cloth of kinds is also used. The shoes, or rath slippers worn by the natives of South India, are generally of red leather if for me they are made for the Madras market Trichinopoly or Arcot, the patterns are call Appa-shahee ; Chanddooroo ; Chuppul ; an Nok-dar. The rich natives use a buff coloure cloth. The slippers of females are ornament ed with spangles. Their price is from 4 ann to a rupee. Thunberg says that, in his tim the shoes of Japan were always the shabbie part of the dress of the Japanese and bein of straw, they lasted but a little time. Bu they were made in immense numbers, co but a trifle, and could be bought in every tow a village in the empire. The pedestrian, there fore, throws away the old pair by the ro side, and buys new ones as he goes along while the more provident man takes two three pairs with him on starting. Immens numbers of discarded shoes were to be fou on the sides of all the roads. In wet weath they wear under the shoe a wooden clog, whi is attached to the foot by ties of plaited stra Dignitaries sometimes wear slippers made fine rattan slips neatly plaited. In Exod. i v. 5, the Lord commanded Moses saying, 'P off thy shoes from off thy feet for the pl whereon thou standest is holy ground.' Th natives of British India never go into the own houses, nor into the houses of other with their shoes on, but always leave them at the door. It is a great affront not to atten to this mark of respect in visiting, and to enter a temple or mosque without pulling off the shoes, would be an unpardonable offence. A shoe bearer is a very humble office, and in Matthew iii, 11, John says of Christ, He that cometh after me is mightier than I, whose shoes I am not worthy to bear. Luke xv, 22, says 'And put shoes on his feet.' In Bengal, shoes of a superior quality make one of the distinguishing parts of a person's dress. Some of these shoes cost as much as a hundred rupees a pair. Shoes are put off the feet before entering a room, (Ex. iii, 5 ; Josh. v, 15.)—*Faulkner* ; *Herklots* ; *American Expedition to Japan, p.* 65 ; *Thunberg.*

SHOE-FLOWER, Hibiscus rosa-sinensis. See Dyes.

SHOGHA, HIND. A kind of rice at Peshawur.

SHOGUL, HIND., of Chamba. Pyrus variolosa; wild pear.

SHOI-KIRE, TAM. Fœniculum vulgare.

SHOILA, SANS., from shila, a stone.

SHOIVACHARI, SANS., from Shiva and acharin, practice.

SHOJINA, BENG. Hyperanthera moringa.

SHOKRAN — ? Conium maculatum.

SHOLA, or Sola, HIND. Æschynomene aspera. Its root is made into toys, artificial flowers, birds, garlands, floats for nets, or in bundles for crossing rivers. When charred it answers for tinder. Phool-sola or Bheud, is the Æschynomene aspera ; Æ. roxburghii is the Bhat-sola ; Æ. paludosa is the Kat-sola.

SHOLA, in the S. of peninsular India, a small forest in a valley or on the slope of the hills. In Wynaad, a ravine filled with tree thickets. The forest rules approved by government as applicable to Utakamund, are :—the whole of the sholas, or woods, in the reserved woods at the neighbourhood of the station are absolutely reserved, not only for their beauty but also from fear of injuring the water-springs ; their limits to be marked ; no private cutters to be allowed inside ; old trees to be felled by servants of the department and brought outside, and to be sold there by public auction. Trees to be planted where required, in vacant places.—*Report of Madras Conservator of Forests*, 1859-60, *p.* 11.

SHOLAPUR, a town and fortress in the Dekhan in the Bombay presidency.

SHOLAR, HIND. Scopolia præalta.

SHOLASAGAMANY, Fine rubies have, from time to time, been discovered in many of the corundum localities, particularly in the gneiss at Viralimodos and Sholasigamany, also in the Trichingode talook and at Mallapollaye, but are comparatively speaking rare.

SHOLI, SANS. Curcuma zedoaria, *Roxb.*

SHOLRI, HIND. Salvia lanata.

SHOMA. HIND. Solenanthus, *sp.*

SHOM-LUTA, BENG. Sarcostemma brevistigma, Sarcostemma acidum, *Wight.*

SHOM SINGH, HIND., of Lahaul. Pinus excelsa, lofty pine.

SHON, BENG. Indian trumpet flower, Bignonia indica.

SHONA, BENG. Bauhinia purpurea.

SHONA, or Shyona, BENG., HIND. Calosanthes indica.

SHONAMOOKHEE, BENG. Senna tree, Cassia senna.

SHONDEK PULLA, DUK. Solanum pubescens.

SHONER, see Susa.

SHONFOL, HIND. Berchemia, *sp.*

SHONTI, TEL. Ginger.

SHONULOO, BENG. Purging Cassia, Cathartocarpus fistula.

SHOOCHEE SANS., the pure, from shooch, to purify.

SHOOCHI-MOOKHEE, BENG. Sanseviera zeylanica.

SHOODDHEE, SANS. Pure.

SHOOKCHINA, BENG. Smilax china.

SHOOKLIKA, SANS. Oxalis corniculata, Rumex vesicarius.

SHOOKLA-VARNA, SANS., from shookla, white, and varna, colour.

SHOOI DAGON, a celebrated budd'hist temple on a hill at Rangoon. The golden Htee, presented in 1871-72 to this pagoda by the king of Burmah, was made of solid gold ornamented with rubies and cost lakhs of rupees. A high Burmese official, one hundred soldiers and numerous phoongyees, accompanied the Htee as an escort. There is an old Burmese prophecy to the effect that if ever the king of Burmah crowns the Shoay Dagon Pagoda he will recover possession of Pegu within a year from that date.—*Englishman.* See Shiu-Dagon.

SHOOKR, AR., PERS. Thanks.

SHOOKRIA, Shookr-guzari, or Shookrana, thanksgiving.

SHOOKR-I-YELDOZ, a planet.

SHOOKUR-THOO-TEE, BENG. Rourea sookurthoontee.

SHOOLI, BENG. Nyctanthus arbor-tristis.

SHOOLIKA, SANS. Curcuma zedoaria, *Roxb.*

SHOOLPHA, BENG. Anethum sowa.

SHOOLINEI, SANS., from shala, a weapon, a lance.

SHOONDOAH, is a tiny ship which hindoos launch on the Ganges. They have garlands of flowers and are illuminated with lamps. It is a ceremony performed by hindoo mothers to propitiate the goddess, in behalf of their sons. The goddess resembles Amphitrite. It is supposed to be a propitiatory rite handed down from times when the hindoos were engaged in maritime avocations. It is held on the day on which, according to hindoo astronomy, the sun turns back from Capricornus to resume his northern ascension, and when the steady N. W. wind blows favourably for outward bound voyages. Feastings are held on that day and farewell entertainments are given to the voyagers.

SHOONEZ; ARAB. Nigella seed, fennel flower.

SHOONYA-VADI, SANS., from shoonya, vacuum, and vadi, a speaker.

SHOOR, or Shookpa, see Juniperus excelsa.

SHOORIA MUKTI, BENG. Helianthus annuus, *Linn.*, *Roxb.*

SHOOSHUNA —? Elæagnus dulcis.

SHOOTAREE, a subjunction to names of the darvesh or faquir : Shootareea, an order of devotees.

SHOOTEE-GHAS, BENG. Pennisetum holcoides.

SHOOTHI, BENG. Zedoary. Curcuma zerumbet.

SHOOTHUGNEE, or Shothugnee, BENG., HIND. Boerhavia diffusa or B. procumbens.

SHOOTA, or Shruta, SANS. What has been heard, from shroo, to hear.

SHOR, HIND., PJI. Barren land, which, after rain, shows 'reh' on the surface.

SHORA, or Kalr, HIND. A sort of soil used to remedy kalr or reh.

SHORA, HIND. Saltpetre. Shora Kalmi, refined saltpetre, crystallized in long prisms (kalm.)

SHORABAK, lies due east of Seistan, on the banks of the Lora, and is occupied by the Baraich Affghans, great camel breeders, and acknowledging the supremacy of the amir of Kabul. See Affghan.

SHORA KAI, TAM. Lagenaria vulgaris, *Ser.*

SHORAPEZ —? fish-bone, used for sword handles.

SHORE, Sir JOHN, afterwards Lord Teignmouth, arrived in Calcutta on the 14th Sept. 1786, along with Lord Cornwallis. He succeeded Lord Cornwallis as Governor-General in October 1793.

SHOREA, *Roxb.* A genus of plants belonging to the order Dipterocarpaceæ, but now transferred to the genus Vatica: the following are the species of vatica and their synonyms :—

Vatica camphorifera, *Wight*, syn. of Shorea camphorifera, *Roxb.* and of Dryobalanops camphora, *Gært.*
„ laccifera, *W & A.*, of the Palghaut mountains.
„ lanceæfolia, *Roxb.*, Assam, Khassya.
„ obtusa, *Wall.*, syn. of Shorea obtusa, *Wall.*
„ robusta, *W. & A.* syn. of Shorea robusta, *Roxb.*
„ tumbuggaia, *W. & A.*, syn. of Shorea tumbuggaia, *Roxb.*

The genus was named in compliment to Sir J. Shore, afterwards Lord Teignmouth, then Governor-General of India. Under the term lard or hogslard shorea, Dr. Mason describes a species as growing on the mountains in the interior of Tenasserim, which produces an oil of the consistence of lard. Wood not known, but being of the same genus as the Sal tree, he deemed it worth inquiring regarding. A species of shorea, the Nyaunglun of the Burmese, grows in Amherst. It is of a peculiar kind, employed for beams, rafters, and boat building. The root is used as umbrella stocks. Forests of S. robusta extend over a narrow belt from Kumaon to Assam. The dammar of Bengal is the resin of Shorea robusta.—*Ben. Phar.* 204 ; *Cat. Ex.* 1851 ; *Dr. Mason.*

SHOREA CAMPHORIFERA, *Roxb.*
Dryobalanops camphora, *Coleb.*

affords both the camphor and camphor-oil of Borneo and Sumatra. On the western coast of the latter island, this tree grows spontaneously in the forests, and is to be found in abundance from the back of Ayers Bongry as far as north of Bacongan, a distance of twenty-five miles. It is one of the largest trees that grows on that coast, several being six or seven feet in diameter, though others are only two and a half.—*Roxb.'s Flor. Ind.*, *Vol.* ii., 616 *Royle's Ill. Him. Bot.*, *p.* 166.

SHOREA OBLONGIFOLIA, *Thw.* A large tree of Ceylon, growing at Saffragam and other districts in the south of the island, at no great elevation.—*Thw. En. Pl. Zeyl.*, *p.* 35.

SHOREA STIPULARIS. *Thw.* A great tree of Ceylon, between Ratnapoora and Galle, at no great elevation, character of wood not known.—*Thw. Enum. Pl. Zeyl. Vol.* i,. *p.* 36.

SHOREA TALURA, *Roxb.* Syn. of Vatica laccifera, *W. & A.*

SHOREA TUMBUGAIA, *Roxb.* Syn. of Vatica tumbugaia, *W. & A.* See Dammer.

SHOREB, HEB. Hordeum distichon, *Linn.* Hordeum hexastichon, *Linn.*, *Roxb.*

SHORINGENAM, MALEAL. Tragia involucrata, *Linn.*

SHORE KA TEZAB, HIND. Nitric acid.

SHORKOT, a province of the Panjab, capital of the province, perhaps Alexandria soriane.

SHORLI, HIND. Salvia lanata.

SHORTT, JOHN, M. D., a Madras medical officer, author of a Report on the Medical Topography of the South-west Political District, published by government in 1855. Translated Maclean's Treatise on Small Pox into English—modified and adapted it for the use of the natives of Southern India into Oordoo, Tamil and Telugu, published by government 1856-57. For an Essay on Indigo—received a prize of 800 rupees from the Madras government, 1860. Translated Essays on Indigo into Hindustani and Tamil, 1862. For an Essay on the Culture of Cotton—received the prize of 1,000 rupees, and the gold medal of the Manchester Cotton Supply Association from the Agri-Horticultural Society of India. Author of Hand-book to Coffee-planting in Southern India, 1864. A Treatise on Vaccination in English, subsequently translated into Hindustani, Tamil, Telugu, Canarese and Ooryah, respectively, 1865-66. An account of the tribes of the Neilgherries, Edited a geographical and statistical memoir of the Neilgherry mountains, by Col. Ochterlony. Author of numerous Contributions to Societies, Linnæan, Obstetrical, Zoological, Ethnological, Anthropological, Royal Society of Arts and Odontological—contributed various Reports and Papers to Government, Revenue Board, and Agri-Horticultural Society, Madras, on Agriculture, General Produce, Stock, Cattle Disease, Aboriginal Tribes, &c., &c., for which received repeated acknowledgment and thanks from Government, Revenue Board,

Agri-Horticultural Society, contributed Madras Quarterly Journal of Medical ence, Indian Annals of Medical Science, dian Medical Gazette, Lancet, and on other bjects to the local journals. Received a cond gold medal from the Manchester Cotton pply Association for the successful growth f Exotic Cotton. At Local Exhibition, Chinpat in 1859, received 300 rupees in prizes r drugs, gums, stock, &c. Madras Exhibin, 1862, medals and honorable mention; ondon Exhibition, 1862, two medals and o honorable mentions; Calcutta Agricultral Exhibition, prize 50 rupees, Honorable ention, and Exhibitor's medal.

SHOTHUGHNEE, Beng. Boerhavia ffusa.

SHOTUL, Hind. Trifolium repens, *T. sp.*

SHOTI, Hind. Iris nepalensis.

SHOU or Tibetan stag, Cervis affinis, is m eight and a half to nine feet in length, d from four and a half to five feet high at e shoulder. The head is twenty-two inches g, nine deep and.. seven and three-quarters . The ears are eleven inches long. The , less the hair, is three to four inches. e foreleg, from mid flexure downwards, is hteen inches; and the hind leg, nineteen es and more. The fore hoof is four and lf inches long, three and three-eighths wide, d three high. The hind hoof, four and one rter inches long, three in width, and the e in height or depth. The horns are five et long, three to four in. spread between the s, and ten to eleven inches thick at base. e general form of the animal is full of grace d vigour; assimilated to that of the Euron stag, but with greater strength of limbs d broader hoofs. The head is finely shaped with broad flat forehead a little depressed before the horns, a slightly arched chaffron d graceful termination forwards, not actually ickened, though less attenuated, than in ppelaphus, Elaphoides and Axis, or the opical deer; and the muffle or nude extrety of the nose is decidedly smaller than in em, perhaps even more so than in the stag f Europe. The sub-orbital sinus is likewise nspicuously smaller, in skin and in skull, an in the tropical deer just cited, or in the untjacs, though not inferior in size to the me organ in our red deer. In the feet there are no interdigital pores, before or behind; nor are there apparently any calcic tufts or glands; though in one sample a nudity appears on the os calcis which has somewhat the semblance of this latter organ. The graceful and majestic horns are inserted on the summit of the frontals but much before the occipital crest, upon a moderate foot-stalk which reduces considerably and is surmounted by a moderate-sized burr. The horns have an ample sweep and curve, both spreading and reclining much, and then approximating more or less, and for the most part greatly so, towards their tips, thus forming large segments of circles. Mr. Hodgson had no doubt that the Shou is the same species as that described by him under the name of C. affinis got in the Tarai. The Shou inhabits a wide extent of country in Tibet, but is rarely if ever found in Chumbi, and not at all in the juxta-nivean districts of Bhutan; it cannot therefore be classed as Himalayan as well as Tibetan. Captain Cunningham assured him that the stag of Cashmir is the same animal; but Mr. Gray and Dr. Falconer judged otherwise; and, as it now appears that the Shou is not found in any cis-Himalayan district, nor even in Chumbi, with its half-Himalayan and half-Thibetan climate, he thinks this identity very questionable, as also that with the Moral or stag of Persia. Blyth was inclined to the conjecture that the stags of Mongolia, of Mantchuria, and of southern Siberia, are all identical in species with the Shou; and that the Stag of Tibet is specifically the same with the Wapiti of North America, especially that of Canada or the Canadian variety, called often the North-western stag. See Cervus, Mammalia.

SHOUK, Burm Sour-lime, Citrus bergamia, *Risso & Poit*, *Roxb.*, *W. & A.*

SHOUK-CHO, Burm. Limes.

SHOUQ-UL-BYZA, Arab. Hedysarum alhaji, *Linn.*

SHOUK-LIENG-MA, or Shouk khyo, Burm. Citrus limetta, *Risso.*

SHOUK-TA-KHWA, Burm. Citrus medica, *Roxb.*, *Linn.*, *W. & A.*

SHOUK TUNG, Burm. Citrus decumana, *Roxb.*, *Linn.*, *W. & A.*

SHOULDAREE, Hind. A small tent, adapted to hill-marching, generally light enough to be carried by two or three men.—*Mrs. Hervey's Adventures of a Lady in Tartary, Vol.* i, *p.* 57.

SHOUNG, a tributary of the Sitang, on the northern boundary of Toughoo, it is occupied by a tribe who call themselves Shounkhi-pho, or sons of the head waters of Shoung. —*Mason, Burmah, p.* 92.

SHOUNG KHIE, see Karen.

SHOUR, Hind. Potentilla salesovii.

SHOVANA ADAMBU, Maleal. Ipomœa pescapræ, *Sweet.*

SHOWBALA, a mohurrum fuqeer.

SHOW-ARISI, Tam. Sago.

SHOWERS OF FISH. Prinsep on, Journal, p. 1833, 34.—Grant on, Trans. of Civil Engineers. Naut. Mag. 1838; Bombay Times, 1840, p. 652.—Showers of Blood, in Candeish, in 1828, Rep. Brit. As. 1839.—

Showers of Grain, Ibid.—Showers of Pearls, Bombay Times, Jan. 1847.—Showers of Sand, in China, Dr. MacGowan, in Chinese Rep., Bl. As. Trans. 1851, p. 172.—(See Sand.)

SHOVELLER, Anas clypeata.

SHRAB, HIND., PERS. Spirits, wine. See Sharbat.

SHRADDHA, SANS., from shraddha, firm faith.

SHRADDHA, a hindoo ceremonial, for the repose of the dead. The oblation consists of rice, flowers, water, to the manes of the deceased. There are three shraddha for the dead: one, eleven days after death; another, every month; and another at the close of the year after a person's decease. During the ten days of mourning, the relations hold a family council, and consult on the means of performing the shraddha; on the last of these days, after making an offering for the dead by the side of the river, they are shaved. This offering consists of boiled rice, sugar, curds, sweetmeats, milk, plantains, &c., made into ten balls, and presented with prayers. Munoo says, "What sort of oblation given duly to the manes, is capable of satisfying them for a long time, or for eternity, I will now declare, without omission. Brahmans are unclean for ten days after the death of a relation, Kshatriyas, twelve; Vaishyas, fifteen; and Sudras, thirty. The next day, after bathing, the family prepare an open place for the ceremonies. If it be the shraddha of a rich man, all the learned hindoos and respectable people of the neighbouring villages are invited. The company being seated under an awning, the sons and other relations of the deceased, dressed in new garments, place themselves in the midst of the company with their faces eastward, having near them sixteen different gifts, as brass cups, candlesticks, umbrellas, shoes, &c. Next are brought seeds of sesamum, a small piece of gold, and another of a different metal, wrapt up in new cloths. The son of the deceased now puts a piece of new cloth across his neck, and offers an atonement for the sin of having killed insects in sweeping the room, in cooking, grinding spices, and in moving the water jar; then follows an offering to the sun; then, rising, and bringing his hands forward in a supplicating posture, he solicits leave from the company to make the offering; after which he offers the sesamum, gold, and metal, for the happiness of the deceased; takes the kosha, and sprinkles the sixteen gifts with water; then, placing a flower on each, and repeating prayers, he offers them in the presence of the shalgramu, or salagramu, one by one, in the name of the deceased, that he may obtain heaven. The son after this, if in circumstances sufficiently affluent, presents large gifts to the brahmans, as elephants, horses, palanqueens, boats, &c, the receiving of which, however, is not honourable. A brahman then marks the foreheads of all present with sandal powder, and puts round the neck of each a garland of flowers. To the ugrudanee brahmans and others are now given amidst much confusion among the receivers, the sesamum, the morsel of gold, the metal, a large basin full of cowrees, and a conch or two, as well as the sixteen different gifts; after which the assembly breaks up. The son then goes into the house, and placing a brahman and his wife on a seat, covers them with ornaments, worships them, and, adding a large present of money, dismisses them. After this, the son of the deceased requests five brahmans, of some note for learning, to offer a male calf; in doing which they take two cloths each, four poita, four beetle-nuts, and some cowrees, provided for the purpose, and go with the company to the spot where an altar has been prepared, one cubit high, and four cubits square. Four of the brahmans sit on the four sides of the altar, and then worship certain gods, and offer a burnt-sacrifice. Near the altar are placed the shalgramu, four female calves, a male calf, and a vilvu post. The fifth brahman reads certain parts of a poorana, to drive away evil spirits. The female calves are tied to four vilvu posts, and the male calf to a vrishu post. To the necks of the female calves four small slender baskets are suspended, in which are placed, among other things, a comb, and the iron instrument with which the hindoo women paint their eyebrows black. A sheet of metal is placed under the belly of the male calf; on the back a sheet of copper: the hoofs are covered with silver, and the horns with gold, if the shraddhu be performed by a rich man. On the hips of the male calf marks of Siva's trident are impressed with a hot iron. After this, the son of the deceased washes the tail of the male calf, and with the same water presents a drink-offering to his deceased ancestors; and afterwards marries the male calf to the four female calves, repeating many formulas, in which they are recommended to cultivate love and mutual sympathy. The son next liberates the female calves, forbidding any one to detain them, or partake of their milk in future. In liberating the male calf he says, 'I have given thee these four wives to live with them. Thou art the living image of Yama; thou goest upon four legs. Devour not the corn of others, go not near a cow in calf, &c. The female calves are generally taken by brahmans; the male calf is let loose, to go where he pleases. To this suc-

such what is peculiarly termed the shraddha. The river side, or the cow-house, or some retired place, is chosen ; after cleansing which, they collect all kinds of eatables, cloth, sesamum, flowers, &c., and place them into dishes made of the excavated trunks of the plantain tree. The son then washes his feet, and sits with his face towards the east, with a shalgramu before him, and repeats many incantations to purify himself; he then worships the shalgramu ; presents to his deceased parent the seven dishes placed to the east, repeating various incantations ; and worships Ganga, Vishnu, and the household-gods, adding an offering to the ancestors of the king, as an acknowledgment for using the king's land at worship.

SHRAVAN or Purnima, a hindoo feast which occurs about the middle of August, on the 15th of Shravan Shukla. It is attended, on the western coast of India, about Bombay, with much ceremonial. The S. W. monsoon is supposed to be ended. Cocoanuts and flowers are thrown into the sea to obtain favour for those who are to trust themselves on the ocean.

SHREE, Sans. A title which signifies excellence or greatness, hence.

SHREE PHULA, Sans. Ægle marmelos, *Corr.*

Shree-Shoila, from shree, excellent, and shoila, a mountain.

Shree-Vidya, from shree, and vidya, knowledge.

Shree-Kunt'hu, from shree, and kunta, the throat.

Shree-Rama-Poora, Sans. From shree, and Ramu, the name of a god, and poora, town.

SHREEN, see Khosroo Parvez.

SHREE-TALUM, Corypha umbraculifera.

SHREW, Eng. Sorex. Natives of India believe that snakes avoid the neighbourhood of the shrew.

SHRIKE. The grey wood-shrike is Tephrodornis pondiceriana. The bay-backed shrike Lanius hardwickii. They belong to the family Laniadæ and are divided into the Lanianæ or True Shrikes: the Malacontinæ or Bush Shrikes ; the Dicrurinæ or Drongo-Shrikes ; the Artaminæ or Swallow-Shrikes ; the Campephaginæ or Cuckoo Shrikes, the Thamnophilinæ and the Tyranninæ. The Sand Shrikes, Lanius arenarius, are plentiful in cactus bushes in the open country and in the dense foliage of the gardens. See Birds.

SHRIMPS. Crangonidæ, a family of Crustaceæ belonging to the division Decapoda macroura. The type of the family is the common shrimp, Crangon vulgaris, and no other genera are included in it. The common shrimp, has the carapace and abdomen almost entirely smooth, with the exception of one small median spine on the stomachal region. Some species of Alpheus, a genus of snapping shrimps, occur in China and Singapore. See Crangonidæ. Shield shrimp, a species of the genus Apus, one of the Apodidæ.—*Adams.*

SHRINE, see Dargah, Math.

SHROL, Hind., of Hazara, Ulmus nepalensis, Himalayan alder.

SHROLO, Hind. Sedum rhodiola.

SHROTA, Sans., from shroo, to hear.

SHROTRIYA, Sans., from shroota, the veda, a learned brahman. A Kulin brahman can marry as many wives as he likes ; but there are certain brahmans in Bengal, who find the greatest difficulty in getting married to even one wife, and who generally spend their life in single wretchedness. These are Bangshaja brahmans of the Shrotriya class. While a Kulin brahman gets for every wife that he marries a handsome bribe, a Bangshaja Shrotriya brahman has to pay down a large sum of money to the father of the girl, whose hand he seeks to obtain. The consequence is that, owing to their poverty, numbers of Bangshaja Shrotriya brahmans never get married at all. To remedy this evil, in Eastern Bengal, when in any village the number of unmarried Shrotriya becomes inconveniently large, one of the ghatak of the place—those under-servants of Bidhata who take a prominent part in all marriages—goes to Shrihatta in Sylhet. There, with the assistance of his agents in the district, and by means whether fair or foul, he procures a number of girls, to whom he holds out the prospect of a pleasant settlement in life. The girls may not all be brahman girls—some of them may be of the Chandal caste, and others may be young widows ;—but whatever may be their caste, character and antecedents they are huddled together in a boat, often 15 or 16 in number, and taken to the ghaut of the Shrotriya village. The faces of the old Shrotriya bachelors become lighted up with joy, when they hear of the arrival of the hymeneal boat. The sensation which these highly-favoured boats create in Easten Bengal, is infinitely greater than that produced in Calcutta by the orange-boats of Sylhet, or the mango boats of Malda. The Bangshaja bachelors besiege the boat in numbers. Each one selects a girl according to his taste ; a bargain is struck with the ghattak ; and the celebration of the rites of marriage, according to the forms prescribed in the Shastras, soon follows. The plain-looking girl, for whom no Shrotriya may have a fancy, is employed as a maid-servant either of the ghattak himself, or of any other who may stand in need of her service. See Brahman.

SHROATA, Sans., from shrootee, the veda.

SHRUDDHA, Sans., from shrut faith, and dha, to hold. See Shraddha.

SHRUK, Hind. Triticum æstivum, also Hordeum hexastichum.

SHRUL, Hind. Iris, *sp.*

SHRUTI, see Veda.

SHTA, or Shka, Hind., of Kanawar, Cornus macrophylla, dog wood.

SHTAWARI, Maleal or Malay. Asparagus sarmentosus, also applied to the Asparagus adsendens, *Roxb.*

SHU, the Tibetan stag. See Shou.

SHUAL, Heb. Fox.

SHUB, properly Shab, Ar., Pers. Night.

SHUB BEDARI, watching all night and repeating murseea, &c.

SHUB-GASHT, Pers. Nocturnal perambulation, a ceremony practised by the mahomedans in India, on occasions of marriages; circumcision, &c.—*Herk.*

SHUB-I-BURAT, Pers. This mahomedan feast is held on the 14th, and its arfa on the 13th of the eighth month Shaban.

SHUBIT, Arab. Anethum sowa.

SHUB-NAM, or Shab-nam, Pers. Dew, also a name of a cotton fabric. See Cotton manufactures.

SHUB-PARA, or Shab-para, Hind. See Cheiroptera.

SHUDDAY, or Ullum.

SHUDGAR SHID, a tribe of jugglers in Deccan, *Stevenson in Lond. As. Trans.*, 1834, *Vol.* i, *p.* 283.

SHUDIMUDI, Beng. Cacalia sonchifolia.

SHUDNAJ-UDSI, Arab. Nummulite.

SHUENG-GAH, Burm. Asafœtida.

SHUER UL JIN, Arab. Adiantum lunulatum, Burm, *spr.*, maiden hair, literally fairy's hair.

SHUGDUF, a litter. The shugduf of the Hejaz differs greatly from that used in Syria and other creatures. It is composed of two-corded cots, 5 feet long, slung horizontally, and parallel with the camel's sides, about half-way down—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 343.

SHUGHAR. At all the elevated passes, in the north-west Himalaya, there are a number of square piles of stones, called Shughar, upon which passengers usually place a piece of quartz, or attach rags to poles, which are fixed in the middle, there are also several Shughar on the neighbouring heights, sacred to the deota, or spirits of the mountains, who are supposed to inhabit the loftiest and most inaccessible points, especially where there is much snow. The Shughar at the passes are erected by travellers, but those on the higher peaks ar[e com]monly made at the expense of some w[ealthy] pilgrim not much accustomed to the [moun]tains, who has succeeded in crossing a[pass] which is reckoned an arduous under[taking] by an inhabitant of the plains. In [Bisa]war, the greatest height at which [rice] that requires water has been observe[d is] 6,600 feet. Other kinds, which are [not] watered, grow at 8,000 and 9,000 fee[t], what is produced in Kashmir, which f[orms] the chief subsistence of the inhabitant[s, re]quires the fields to be laid under water, [as in] Bengal. In the higher parts cows are [rare] and their places is supplied by the Ya[k of] Tartary, described by Capt. Turner; the [male] is called Yak, Yag, or Yokh, and the f[emale] Breemo; the produce between them an[d the] cow is common, the male being named [Zo or] Zofo, and the female Zomo. The Yak [is] strong and hardy, and they like cold pl[aces].

SHUGHNAN, a hill state north o[f Ba]dakhshan, its chief claims a Grecian o[rigin]. See Kabul, Kush or Cush.

SHUGUL, or Shaghal, Ar. Occup[ation], employment, a technical term in the scie[nce of] exorcism.

SHUHAB—? Safflower.

SHUHADAT KA ROZ, lit., the d[ay of] martyrdom, a ceremony of the mahome[dans].

SHUHEED, a martyr, of whom with [the ma]homedans, there are twenty grades.

SHUHARBANO, the wife of Hosei[n].

SHUHAR-GUSHT, city perambulat[ion].

SHUJA-UD DOWLAH. In 1764, S[huja]-ud-Dowlah, the vizier of Oudh, under [the] pretence of assisting Meer Kasim [Ali], invaded Behar, but his army was comp[letely] routed, and the vizier was obliged to t[hrow] himself on the generosity of the British.

Nujm-ud-Dowlah died on the 8th [May] 1766, and was succeeded by his brother [Syf]-ud-Dowlah, a youth of sixteen.

Syf-ud-Dowlah was succeeded in 17[70 by] his brother Mubarak-ud-Dowlah, with [whom] a new engagement was made. By thi[s en]gagement the Nabob's stipend was fix[ed at] 31,81,991 Rupees. This is the last t[reaty] which was formed with the Nabob. [The] office of subadar had now become mer[ely a] nominal one, all real power having passe[d into] the hands of the British. In 1772 th[e sti]pend was reduced to sixteen lakhs a ye[ar, at] which rate it is paid to this day.

SHUJANPOOR TIRA, See Kohist[an].

SHUJH, or Milk-tree, grows to an [enor]mous size on the summit of the lofty [hills] north of Nepaul.—*Smith's Nepaul.*

SHUJINA, properly Sahajna, Beng. H[orse] radish tree, Moringa pterygosperma.

UJRA, see Shajra, Shijra.

UJR-UL-JIN, ARAB. Erythroxylon tum.

UK, AR. Oxide of arsenic, *White.*

U KING, or book of records, is a supposed to have been edited by Con-s. It contains the annals of China y to the time of Confucius.

i King, the sacred books of the Chinese, translated into Latin by Father Lacharme, uit missionary of China.

n Kin, or classes of men, is a Chinese of great authority. In it the "Sages" y the first chapter, and in this Confucius ced high above all others.

, is a Chinese word of very extensive ing, sometimes rendered, reason, cour- propriety, good breeding. The saying and Wen (learning) make up the whole of human excellencies.—*Bowring.*

UK-PA, HIND., TIBETAN. Juniperus a, pencil cedar; it grows in Ladak.

UKR, HIND. Saccharum violaceum.

UKR-KUND-ALU, BENG., HIND., Batatas edulis, Convolvulus batatas.

UKSAR, HIND. Arceuthobium oxy- Gia Shuk, HIND., is Juniperus com-s.

UKTEE, SANS. From shak, to be able.

UKTEE-DHARA, SANS. From shakti, n spear, and dhara, to hold.

AKTI or Sacti. The followers of the tee, or female associates of the two great ers of the hindoo triad, are numerous. Saiva and Vaishnava sects, believe in ga, in Kylas, and in Vykoonth, but the regards Vykoonth, and the Vaish- regards Kylas as merely a second ga. Each sect believes that the heaven eir opponents passes away with Indra's dise at the Maha Prulay, but that their heaven is not so much destroyed as re- ed, Kylas merging into Maha Kylas and onth being elevated into Go Lok.

UKUR KHOREE lit., eating sugar, okrana, a mahomedan ceremony.

UKUR BHAT, lit., sugar and rice.

UKUR-ALOO, BENG. Sweet potato. yrrhizus angulatus.

UKURKUNDA, BENG. Pachyrrhizus atus.

UL, ARAB. Beta vulgaris, *Linn.*

UL, HIND., PUSHTU, Pistacia terebinthus.

ULA, see Hindoo.

ULGUM, HIND. Brassica rapa, Turnip.

ULMANI, a race settled about the Tira , who came from the banks of the Kor- which was their earliest locality. They in Hust-nuggur in the 15th century. ce they were expelled by the Eusofzye.— *ham, p.* 196.

SHUMA, ARAB. Wax.

SHUMAC or Sumach.

Tum-tum,	AR.	Sumakh,	PERS.
Shi-chu-yu,	CHIN.	Sumagre,	PORT.
Smak,	DUT.	Sumak,	RUS.
Sumac roure, Roux,	FR.	Zumaque,	SP.
Schmack, Sumach,	GER.	Sumak,	SW.
Sommaco,	IT.		

The true Shumac or Sumach, sometimes called young fustic, is the powder of the leaves, peduncles, and young branches of Rhus coriaria, a small deciduous plant, native of the South of Europe, but which is also grown in Syria and Palestine, for its powerful astringent properties, which render it valuable for tanning light coloured leather, and it imparts a beautiful bright yellow dye to cottons, which is rendered permanent by proper mordants. It is principally imported into England from the Ionian Islands and the Morea. A species grown for the purpose in Spain, Portugal, and Italy is R. cotinus, a shrub with pale purple flowers, whereas R. coriaria has greenish yellow blossoms. They may be propagated by cuttings of the roots and layers. R. typhina and R. glabra with their varieties, are North American species, which are also used for tanning purposes. In Montpellier and the South of France the twigs and leaves are known under the name of redoul or roudo. They are gathered every year, and the shoots are chipped or reduced to powder by a mill. The imports into the United Kingdom were

1846, 10,256 Tons.	1849, 12,590 Tons.
1847, 11,975 „	1850, 12,929 „
1848, 9,617 „	1852, 9,758 „

which were all retained for consumption. In 1841, came about 9,000 tons from the port of Leghorn. There were exported from Sicily in 1842, 123,305 tons, valued at £68,894. It is imported in packages of about a cwt., wrapped in cloth. America takes a large quantity of sumach. The imports into the port of Boston alone, were 19,070 bags in 1847, 34,524 in 1848, and 30,050 in 1849. The prices in Liverpool, duty paid, in the close of 1851 were per cwt.

Messina, 10 to 10½s.	Verona, 5½ to 6½s.
Palermo, 12 to 13s.	Tyrolese, 8 to 9s.
Trieste, 7 to 7½s.	

The trees producing Shumac, are,

Rhus coriaria, Hide or Elm-leaved Sumach.

Shumuk,	PERS.	Tumtum,	ARAB.

A native of Persia, Syria, Palestine, and the south of Europe, about 8 or 10 feet high, divided into numerous irregular branches. All parts of this plant are inodorous, but have a styptic taste; it owes its properties and value in the arts: to the abundance of tannic acid, M. Tromsdorf has found in the berries a large quantity of bi-malate of lime. Leaf

5-7 pairs of villous leaflets, elliptical, bluntly and coarsely toothed, petioles naked. Flowers in large loose panicles of a whitish-green. Drupes villous. This plant is extensively used for the purpose of tanning, and it is said that all the leather made in Turkey is tanned with the bark of this species of Rhus. The fruit is acid and astringent, and the seeds are often used as a tonic for exciting the appetite.

Rhus cotinus, Venus-sumach, or Wild olive. Flowers hermaphrodite, arranged in loose panicles of a greenish-yellow colour: leaves simple, entire. This is a very ornamental shrub, and is one of the European species, growing wild in various districts of the south of Europe. It is made use of, like many other of the species, for tanning, in Italy, and is called Scotino. The wood is used by the modern Greeks for dyeing wool, which is said to be of a beautiful rich yellow. It is frequently cultivated on account of its beauty.

Rhus glabra, smooth leaved Sumach. Leaf like the last, but broader and glabrous. Branches also glabrous. Fruit red, covered with silky hairs. This species, as well as another named R. viridifolia, is considered by some botanists as only a variety of R. typhina, like the last, this species is abundant in North America, over-running sometimes a whole district, and forming a troublesome weed. Its fruit is very sour, but may be eaten with impunity. Bees are very fond of the blossoms.

Rhus typhina, Fever-rhus, or Stag's-horn Sumach. Leaves with 8-10 pair of leaflets and an odd one, lanceolate-acuminate, serrated, pilose beneath. There are two forms of this plant; the one R. arborescens, in the form of a tree, from 10 to 25 feet in height; the other R. frutescens, shrubby, and only from 2 to 10 feet high. The young shoots are covered with down, which, with their somewhat crooked and stunted branches, give them the appearance of young stag's horns: hence their name. The flowers are in dense spikes, at the ends of the branches, the pistilliferous ones developing themselves into woolly drupes, which are very conspicuous when ripe. It is found in every part of North America, and its dark-red leaves add much to the beauties of an American autumn. The fruit of this plant is exceedingly sour, and on this account it is frequently called vinegar plant, and is even used in some parts as a substitute for vinegar.—*McCulloch's Com. Dictionary*, *p.* 1,025; *Simmond's Commercial Dictionary*; *Hogg's Vegetable Kingdom*; *Poole's Statistics of Commerce*; *O'Shaughnessy*, *p.* 282.

SHUMAJ, Hind. Buxus sempervirens.

SHU-MAI-KHA, see India.

SHUMAMBU VALLI, Maleal. Vitis latifolia, *Roxb.*

SHUMBALI, Duk. Vitex negundo and V. trifolia, 5 and 3-leaved chaste tree.

SHUMBURRI, Sans. Evolvulus emarginatus.

SHUMBARARI, Sans., from shambara, a giant, and ari, an enemy.

SHUM-DULAM, Beng., Hind. Elephantophus scaber.

SHUMI, or Shu-meri, Beng. Prosopis spicigera, also Premna spicigera, *Linn.*

SHUMIM, also Shum, Hebrew. Garlic.

SUMLA, Hind. The worked or embroidered end of a turban, or kummurbund, left flying loose.

SHUMPANGHI-PU, properly Samvangi-pu, Tel. Michelia champaca.

SHUMSHAD, Hind. Dodonæa burmanniana, also Buxus sempervirens.

SHUM-SHUM, a range which forms about half the wall of the Aden crater, and reaches an altitude of above 1,760 feet. There is a huge crack or slip which cuts above a third off the eastern side of the volcano, and through a portion of this, constituting a narrow gorge or pass, ten feet wide, and twenty or thirty high, the road from Steamer Point enters the crater, and leads to the cantonments. Dr. J. P. Malcolmson supposes this to have been the remains of the latest great eruption of which the effects are chiefly manifest on the tableland on the eastern buttress of Sham-Shum: by this the ancient crater was shattered nearly through its centre from the northern to the southern pass breaking into pieces, and separating the whole of the eastern side of the edge of which Seera Island is a fragment—and in these views Dr. Buist concurs.

SHUMUNA, Sans., from shum, equal.

SHUN, Hind, Salix, *sp.*

SHUNDA, see Chaldeo.

SHUNDAPANA, Maleal. Caryota urens.

SHUNI, see Vahan.

SHUNIZ, Ar. Fennel, Nigella sativa.

SHUNKINI, Sans. Andropogon aciculatus.

SHUNKOO-PUSHPA, Maleal. Clitoria ternatea, *Linn.*, *Roxb.*, *W. & A.*

SHUNKURJUTA, Beng. Uraria picta, painted doodia.

SHUNKURA, Sans., from shang, good, and kri, to do.

SHUNKU-VANIK, Sans., from shanka, a shell, and vanik, a tradesman.

SHUNNU, Hind. Fraxinus floribunda.

SHUN, Beng. Crotalaria juncea, Indian hemp.

SHUR, Hind. Juniperus excelsa, also J. arborea, lang shur, Hind., is Juniperus communis.

SHUR, Beng., Hind.? Sindi? Saccharum sara, *Roxb.* See Graminaceæ.

SHUR, a wilderness, a journey of three days, is the desert tract between Suez and Howara, where, no water is found.—*Wellsted's Travels, Vol.* ii., *p.* 43.

SHURA GUNDRA, also Sur, HIND. Saccharum sara.

SHURAH SHIGGHI, HIND., PUHSTU. Whetstone.

SHURANAMA, SANS., from shash, six, and anana, face.

SHURBAT, Eau sacré, sugar and water. Sharbat khori, (lit., drinking lemonade), or Shookrana, a ceremony. Run ka sharbat, war lemonade.

SHUREEF, AR. The progeny of a sheik father and a syudani, amongst mahomedans.

SHUREERA, SANS., from shree, injure.

SHURGHU, HIND. Juniperus excelsa, also J. arborea, Pencil cedar.

SHURLI, HIND. Corylus colurna.

SHURRA, AR. The precepts of Mohummud. See Sharra.

SHURUKHS, lies north of the Turbut Hyderee tract, and about 100 miles from Mushid. It was long the seat of Toorkmuns, who plundered Khorasan. In 1832 Burnes saw it rich in the spoils of others, but in a few months after it was surprised by Abbas Mirza in person, who either captured or killed its entire population. Those which were ransomed returned to Shurukhs, but in the following year the Khivans, who claim some power over it, insisted on their removing further into the desert to Merve, where they are located. Shurukhs has abundance of cultivable land on the banks of the Tijind, but the excesses of its population scared away the traveller and the merchant; and if not now the residence of robbers, it lies on the route by which these sons of the desert issue to plunder on the frontiers of Persia.—*Burnes in Persia, p.*

SHURUNGRU, HIND. Acacia speciosa.

SHUSH. The ground about Shush is very uneven, and numerous mounds, or tepeh, are scattered in different direction to a considerable distance; some of them being partly covered with brushwood. The highest tepeh among them, of which Major Rawlinson gives rough measurements in his notes on Khuzistan, lies to the east of the Shover stream, but very near it, and to the west of the river Dizful, which is discernible at some distance, plying its course to the south-east. This mound, which may be the place where the Prophet Daniel had his vision, (although much has been written to the contrary,) commands the whole country. From the top of it are seen the ruins of Ivani-Kherk, beyond the river of Kherkheh about a farsang and a half (perhaps less) to the west. A minar, or column, with the ruins of Shapur, are likewise discernible, in a north-westerly direction, on the right side of the above-named river.—*Baron C. A. DeBode's Travels in Luristan and Arabistan, Vol.* ii, *pp.* 194-95.

SHUSHAH, AR. A tuft of hair on the poll. When travelling, the shushah is allowed to spread over the greatest portion of the scalp, to act as a protection against the sun; and the hair being shaved off about two inches all round the head, leaves a large circular patch. Nothing can be uglier than such tonsure, and it is contrary to the strict law of the Prophet, who ordered a clean shave, or a general growth of the hair. The Arab, however, knows by experience, that though habitual exposure of the scalp to a burning sun may harden the skull, it seldom fails to damage its precious contents. He, therefore, wears a shushah during his wanderings, and removes it on his return home.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 239.

SHUSHAN, see Luristan.

SHUSTEE, see Shusti.

SHUSTER. The Sabeans of Shuster recognise the divinity of Jesus Christ and believe in the Holy Trinity. According to their creed, God, whom they call Khei-reb, or the Great God, although one in his essence, is formed by three persons, Khei-reb Kadmoi or High and Almighty God; Khei-tenioni, (which Mullah Hatir translated by the word Naib, or acting-assistant), and Khei-Telithoi, God the Creator. The last bears sometimes the name of Khivelzivos. A learned Mullah related the history of the first man and first woman, Adam and Hevve, likewise of their son Shithel (Seth), who appears to be the most conspicuous person in their book on the creation. The Sabeans make, likewise, the sign of the cross, beginning from the right to the left shoulder, then touching the forehead, and lastly, the pit of the stomach. Baron Silvester de Sacy entertained other opinions of the religious tenets of this sect, founded on their sacred books. This learned orientalist in the Journal des Savans, expresses himself in the following manner relating to the Sabeans:—"The name of christians of St. John is quite as little founded in reason, since their doctrine (that of the Sabeans) has nothing in common with christianity, to which they are greatly averse. This name has been bestowed on them erroneously by certain missionaries and travellers, who fancied they had discovered, in certain of their religious ceremonies, resemblances with some of the rites of the christian religion. The Sabeans recognize St. John the Baptist as the greatest prophet, whom they call Paighambar Yaghia, and

hence their name of the followers of St. John. As the mussulmans believe in the existence of Mehdi, the twelfth Imam, so the Sabeans are of opinion that St. John (Yaghia) is still alive, although invisible, and that he inhabits Syria (Sham). He is expected to return among them with Shethel (Seth, son of Adam), who, for his virtues, is supposed to have been taken up to heaven. Independently of their book of Adam, the Sabeans have two other works: the one contains the life of Yaghia, and the other is their ritual. The first, which they call the Sidra, is said to contain twelve thousand questions, with appropriate answers.—*Baron C. A. De Bode's Travels in Luristan and Arabistan, Vol.* ii, *pp.* 172-76. See Arabistan, Khuzistan, Saba.

SHUST'HEE, Sans. She who is worshipped on the sixth (shust'ha) day.

SHUSTI, the goddess of fecundity, a hindoo deity, represented as a yellow woman sitting on a cat; regarded by the hindoos, says Mr. Ward, as the protectress of children, and is especially worshipped by females who have not been blessed with any. She is also worshipped monthly by women who have lost their children, and is generally invoked by parents as their protectress. The cat being sacred to Shustee, the hindoos avoid hurting one, lest the goddess should injure their children. She is honoured with six annual festivals, celebrated chiefly by females.—*Ward's View of the Hindoos, Vol.* i, *p.* 39; *Cole. Myth. Hind., p.* 396.

SHUSTI, Hind. Scrophularia kotschyi.

SHUTA PUSPHA, Hind. Anethum sowa, *Roxb.*

SHUTAR-KHAR, also Us-shutar-khar, Pers. Hedysarum alhaji, Alhagi maurorum.

SHUTHIF.

Curcuma zedoaria, *Roxb.*

Banhaldi, Kakuri, Karchuramu Hind.	Kakhura, Beng.

SHUTA, Beng. Curcuma zedoaria. *Roxb.*

SHUTRA, in the religious doctrines or philosophical systems of the hindoos, an aphorism. The body of Vedic literature is immense. In the Brahmanas, moral precepts, religious instruction and information are conveyed. Professor Wilson supposes them to belong to the eighth century before Christ, and they are said to recognize the institution of caste or at least of social distinctions from which this institution has arisen. Very little is known of these works, which are less interesting than the Sanhita, as being of later date. The Brahmana are chiefly liturgical and legendary, and, in the Upanishads, passing into the rationalized state, and becoming metaphysical and mystical. It would be difficult to find two sets of opinions more absolutely irreconcileable than Vedic hymns and Vedantic philosophy. The Shutra (aphorisms) or Brahmashutra, the chief authorities of the Pantheistic Vedanta school, though much later than the rest, are still mnemonics, as also the Vaiseshka or atomic school of Kanada. The study of this supplementary mass of Vedic literature, including philosophy, commentaries, aphorisms, &c., might furnish occupation for a long and laborious life. See Vedas.

SHUTRAGHNA, Sans., from shatroo, an enemy, and han, to kill.

SHUTR, or Shootr, Pers. A camel.

SHUTRI RANG, Hind. Camel colour.

SHUTR-MURGH, Pers. Ostrich. See Struthionidæ.

SHUTRANJEE, or Jamkhana, Hind. A cotton carpet.

SHUTTAM, Tam. Civet.

SHUTU-DWIPA, Sans., from shata, a hundred, and dwipa, an island.

SHUTU-MOOLEE, Beng. Asparagus racemosus.

SHUTUKA, Sans. A hundred. Shutumunyoo, Sans., from shata, a hundred, and manyoo, a sacrifice. Shutu-roopa, Sans., from shata, an hundred, and roopa, form.

SHUVA-SADHANA, Sans., from shava, a dead body, and sadhana, to perfect.

SHUWAL, Arab. The tenth month of the mahomedan year.

SHUYUKH. Babylon was a narrow tract along the river Euphrates from Erech or the modern town of Sheikh ul Shuyukh to Kalneh on the Khabur river, and eastward till it joined Assyria.

SHWÆPAYUNG, Burm. Cucurbita maxima, *Duch, W. & A.*

SHWAN or Shwawan, Hind. Olea europæa.

SHWARI, Hind. Vitex negundo.

SHUAY DAGON PAGODA of Rangoon, is in height 321 feet above the platform and 487 feet above the ground level. The height of the great Shwe Madan at Pegu is 334 feet above the platform, the Shuay Dagon, lies about two miles north of Rangoon and is built on a laterite hill that rises gradually from the river side to a height of seventy or eighty feet. The pagoda is a stupendous mass of solid masonry: and stands on two terraces which face the four cardinal points. The upper one is 900 feet long and 685 feet broad: the face of the building is octagonal with a circumference of 1,355 feet. The area on which it stands is 800 feet square. Its surface is one dazzling blaze of gold and forms a magnificent object, as it rears its lofty

eight on the isolated hill.—*Yule, p.* 283; *Winter's Burmah, p.* 8.

SHWE MADAN, the great Burmese Pagoda at Prome.

SHWE-OO-DOUNG, see Tsan-pe-nago.

SHWET, BENG. White, hence

Shwet akund. The white variety of Calotropis gigantea, *Brown.*

Shwet, or Sada sabuni, Trianthema obcordatum.

Shwet-bach, Acorus calamus, Sweet flag.

Shwet-bariala, Sida rhomboidea, *Roxb.*

Shwet-buruna, Randea stricta.

Shwet busunda, Acalypha indica.

Shwet busuntu, Leucas procumbens.

Shwet-chamni, Herpestes monniera, Gratiola monniera, *H. B. & Kunth.*

Shwet-gothoo-bee, One-headed Kyllinga, Kyllinga monocephala.

Shwet-gurjun, Dipterocarpus turbinatus.

Shwet-hoolee, Zeuxina sulcata.

Shwet-kamaluta, Quamoclit album.

Shwet keerni, also Shwet kherna, Euphorbia thymifolia, *Linn.*

Shwet-koonch, Abrus leucospermus.

Shwet-kudum, Nauclea tetrandra.

Shwet-kurubee, Nerium odorum, N. albo-simplex.

Shwet-mash, Phaseolus torosus.

Shwet-moorga, Silvery spiked cockscomb, Celosia argentea.

Shwet-pai, Eleocarpus lauræfolius.

Shwet-paneemu-rich, Downy persicaria, Polygonum lanigerum.

Shwet-poorna, Boerhaavia alba, B. procumbens.

Shwet-pudmu, Nelumbium album, N. speciosum.

Shwet-pudmu-kurubee, Nerium albo-plenum.

Shwet-raee, Sinapis alba.

Shwet-sal, or Shwet-shal, Blackwood tree, Dalbergia latifolia.

Shwet shim, Lablab albiflorum.

Shwet shimal, Eriodendron anfractuosum, Gossampinus rumphii, *DC.*

Shwet-surbujuya, Canna flava.

Shwet-sursha, Eruca sativa.

Shwet-sabunee, Trianthema viridulum.

Shwet-soorja-muni, Hibiscus albiflorus.

Shwet-uparajita, Clitoria albiflora, C. ternatea, *Linn., Roxb., W. & A.*

SHWETA, SANS. White. Shweta-giri, White mountain.

SHWUY-YIN, CHIN. Mercury.

SHYAKOOL, BENG. Zizyphus benoplia.

SHYALAI, BENG. Boswellia serrata.

SHYALEE, URIA. Bauhinia vahlii, *W. & A.*

SHYAMA, SANS. Black.

SHYAMA LUTA, BENG. Ichnocarpus frutescens, *R. Brown.*

SHYAN, or Ahom, see India.

SHYOU, or Shyu. Their number is about 27,000, their language is unwritten.

SHYTAN, AR. Satan. According to mahomedan belief he has four khalifa, or deputies, Muliqa, Hamoos, Mubloot, Yoosuf.

SHY-YOK, a tributary to the Indus, rises near Karakorum pass, runs S. E. to N W., into Indus near Iskardo, length 300 miles; it receives the Chang-Chen-mo, 58, and Nubra river 66 miles. See Shayok, Shyok.

SIA, HIND. Rosa webbiana.

SIAGA of Tartary, Cervulus pygargus.

SIAH, PERS. Black.

SIAH DANA, HIND., PERS. The black cummin of Scripture. Fennel seed, Nigella sativa. See Nigella seed.

SIAH MUSLI, DUK., PERS. Curculigo orchioides. See Musli.

SIAH POLKI, HIND. See Polkee.

SIAH POSH KAFIR, a name applied to a mountain race, the ancient Paropamisadæ, the literal meaning being black-clothed infidel. The countries north of the Hindu Kush, which lie in the valley of the Oxus and its tributary rivers, from Balkh upwards, have no general designation. Eastwards of that city lies Kunduz, the Mir of which has subdued all the smaller provinces, and it has another dependency, Badakhshan, further eastward. To the north of this territory are the hill states of Wakhan, Shughnan, Darwaz, Kulab and Hissar, whose peoples claim a descent from Alexander the Great. To the eastwards of Badakshan lies the plain of Pamir inhabited by the Kirghis and beyond the Belut Tagh mountains are Chitral, Gilget and Iskardo, that extend towards Kashmir. South of Badakhshan is the country of the Siah Posh Kafir, who occupy a great part of the range of Hindu Kush and a portion of Belut Tagh. It is bounded on the north-east by Kashkar, or Budukhshan, and on the north-west by Koondooz in Balkh. On the west it has Inderab and Khost, also in Balk, and the Kohistan of Cabul; and on the east it extends for a great distance towards the north of Cashmeer, where its boundary is indistinctly known. The whole of this country is composed of snowy mountains, deep pine forests, and small but fertile valleys, which produce large quantities of grapes, wild and cultivated, and flocks of sheep and herds of cattle, while the hills are covered with goats. Grain is inferior both in importance and abundance. The common kinds are wheat and millet. The roads are only fit for men on foot and are often crossed by rivers and torrents which are passed by means of wooden bridges or of swing-bridges made on ropes of withy or some other pliant tree. All the villages are described as built on the slopes of hills so that

the roof of one house forms the street leading to the one above it, and this is said to be the constant practice of the country. The people have no general name for their nation. Each tribe has its peculiar appellation, for they are all divided into tribes, though not according to genealogy, but to geographical position, each valley being held by a separate tribe. The fair complexion and regular features of the Siah Posh Kafir, the variously coloured eye, and shaded hair, indicate them to belong to the European family of nations, and disconnect them from the Tajik, the Hazara, the Uzbek or the Kirghis. The region now inhabited by the Siah Posh is surrounded by the countries in which the Greek dynasties ruled, and is encircled by the colonies, posts and garrisons, which they are known to have established, and by military colonies of Macedonians at Alexandria ad Caucasum, Arigæum and Bazira, and of the garrisons of Nysa, Ora, Massaga, Peuceleotis and Aornis. Those who suppose that the Siah-posh Kafir are descendants of the Greeks have their speculations strengthened by the fact, that many petty princes and chiefs, some of whom are now mahomedans, but originally Siah-posh, claim descent from the Macedonian hero, and have preserved vague accounts referrible either to their reputed ancestor's marriage, with the fair Rozana, or to his amour with the captive queen of Massaga. Mohun Lal states that the women who possess great beauty, manage all the out-door business, while their stout and handsome husbands remain in the house, feeding the children in their arms. If the Siah-posh place their corpses in deal boxes, and without interring them, expose them on the summits of hills, like the people of Tibet; it is not explained whether this is a final disposition. The Siah-posh speak a dialect of the Sanscrit and worship the hindoo Mahadeo.—*Mohun Lal's Travels*; *Elphinstone's Caubool.* See India, Kafir, Kush or Cush.

SIAK RIVER, in lat. 1° 13' N., long. 120° 10' E., on the western side of Bremer's straits, is about ¾ of a mile wide. The natives of Asia are all acquainted with the modes of preserving fish. The roe appears among their articles of Materia Medica under the name of Butarookh, but the roe of the fish in the Siak river is celebrated. Mr. Crawfurd and Dr. Cantor inform us, that the roe of enormous size of a kind of shad which frequents the great river of Siak in Sumatra, constitutes an article of commerce. The Malacca cane, the Heotau, of Cochin-China, is the long internodes of the Calamus scipionum of Loureiro, of which a thousand reach Liverpool annually, to form walking sticks. Dr. Griffith believed these canes to be produced from the Calamus scipionum, the Heo-tau of Cochin-China. They do not occur about Malacca, but are brought from Siak, on the coast of Sumatra. Some of them are simply mottled or clouded, others of a brown colour, in consequence, it is said of their having been smoked. The most slender specimens, with the longest internodes, are the most valued.—*Seeman, on palms*; *Crawfurd's Dictionary*; *Cantor*; *Griffiths.* See Johore.

SIAKAI, TAM. Fruit pods of Acacia rugata, *Buch.*

SIALI, HIND. Pueraria tuberosa, also Dœmia extensa.

SIALIAN, HIND. Cyperus juncifolius.

SIALKANTA, HIND. Argemone mexicana.

SIALKOT, one of the most ancient of the forts and cities of the Punjaub: it was founded by rajah Sala Byne or Salivahanna, father of Russaloo. The fort, which adjoins the city to the westward is a high, oblong mound, with rectangular defences of curtains and round towers, massively built of brick and mortar. Bactria or Indo-Greek coins are found in the ruins, but not in any numbers. The commonest perhaps is the copper coin of Apollodotus.—*Beng. As. Soc. Jour., No. of 1854, p.* 146.

SIALU, HIND. On the Wardan, Kashmir, Marlea begonifolia.

SIAM. The diplomatic relations of the British Government with Siam may be said to have commenced with Mr. John Crawfurd's mission in 1821. In 1826 a treaty was negotiated by Captain Burney, with the view chiefly of preventing the Siamese from co-operating with the Burmese during the first Burmese war, in which the British Government was then engaged, and of providing for the peace of the Malayan peninsula then disturbed, in consequence of the occupation of Quedah by the Siamese. In 1850 Sir James Brooke was deputed to Siam armed with plenipotentiary powers from the queen of Great Britain. The dependencies of Siam in the Malayan peninsula are Quedah, Ligor, Tringanu, Calantan, and Potani. In 1831, after the rajah of Ligor had defeated the ex-rajah of Quedah in an attempt to recover his country, the Resident of Pinang visited him at Quedah and concluded an engagement with him regarding the boundaries of Province Wellesley, in conformity with the third Article of the Treaty of Bangkok.

Pellegoix estimates the population of Siam at six millions, which can at best be only approximative to the truth;

Siamese proper, (the T'hai race)	1,900,000	Malays	1,000,000
Chinese	1,500,000	Cambodians	500,000
Laos	1,000,000	Peguans	50,000
		Kareen, Hong, &c.	50,000

Siam, with its dependencies, may be considered as occupied by the dominant race, or Thai, a vast but for the most part migratory Chinese population, the Laos people, the Cambodians in such parts of Cambodia as recognise the Siamese authority, the Peguans in a part of the Mon or Pegu territory, numerous Malayan tribes, with a variety of mountain races in the state of greater or less subjection to the Government of Bangkok. The Siamese are located principally on the two banks of the Meinam, and on those of the tributary streams which flow into that great river from the latitude of 13° to about 20° north. They also occupy the gulf from the head of the peninsula down to lat. 7°, where the Malayan races are settled. To the east of the British possession on the Tenasserim coast, in lat. 11° up to lat. 16° 30′, about two-thirds of the peninsula is peopled by Siamese races. The kingdom of Siam is composed of forty-one provinces, each governed by a Phaja, or functionary of the highest rank. There are a considerable number of their districts under the authority of officials of lower ranks. There are five provinces in the north, viz., Sung Kalok, Phitsalok or Phitsanulok, Kamphang Phet, Phixai, Raheng. Ten eastern provinces, viz., Phetxabun, Bua-Hum, Sara-Buri, Nophaburi, Nakhon-Najok, Pachin, Kabin, Sasong-Sao or Petriu, Battabong and Phanatsani Khom. Seven western provinces, viz., Muang-Sing, Suphan or Suphannaburi, Kanchanaburi or Pak-Phrek, Rapri or Raxaburi, Nakhon, Xaisi, Sakhonburi or Tha-Chin, Samut-Songkhram or Mei-Khlong. Ten southern provinces, viz., Pakhlat or Nakhon-Khuen-Khan, Paknam or Sanauthaprakan, Bangplasoi or Halaburi, Rajong, Chantabun or Chantaburi, Thung-Jai, Phiphri or Phetxaburi, Humphon, Haija, Halang or Salang.

Siam has been divided by Siamese annalists into two regions, the northern, Muang-Nua, and the southern, Muang-Tai; the northern being that first occupied. The southern annals are sometimes denominated the "Records of the Royal City" (Ayuthia), and take their date from the period when Ayuthia became the capital of Siam. The native name of the kingdom of Siam is Thai, meaning the Free, or Muang Thai (the Free kingdom, or kingdom of the Free). Bishop Pallegoix says that the modern name, Siam, is derived from one of the ancient titles of the country, Sajam, meaning "the dark rice." In the Siamese books, border wars between the Malayan and Burmese races on one side, and the Cambodian and the Cochin-Chinese on the other, are recorded as of constant occurrence; but the present boundaries of Siam extend from four to twenty or twenty-one degrees of N. lat. Borgman estimates the whole area of Siam and its dependencies at two hundred and ninety thousand square miles, Crawfurd at one hundred and ninety thousand miles. Siam itself pays tribute to China; the king of Siam seeks from the emperor at Peking a special recognition of his right to reign. Siam proper may be deemed a vast plain from which the mountains rise higher and higher as we reach the Laos dependencies. What the Nile is to Egypt is the Meinam to Siam, with the distinction that while deserts and desolation bound the green line which fringes the borders of the Nile, there is, along the banks of the Meinam, wherever labour has failed to redeem the soil, a vast, fertile and feracious jungle, which has to be reclaimed. The people of this country, consist of the Siamese proper, the Khamti, the Laos and the Shan, who form the T'hay or Siamese group. The Siamese are physically superior to the natives of the Indian Archipelago, if we expect those of Bali; indeed the Balinese and Siamese bear a striking resemblance to each other. The natives of Siam often attain a height about the middle size, and are generally well made. The hue of their skin is a shade darker than that of the Chinese, but they have fairer complexions than the Malays and Javanese. The dress of both males and females consists of a piece of cloth wrapped round the waist, one end being brought between the legs and fastened behind, which gives this portion of their attire the appearance of a pair of trowsers. In addition to the abovementioned drapery, the women wear a piece of cloth wrapped round the body, under the arms, but the men content themselves with the nether garment before described, not even those belonging to the higher classes, cumbering the upper part of the body with a single particle of clothing except upon state occasions. Both men and women have the hair shaved from their heads, with the exception of a small round patch which is left between the crown and the forehead. This being brushed up, is made to stand on end, which gives them a scared appearance. The number of the talapoins or priests is enormously disproportioned to the rest of the inhabitants. In Bangkok alone their numbers exceed thirty thousand. The Siamese proper, occupy the lower part of the Meinam. Indeed the valley of the Meinam throughout its whole course, is exclusively T'hay, and the T'hay attain their highest civilization, on the alluvial delta of their river. The old capital Ayuthia, founded in 1351, was abandoned in 1751 for Bangkok, lower down the river. No dialect of the T'hay is intelligible to a Burmese. The alphabets also differ, but on the whole

the essentials of their civilization is the same, the chief difference being in the language. The Laos alphabet slightly differs from that of the Siamese proper, but practically speaking, the language is spoken with remarkable uniformity over the whole T'hay area, and Siamese proper, the Laos, the Shan dialects and the Khamti are one. Many foreigners, Chinese and Cochin-Chinese, reside in Siam, also Portuguese, French, English and Dutch. Pali is the sacred literature of the Siamese, and is called Pali, Bali, and Pasa Makata (Bhasha Magadha) the language of Magada. Gambling in every form, as with the Chinese and Malay, is common, in cock-fighting, fish-fighting, cricket-fighting and lotteries. The Meinam rises and falls like the Nile, the Indus, the Ganges, the Brahmaputra and the Irrawadi. According to all accounts, Siam is a country abounding in mineral wealth. Gold, copper, and iron of great purity, have been discovered, and lead and tin mines are worked by the Government. Gold was discovered in Kabin, copper and iron at Lapaburi, and lead and tin at Kanburi. A mountain is celebrated among the Siamese as the precious-stone mountain where the topaz, the ruby, the sapphire, the garnet, and others are found. Pallegoix says he himself picked up precious stones from the ground.

Chantaburi, one of the ports of Siam, probably the second in commercial importance. It is at the mouth of a river, which, though not long in its course, fertilizes a considerable district by its inundations during the rainy season. The rocks at the entrance of Chantaburi present all the appearance of a colossal lion couchant. Chantaburi, which means the nutmeg country, is also a range of mountains east of Siam whose defiles are held by the Xong or Ching, who are said to be an offshoot from the Karen. The wax sold by the Xong is the produce of a wild bee of gigantic size, which build cells on the top branches of trees at the height of 150 feet. Sir R. Schomburg, British Consul at Siam, states that a rapid development of the commercial resources of Siam has taken place since the treaty, negotiated in 1855, came into operation. The principal export is of rice to China, and next to it sugar, of which ten times the present quantity might be produced if there were sufficient labour to be had; but the extraction of the juice of the cane and its manufacture into sugar are carried on without any of the modern improvements for acquiring the largest possible quantity from the cane and a superior quality of sugar. The alluvial districts might produce as fine cotton as the United States, but there is a scarcity of labourers, and it is bulky for transport in canoes down the river. Her Majesty the queen of Great Britain's Government included among the presents forwarded to the sovereigns of Siam a hydraulic press to compress cotton into bales. Coffee grows luxuriantly, and is of a superior description; it might be cultivated to an unlimited extent. A number of woods, the produce of the forests of Siam are of importance. The teakwood is considered the strongest and most durable timber of India, or perhaps of the world, only the greenheart of Guiana vieing with it; but it has become scarce. The sa-king might perhaps rival it in size and quality. Sir R. Schomburg saw, at the building sheds of the first king, a log of this wood, which was being prepared for the construction of a war canoe, measuring 135 feet and perfectly sound and without a flaw. It possesses the property of being easily bent by artificial means. There are many ornamental woods, the colour of which and suitableness to receive high polish would render them valuable articles of export. A beautiful dye of a brilliant colour is prepared from the heart of the jack tree, which might also become of importance. Sir R. Schomburg had seen silk cloth manufactured in Siam of a green colour, with much more lustre than that from sap green; this green dye, he was told, was extracted from a vegetable substance procured in the forests of the interior. A varnish is said to be obtained by incision from a tree, probably the theet, on which neither the sun nor the rain has influence, and hence it is employed for securing the gilding of idols; it might be advantageously employed for gilded monuments and ornaments which are exposed to the influence of the atmosphere. The balsamic resins of Siam also deserve attention. The betel-nut is extensively cultivated, to be used as a stimulant; and so is hemp, for the sake of its intoxicating and narcotic qualities, it being used in the preparation of ganja, a considerable quantity of opium of inferior quality is produced in the tributary provinces of Siam, on the China border. Elephants abound in the interior of Siam. The hides are sent to China, where, having undergone a process similar to that of obtaining gelatine, they are considered a delicacy. The horns of the rhinoceros are said to possess medicinal virtues. The Chinese likewise attach fanciful virtues, medicinal and invigorating to the bones of the tiger and crocodile, and to the hairy-covered young horns of the deer.

Of savage and predaceous animals in Siam, the rivers and swamps are populated by crocodiles and rhinoceroses; the forests by tigers, bears, and deer of various descriptions. In spite of the buddhistic prohibitions, the Siamese chase the latter animals

energetically, and generally kill them with fire-arms, which any man is allowed to possess. Their rhinoceros-hunting is remarkably daring and peculiar. Armed with a bamboo stake, pointed and hardened in the fire, they proceed in parties of three or four into the jungles where they startle the animals with shouts and yells. As the rhinoceros does not fly, but rushes ferociously at its assailants with widely-opened jaws, the Siamese wait for this moment, and thrust their bamboo lances down the brute's throat. Then they run off in various directions and allow the animal to become exhausted by loss of blood until they can approach without danger and despatch it. There are many tigers, spotted and striped, and tiger-cats, but they rarely attack men because they have no want of game. There are also two varieties of the bear, which however, shun the vicinity of man. Stags and deer are also very numerous, and during the inundations are brought by hundreds to the market-place of the capital. These animals, as the water rises, fly to the higher-spots on the plain where they are killed by the Siamese. Apes with which the forests swarm, carry on their tricks unimpeded in the immediate vicinity of Bangkok, and impudently plunder the gardens. Many otters live in the rivers; they are frequently tamed, and become as familiar as dogs. Rats and mice are an enormous nuisance. Amongst the Siamese birds, crows exist in extraordinary numbers, and when they seek their night-quarters in Bangkok—the temples—they almost darken the air. Before daybreak they stalk about the streets in dozens, to steal everything that comes in the way. They snatch edibles from the hands of children, and even of elderly persons, force their way into the kitchens, knock off the covers of pots and take out the meat, which, if unable to swallow on the spot, they try to conceal in some corner, on a roof, or upon a tree. They fight boldly with dogs and cats for a bone, and when so engaged will hardly get out of the way of passers-by. If shot at, or stones thrown at them, they collect in hundreds and make an almost unendurable cawing. They combine with the dogs in acting as scavengers, clearing the towns and villages from all rotting substances. In consequence of the great quantity of water and fish in the country, it swarms with aquatic birds. Vultures are also seen in large flocks; especially the black ones with bare necks, which eat all animal substances and devour the dead, for in Siam the dead are not buried. The rich and well-to-do have their dead burned, while the corpses of the poor, whose relations cannot afford to pay the priest for the incremation service, are torn and devoured by vultures and dogs. For this object the corpses are previously cut into pieces, which are laid out on a stone platform. On the trees around hundreds of black vultures keep up a constant watch, and plump dogs lie about in the neighbourhood. So soon as the relations have retired, the animals and birds rush on the corpse, and in a very short time only the bones are left which the relations eventually collect and keep in an urn. The eastern shore of the gulf of Siam stretches from Bangkok to Chantiboon, and beyond Kampoot; but the lofty range of mountains along the coast impedes communication, and the Petrio canal is exclusively used by travellers to or from the eastern provinces. Pallegoix gives on the whole a favourable description of the moral qualities of the Siamese. "They are," he says, "gentle, cheerful, timid, careless, and almost passionless." They are disposed to idleness, inconstancy, and exaction; they are liberal almsgivers, severe in enforcing decorum in the relations between the sexes. They are fond of sports, and lose half their time in amusements. They are sharp and even witty in conversation, and resemble the Chinese in their aptitude for imitation. Marriages are the subject of much negotiation, undertaken not directly by the parents, but by "gobetweens." In the marriage procession a tray is carried, gaily adorned with flags and accompanied by music, and is laden with garments, plate, fruits, betel, &c. In the centre is a huge cake or cakes, in the form of a pyramid, printed in bright colours. The bridegroom accompanies the procession to the house of his future father-in-law, where the lady's dowry and the day for the celebration of the marriage are fixed. It is incumbent on the bridegroom to erect or to occupy a house near that of his intended, and a month or two must elapse before he can carry away his bride. No religious rites accompany the marriage, though bonzes are invited to the feast, whose duration and expense depend upon the condition of the parties. Music is an invariable accompaniment. Though wives or concubines are kept in any number according to the wealth or will of the husband, the wife who has been the object of the marriage ceremony, called the Khan mak, takes precedence of all the rest, and is really the sole legitimate spouse; and she and her descendants are the only legal heirs to the husband's possessions. Marriages are permitted beyond the first degree of affinity. There is an extraordinary usage connected with child-birth. The event has no sooner taken place, than the mother is placed near a large fire, where she remains for weeks ex-

posed to the burning heat : death is often caused by this exposure. So universal is the usage, so strong the prejudice in its favour among high and low, that the king himself has vainly attempted to interfere ; and his young and beautiful wife, though in a state of extreme peril and suffering, was subjected to this torture, and died while "before the fire," a phrase employed by the Siamese to answer the inquiry made as to the absence of the mother. The Siamese have learnt from the Chinese the art of salting and preserving eggs, which, in their estimate, rather improve than deteriorate by time. The egg is covered with a thick paste of ashes and lime. Eggs so prepared may be sent on long voyages, and have become a considerable article of export to California and other places. They are fond of ablutions, and their bodies are thus kept quite free from vermin. They must be deemed a cleanly people : they pluck out the hairs of their beard as soon as they clean their teeth, foul breath is scarcely known among them ; they constantly change their garments, exposing them to the action of the sun's rays. Houses in Siam are raised above the inundations, to a height of twelve or thirteen feet. They have but one floor and the sides and roofs are composed of interwoven bamboos. The ascent is by a flight of steps. The food is chiefly rice, often cooked in a cocoanut shell, and the condiment used is fish, generally small and often in a putrid state. On the whole, the condition of women is better in Siam than in most oriental countries. In Siam, with laymen of rank as with the priesthood, the dead are embowelled and the body preserved embalmed for a long period before being consumed in the funeral pile. In Ava this practice is confined to the priesthood, and in this case the funeral pile is on a car on wheels and the body is blown away from a huge wooden cannon or mortar. Immense crowds are collected on the occasions of these funerals which are occasions of rude mirth and boisterous rejoicings. Ropes are attached to each extremity of the car and pulled in opposite directions by adverse parties, one of these being for the consuming of the body and the other opposing it. The latter are at length overcome, fire is set to the pile amidst loud acclamations and the ceremony is consumed.

Among the mountain tribes the most remarkable are the Kareen, the Lawa, the Ka, and the Hong. The Kareen inhabit the mountain ranges on the Burmese frontier up to lat. 21° ; the Lawa, a more numerous people, the same regions farther south ; the Ka, the mountainous district between the Meinam and the Meikong. The Hong dwell on the hilly region in the N. E. angle of the gulf of Siam, from the latitude of about 11° 30′ to 13° N.

The kings of Siam, from the time the old city Ayuthia was built, Choola Era 712 = A. D. 1351.—Furnished by P'ra Alak, the chief of the king's scribes, and doubtless with the approbation of His Majesty, designed by him it is supposed to correct the list of the kings published in the Calendar for 1860. That within the brackets does not belong to P'ra Alak.

First Dynasty—Names.	Choonla Era.	A.D.	Length of reign Ys.	Ms.
1 Somdet P'ra Rama T'ibawdee the, I	712	1351	20	
2 Somdet P'ra Rame-sooan, —son of the 1st ... ... who abdicated for,	732	1671	1	
3 Somdet P'ra Bawroma-Rach'a-T'irat	732	1371	13	
4 Chow oo-t'awng lan,—son of the 3rd	744	1383	7 days	
5 Somet P'ra Rame-sooan,—assassinated the 4th ... being the same person of the 2nd reign	744	1382	6	
6 Somdet P'raya P'ra-Ram,—son of the 5th	759	1398	15	
7 Somdet P'ra Nak'awn -In...	763	1402	18	
8 Somdet P'ra Bawroma Rach'a-T'i-Rat,—son the 7th	780	1419	17	
9 Somdet P'ra Bawroma Trei Lokanat,—son of the 8th.	796	1435	16	
10 Somdet P'ra Int'a-Rach'a, son of the 9th	811	1450	22	
11 Somdet P'ra Rama-T'ibawdee,—the II	832	1489	40	
12 Somdet P'ra Bawroma-Rach'a Naw P'oot-Tang, son of the 11th...	871	1510	5	
13 P'ra Ratsat'a T'i-Rat,—son of the 12th, 5 years old...	875	1514	0	5
14 Somdet P'ra Ch'ei Rach'a T'irat ... . son of the 12th killed by the 13th.	875	1514	15	
15 P'ra Yawt Fa,—son the 14th, aged 11 years ... The 15th was slain by K'oon Warawongsa-T'i, who took the throne, and reigned 5 months. Being a usurper, his name is not allowed to have a place among the names of Siamese kings. He was assassinated by K'oon P'irenat'ep, who placed on the throne P'ra Teean Rach'a who bore the name.	889	1528	2½	
16 Somdet P'ra Maha Chakra-P'atdi-Rach'a-T'irat ...	891	1530	27	
17 P'ra Mahin Ta-Rach'a-T'irat —son of the 16th ... The Capital of the kingdom was taken in 918 by the King of Hongsawadee or Pegu.	917	1556	1	
18 Somdet P'ra Maha Tama, Rach'a-T'irat...	918	1557	23	
19 Somdet P'ra Naret,—son of the 18th...	940	1579	16	
20 Somdet P'ra eka-Totsarot				

First Dynasty—Names,	Choonla Era.	A. E.	Length of reign.	
—a younger brother of the 19th	945	1584	9	
21 Chow' Fa Sri-Sawara-P'ak —son of the 20th ..	962	1603	1	2
Here closes the dynasty of Somdet P'ra Rama-Ti-Bawdee, being 20 different kings, one of them having reigned twice.				
Second Dynasty.				
22 P'ra Chow Song-T'am,—slew the 21st and reigned.	964	1603	26	
[He acquired a great name by his pretended discovery of Boodha's foot-print at P'rabat.]				
23 P'ra Ch'et'a-Otsarot,—an elder brother of the 22nd	989	1628	1	7
The Prime Minister Chow P'aya Kralahom Sri Soo riwong assassinated the 23rd, and placed on the throne.				
24 P'ra At'itaya Wong,—a brother of the 23rd, 9 years old	992	1631	0	5
Here closes the dynasty of P'ra Chow Song-t'am 3 reigns				
Third Dynasty.				
The former king was driven from the throne by the Siamese Nobles and Lords, whose place they filled by the Prime Minister abovementioned, viz.				
25 P'ra Chow Prasat T'awng.	992	1631	26	
26 Chow Fa Ch'ei.—son of the 25th...	1017	1656	0	9
27 P'ra Soot'ama Rach'a,—killed the 26th and reigned	1018	1657	0	2[illegible]
28 Somdet P'ra Narai,—son of 25th killed the 27th ...	1018	1657	26	
29 P'ra Pe't Rach'a,—He is called a usurper, and is not allowed an honorable place among the kings ...	1044	1683	16	
30 P'ra P'oot'a Chow Sua,—son of the 27th,	1059	1698	10	
31 P'ra Chow Yoo-hooa t'ei,—son of the 30th ...	1069	1708	27	
32 P'ra Chow Yoo-hooa Bawromakot, brother of the 31st...	1094	1733	26	
33 Chow Fa Dawkmadua,—son of the 32nd	1120	1759	10 days	
And then abdicated the throne for his elder brother				
34 P'ra Chow Tinang Sooriya-Marin-t'ara...	1120	1759	9 days	
The close of the dynasty of P'rasat-t'awng, being 9 kings in all, the usurper being excluded.				
The whole term in which the above named 34 kings reigned is 417 years, averaging 12·3 years each.				
[The Burmese sacked the capital in the year 1767, and carried away many captives. The chief of the Siamese army rallied the Siamese under him at Tont'a-Booree, which is now the site of H. R. H. Kromalooang Wongsa-t'iat-sait's palace. He built a walled city in this place, and reigned as king P'aya 35 Tak,]	1129	1767	15	
The 4th and present Dynasty.				
[A Siamese General of great celebrity under P'aya Tak, took the throne, named,]				
36 Somdet P'ra Bawroma-Rach'a P'ra P'oott'i Ywat-Fa.	1144	1782	27	
37 P'ra Poott'i Lot-La—son of the 36th	1171	1809	15	
38 P'rabat Somdet P'ra Sang-Klow,—son of the 37th ...	1186	1824	27	
39 P'rabat Somdet P'ra Paramendr Maha Mongkut, the present reigning sovereign,—son of the 37th. succeeded to the throne.	1213	1851	12	
P'rabat Somdet P'ra Pin-Klow, second king do.]	1213	1851		

The population of Siam is probably nearly stationary. The number of the bonzes condemned to celibacy, the multitudes of men who, being slaves, are unable to marry—the prodigious proportion of women who are childless in consequence of the practice of polygamy,—all seem to check the generally prolific character of tropical regions. The annual influx of Chinese being confined to males, does not bring with it the ordinary augmentations of a vast emigration, nor is there an adequate supply of women for the demand produced by the constant flow of men from China, who are brought down by every north-east monsoon. The bulk of the Laos people who are subjects of Siam, are spread over the great valley through which the Meikong, or principal river of Cambodia flows, between the lats. 13° and 21° N. The country is reported to be thickly peopled, except in the mountainous parts contiguous to Tonquin and Cambodia. Though the limits of Laos are not accurately laid down in the maps, and the country is but little known, it is said to contain more square miles than Siam itself. All its princes are tributary to Siam. Though possessing a quasi independence, the Shan States of Zimmay, Rahaing, and Labong are clearly feudatories of the present sovereign of Siam. Written contracts, or agreements are necessary with the Shan foresters and timber-cutters, and such documents to give them a binding effect, must be laid before the present Shan chief, who, if approved of by him, will direct his seal to be affixed to them. On the demise of any of the chiefs of these States, the king of Siam appoints the successor, and although it is customary to allow

the eldest son of the former chief, to succeed to the vacancy, yet on the death about A.D. 1860, of a chief of Zimmay, one of the minor chiefs not of his family, was appointed to the post." In Siam, nobility is not hereditary. A modification of buddhism is the prevailing religion. A class of nuns exist, but women are not admitted till above 50. In Siam, the poor are buried or exposed to beasts of prey; if above the lowest class the deceased after the bowels have been extracted, is laid in a wooden coffin externally lackered and gilt, and this is placed for some days on a high table. In the meantime, the priests light up tapers, burn perfumes under the coffin, and chant funeral hymns at night. A procession of relatives and friends dressed in white and covered with white veils follow the corpse. Beside it, are borne figures of various animals or singularly-shaped monsters carved out of bamboo and the accompanying talapoins exclaim, "We must all die, we are all mortal." The mourners attest their sorrow by their tears and often hire women for the express purpose. The body is then taken from the coffin and placed naked on the pile which is set fire to and the remains are scorched. The body is then replaced in the coffin and deposited under one of the pyramids erected about the temple. Graves are held sacred among the Siamese and their violation is considered as a heinous offence. They refuse the honor of burning to persons killed by accident, by lightning, to the still-born, to those who die in child-birth, or from small-pox, and to suicides. The remains of such are either thrown into the water or exposed to the beasts of prey.

Between the buddhists of Siam and Ceylon, there has been much intercourse, and it is probable that almost identical doctrines are held in the two countries. During the efforts made by the buddhist monks of Ceylon, in the defence of their religion and in their attacks on christianity and on Jehovah, the king of Siam and one of the native chiefs of Kandy contributed largely towards the publication of the numerous tracts, pamphlets, and serials that were sent forth from the buddhist printing presses of Ceylon. When Siam was visited by Sir John Bowring he found a king upon the throne who in early life, when a late king had usurped the throne, had withdrawn from political squabbles to the safety and sanctity of the religious profession, and was residing in a buddhist temple from whence he was brought forth to occupy the throne, after the seclusion of a quarter of a century.

In stature the Siamese are shorter than the hindoos, the Chinese, or the Europeans, but taller than the Malays. The average height of twenty men, taken indiscriminately, was found on trial, to be five feet three inches, the tallest being five feet eight inches, and the shortest five feet two inches. This would make them about an inch taller than the Malays, and an inch and a half shorter than the Chinese. Their lower limbs are well-formed, contrary to what obtains among the natives of Hindostan. Their hands are stout, and destitute of the extreme softness and delicacy which characterize those of the hindoos. Their persons in general are sufficiently robust and well-proportioned, being destitute, however, of the grace and flexibility of the hindoo form. On the other hand, their make is lighter, less squab, and better proportioned, than that of the Indian islanders. Their complexion is light-brown, perhaps a shade lighter than that of the Malays, but many shades darker than that of the Chinese. It never approaches to the black of the African negro or hindoo. Writers on the natural history of man, judging from the remote analogy of plants, have been disposed to undervalue colour as a discriminating character of the different races. But still Dr. Bowring was disposed to consider it as intrinsic, and as permanent a character, as the form of the skull, or any other which has been most relied upon. The hair of the head is always black, lank, coarse, and abundant. On every other part of the body it is scanty, as with the Malayan and American races, and the beard especially is so little suited for ornament, that it is never worn, but on the contrary, plucked out and eradicated, according to the practice of the Indian islanders. The head is generally well proportioned, and well set upon the neck and shoulders, but frequently of remarkable flatness in the occipital part. The face differs greatly from that of the European or hindoo, the features never being bold, prominent, or well defined. The nose is small, round at the point, but not flattened, as in the negro, and the nostrils, instead of being parallel, diverge greatly. The mouth is wide, but not projecting; the lips are rather thick; the eyes are small, having the iris black, and the white of a yellow tinge, following as usual the complexion of the skin. The outer angles are more turned up than in the Western races; the eye-brows are neither prominent nor well marked. But, perhaps, the most characteristic feature of the whole countenance is the breadth and height of the cheek bones, which gives the whole face the form of a lozenge, instead of the oval figure which constitutes the line of beauty among the nations of Western Asia and Europe. Upon

the whole, although we often meet among the Siamese with countenances that are not disagreeable, and admit that they are certainly a handsomer people than either the Chinese or Indian islanders, beauty, according to British notions of it, is a stranger to them. The physiognomy of the Siamese, it may be added, conveys rather a gloomy, cheerless, and sullen air, and their gait is slow, sluggish, and ungraceful. The dress of the Siamese is sufficiently singularly and extravagant. Both sexes wear fewer clothes than any other tolerably civilized people of the East, the head and feet being always naked, the upper part of the body generally so, and the loins and thighs alone therefore being covered. The garment for the latter consists of a piece of silk, or cotton cloth, of from five to seven cubits long, which is passed round the loins and thighs, and secured in front in its own folds, leaving the knees entirely bare, a practice considered by their Malayan neighbours—such is the force of custom—at once rude and indecent. The better classes permit the ends of the dress to hang loosely in front, but the lower orders tuck them under the body, securing them behind. This is not a matter which is left to the discretion of the parties, but enforced by law, or by a custom equally imperative; for the plebian who infringes it is liable to summary punishment from the followers of any person of condition who may casually meet him. The only other material portion of dress is a narrow scarf, about four cubits long, and commonly of silk. This is worn either round the waist, or thrown carelessly over the shoulders. When in this last situation it forms an imperfect covering for the bosoms of the females, the lower orders of women wear a tight vest for comfort or convenience, when engaged in labour. The colours of which the Siamese are fond are dark and sombre, and light colours or white seldom enter in any considerable quantity into their dress. The last, except in mourning, is worn only by the lay servants of the temples, and by mendicant nuns, neither of whom are much respected.

The mode of dressing the head is singular and grotesque. A man when he is full-dressed ought to have the whole hair of the head closely shaven, with the exception of a circle on the crown, about four inches in diameter, where the hair is allowed to remain of the length of about an inch and a half or two inches. As the process of shaving the head, however, is not very punctually performed, it commonly happens that the common hair of the head is an inch or two long, and the circle on the crown double that length, the whole, from its natural strength, staring and standing upright, so as to convey not only a whimsical but a very wild look. Women do not shave the hair of their heads but always crop it short, leaving also a circle on the crown, which is effected by plucking out the hair in a narrow line from the brows backwards. No turban or other covering to the head is worn by either sex, with the exception of a fantastic conical cap put on by the chiefs at certain formal court ceremonies. In this respect, as well as in the mode of wearing the hair, the Siamese agree entirely with the Kambojans, but differ from the people of Pegu and Ava, who wear their hair long, and cover the head with a handkerchief. The Siamese of both sexes in upper ranks wear a kind of slipper. The Siamese, like the Chinese and other nations of the farther east, permit the nails of their hands to grow to an unnatural and inconvenient length. All the nails of both hands are treated in this manner, and the practice is general with both sexes, and with persons of all ranks; the only difference being that persons of condition carry the practice to the greatest extreme. Some successful amateurs may be seen with nails two inches long, and as cleanliness is not a national virtue, this usage has a very offensive appearance to a stranger. The Siamese have the same prejudice against white teeth with many other eastern people, and at an early age they stain them of an indelible black colour, without, however, filing and destroying the enamel of the front teeth, like the Indian islanders. In other respects, they evince no disposition to disfigure the natural form of the body, and are especially to be distinguished from the Burmans and Peguans, by the absence of general practice of tattooing the whole body, which prevails among the two last tribes. Marriage ceremonies, as in other countries of the East, are accompanied by theatrical representation, gymnastics, music, and distribution of presents. The actual ceremony is performed by the senior male relations; it consists in joining the right hands of the bride and bridegroom with a white cotton thread, and passing a similar one round their heads, brought into juxta-position. The priests repeat hymns in the Bali language, and an elder of the family pronounces the words, "Be man and wife, and live together until death part you." The Siamese week is of seven days, and these correspond generally with those of the other nations of the old world. They are as follows: viz., Sunday, Athit; Monday, Chan; Tuesday, Angkhan; Wednesday, Phut; Thursday, Prahat; Friday, Suk; and Saturday, San. The nature of the marriage contract among the Siamese

does not differ essentially from its condition among other oriental people. Indeed, it may be remarked, that there is no feature in eastern manners in which there is so general an agreement as in this. The Siamese suitor usually pays a price for his bride—a betrothing precedes marriage, the marriage is a civil contract, in which the Talapoins do not meddle, except by offering prayers for, and bestowing benedictions upon the parties, and both concubinage and a plurality of wives are legal. Divorces appear to be obtained without difficulty, and are frequent among the lower orders. An unequivocal and reciprocal expression of the desire of the parties for a separation, seems all that is requisite. When the divorce is desired by one party only, there is a little more difficulty. The party suing in this case, pays a fine for the benefit of the other. In any case of a divorce, each party receives back what it originally contributed to the common stock, the wife, however, receiving no share of the gain or accumulation. If the children be grown up, they follow the father or mother at their own option; but in the event of their being young, the distribution which the law enacts is remarkable, the female children going to the father, and the boys to the mother, on the alleged principle that the girls are most likely to prove useful to the first, and the boys to the last. The Siamese are a small, well-proportioned race, their skin is of an olive hue, they have black hair, of which they keep a coarse tuft (which has somewhat the appearance of a brush) on the top of the head, all around being closely shaven. Women adopt the same practice of cherishing a tuft of hair, which, however, they carefully oil and comb. The preservation of the tuft and the changes it undergoes under different circumstances, are objects of great interest and attention in Siam. The head of a child is frequently shorn. At the age of three or four the tuft begins to be cared for, but it is more in front than is usual after the time of puberty. It is prettily knotted and kept together by a golden or silver pin, or, in case of poverty, by a porcupine quill, but it is generally garlanded by a wreath of fragrant flowers. As among the Chinese, long nails are appreciated as a mark of aristocracy; and every art is used for making the teeth black, which is deemed a sine quâ non of comeliness. The use of betel and areca helps to accomplish this object. The ordinary dress of the Siamese is a long piece of cotton printed cloth, passed round the waist between the thighs, the ends of the cloth being stuck in behind. They wear no covering over the head, or upper part of the body; and the legs and feet are quite naked. The higher class sometimes wear sandals, and have generally a piece of white cloth hanging loosely about the shoulders, which they sometimes use to wrap round their head. Young women employ a sort of silk scarf to screen the bosom; a refinement which, after marriage, is much neglected: indeed, no sense of delicacy or impropriety appears to be connected with the exposure of the body above the waist. In the sun, a light hat, which looks like an inverted basket, made of palm-leaves, is used by both sexes. On all ceremonial occasions, and in visits from inferiors to superiors, it is usual to wear a silk scarf round the waist. In the presence of the king, the nobles have a garment with sleeves made of tulle, of the most delicate texture, and richly ornamented, which they often take from their shoulders and fasten round their waist. The women who ply on the river wear rather a graceful sort of white jacket, fastened in front. In cold weather an outer garment or robe is worn, whose value depends on the rank and opulence of the wearer. There is a universal passion for jewellery and ornaments of the precious metals, stones, &c. It is said there is scarcely a family so poor as to be without some valuable possessions of this sort. Rings of silver and gold adorn the arms and the legs of children, rich neck-laces, ear-rings, and belts, are sometimes seen in such profusion as quite to embarrass the wearer. Female children, up to the age of twelve or thirteen, wear a gold or silver string with a heart in the centre, performing the part often assigned to the fig-leaf in exhibitions of statues. To the necks of children a tablet called a bai soma, is generally suspended, bearing an inscription as a charm against mischief; and men have a metallic ball attached to a belt, to which they attribute the virtue of rendering them invulnerable. A neck-lace consisting of seven lumps of gold or silver is worn by girls as a protecting influence, the panung, is one of the garments worn by the Siamese, called by the Portuguese panks, the Siamese have no family names or titles. Few therefore can trace back their descent above two generations. In their disposal of the dead body of a Khroopacha Achariya, or spiritual guide of superior sanctity, the rewards awaiting those who perform the funeral rites are innumerable. In a Siamese funeral, the bier, with a layer of wet earth laid upon it, upon which is placed a heap of a dried fuel, constitutes the funeral pile. This circumstance distinguished the funeral from a more ordinary one; for on common occasions the bodies are simply burned upon a low earthen terrace. In one case, the pile being prepared, the

body is replaced in the coffin, and carried three successive times round it, borne by the sons and son-in-laws of the deceased, and followed by the favourite daughter, uttering loud lamentations. It was then deposited upon the pile. A number of wax tapers and little incense rods were now distributed to the bystanders. A priest, ejaculating a prayer, set the first fire to the pile, and was followed by the rest, and among others, by the European bystanders for the spectators had been offered tapers, and particularly requested to join in the ceremony. As soon as the first flame had ascended, the daughter began to distribute small pieces of money to some beggars who were present, and who consisted chiefly of elderly women, dressed in white, who reside in the temple, and who perform menial services for the priests. The male relations of the deceased at the same time tied the clothes in a bundle, and standing on each side of the pile, tossed them over it six successive times, taking great care not to allow them to fall to the ground. This ended the ceremony—the relations, however, continuing by the pile until the body was consumed. The Siamese practice polygamy. Marriage is only allowed beyond the seventh degree of blood affinity, but a widow may marry her deceased husband's brother, and a widower his deceased wife's sister. Sovereigns may marry a sister or a daughter to preserve the royal race. A wife may be pawned for a debt.

On the east the dominions of Siam touch the frontier line of the Tenasserim provinces. As the crow flies, the British boundary of Tenasserim and the Siamese capital are not more than a hundred miles apart.

The city of Bankok lies in lat. 13° 58′ N., and long. 100° 34′ E. It is about twenty miles distant from the sea, up the Menam river, which is navigable for vessels up to two hundred and fifty tons, at all seasons of the year. The river is the highway for communication with all parts of the country, though several ancient canals have connected rivers in the interior and made passages to the coast. The city is divided into three portions. One section includes the palace, its gardens, grounds and enclosure, which is entirely surrounded by water from a canal and forms an artificial, not a natural, island. The second portion of the city embraces the abode of the settled part of the population. The houses stand on both sides of the river, and are built pretty much in the same style and with the same materials, as they are in Burmah. All the well to do people live in wooden houses, while the poorer class occupy huts composed of bamboos and palm leaves. The third section of the city comprises those who live on rafts or other floating structures. Many of the people have their permanent homes on these rafts. They open shops and sell bazaar articles on them. These floating houses are moored along the banks of the river, and they present a most picturesque appearance, as you ascend the river from sea. Many of the noblemen, and connections of the court, occupy brick-houses, and of the countless number of shrines and temples and pagodas, which are seen scattered about in every direction, all are built with the most durable materials and in the most costly manner. Bankok is supposed to have a population of about two hundred thousand people, of whom three-fifths are Chinese, and the remainder are Siamese, Peguans, Laos, Cambojans, Tavoyans, Cochin-Chinese, Malays, Moors, Hindoos, and Christians the descendants of Portuguese born in the country. All the thrift, enterprise and inland trade is with the Chinese. Large numbers of these industrious people immigrate every year from the provinces from the sea coast of China, and particularly from Canton. The Siamese population are lazy, apathetic, and filthy, destitute of all ambition, or national aspirations. Europeans and Americans are being attracted to Siam, as either temporary or permanent settlers, and they receive every encouragement from the king's government. There were in 1863 in Bankok, one hundred and twelve European residents and about thirty-eight Americans, many of the two classes having their families with them.

The first and second kings administer the affairs of the kingdom between them, though in point of etiquette and in reality, the first king is supreme. The executive branches are conducted by different ministers, who have two audiences each day with the first king to receive instructions. The Prahklang is the chief minister. The revenues of the kingdom amount to about four millions sterling, and are derived principally from the land, a conscription tax for exemption from military service, a poll tax on the Chinese, customs duties, opium tax, gambling licenses and profits on the trade conducted in vessels belonging to the king. In 1863 the ruling Siamese majesty was the fourth sovereign of the existing dynasty. He is officially styled Prabat Somdet Pra Paramendr Maha Mongh Kuk. He is the second eldest son of Pra Pootti Lot La, the thirty-sixth king from the foundation of the monarchy in that country. The second king has the title of Prabat Somdet Pra Pin Klow, brother of the first king. There have been four dynasties, of kings. The first dynasty had a succession of twenty-one kings,

whose united reigns, extended over a period of 252 years, or from year A. D. 1351 to 1603. The next dynasty had three sovereigns. who reigned twenty-eight years. The third dynasty began by the Siamese nobles putting aside a minor of nine years old, and setting up the prime minister as king, who began to reign in A. D. 1633, and occupied the throne for twenty-six years. This dynasty had nine kings, who were in power one hundred and thirty-six years, "when the Burmese sacked the capital in 1767 and carried away many captives. The chief of the Siamese army rallied the Siamese under him, at Touta Booree, which is now the site of a palace. The ancestor of the present dynasty was a Siamese general, of great celebrity, who took the throne A. D. 1782 and reigned for twenty-seven years. The king ruling in 1863 had a family of sixty-one children. Of this large number of children, eleven had died up to the end of 1862, seven were by one mother, two royal mothers had five children each, one royal mother had four, two of them three each, four of them two each, and all the others, making the number of royal mothers up to twenty-seven, one each. Besides these twenty-seven wives, the king had thirty-four concubines. In addition to this establishment there were seventy-five daughters of noblemen, who served as maids of honor. Each lady receives a salary from the royal treasury of from twelve-hundred to two-hundred ticals a year. His majesty the second king, says the Bankok Calendar, for A. D. 1863, has now twenty Laos and five Siamese wives. The whole number of his children is 60, of whom only 30 are now living. His eldest son was born in August or September 1838, and is commonly denominated Prince George. The name given him in his infancy was George Washington. His present official name is Krom Mun Bawarawich ei chan. At Bankok and its vicinity in 1863 there were ten American missionaries and families located. The first mission planted in that city was by the Baptist sect of christians in the year 1833. It has since maintained a very feeble existence. A Presbyterian Mission is strong in numbers. A Roman Catholic Mission with ten priests is stated to have commenced in 1662. The Vicar Apostolic of Siam, the Right Rev. J. P. Pallegoix, Bishop of Mallos died on the 18th of July (1862.) The Governments of Portugal, America, Great Britain, France, Denmark, Hanseatic Republic, Sweden and Norway, the Netherlands, and Prussia are represented each by an accredited Consul, residing at the Court of Bankok. Connected with these Consular establishments are various employés, as interpreters, secretaries, assistants, clerks, constables and medical officers in charge. With all of these European Governments the kings of Siam have entered into treaty relations. The Portuguese Consulate takes the lead, in point of priority of time, having been established in 1820. The others date from the year 1856. There is a Harbour Master and Master Attendant's department, besides an Inspector of imports and exports and the Bankok Police, all under the executive charge of Europeans or Americans.

The heavy bulk of the trade with Siam seems to pass round from Batavia and Singapore. Hongkong and other ports in China contribute toward it. The value of the export trade for the year 1861 was fifty-six lakhs and a half of ticals.

The principal articles of export from Bankok are rice, sapan wood, sugar, pepper, hides and horns, cardamums, teel seed, tin, stick-lac, silk and paddy, teak timber, ebony, rose-wood and mangrove bark used in tanning, gum benjamin or frankincense and gamboge. All the spices of the southern peninsula and the islands seem to grow in that country. The growth of sugar is a new branch of industry introduced into Siam about a century ago by the Chinese.

On the eastern side of the peninsula there is a river, called the "Xumphon," at the Isthmus of Krau. From this river across the gulf, to the mouth of the "Menam, chowphya," the distance cannot be more than sixty or seventy miles.

The Siamese mountains run north to south along the Tenasserim provinces, and attain elevations from 3,000 to 5,000 feet. The mountains in Ye province, run in three parallel ridges, from 3,000 to 4,500 feet high, gradually diminishing towards the coast to about 500 feet. The Buffalo mountains, about 700 miles from Moulmein, 1,543 feet. Coal of excellent quality has been discovered. Iron, tin, and gold are frequently met with. The Ahomo who once ruled Assam, were of the Siamese race. The alphabets of the Thay or Siamese of the Burmese and of the Mon of Pegu are of Indian origin.—*Latham's Des. Ethn.*; *Colburn's New Monthly Mag.*; *Travels in Siam and Cambodia, by D. C. King, Esq*; *Jour. of the Royal Geo. Soc., No.* 30, *p.* 177; *Bowring's Siam, Vol.* i, *pp.* 27, 83-85, 106, 118-19; *Earl's Archipelago, p.* 168; *Journal of the Indian Archipelago, No.* 4, *December* 1847, *pp.* 330 *to* 368; *Crawfurd's Embassy, pp.* 128, 313, 315, 328, 394; *Aitchison's Treatise, p,* 315; *Rangoon Times,* 1863. See Buddha, India, Jakun, Kambogia, Karen, Kariang, Kedah

or Quedah, Laos, Lawa, Malays, Monsoon, Pagoda, Wijao, Yuthia or Juthia.

SIAMANG,—? See Simiadæ.

SIAMANGA SYNDACTYLA, see Simiadæ.

SIAMULIUM, the "Peepsa," a species of Siamulium a troublesome, dipterous insect swarms on the banks of the streams uniting with the little Rungeet river in Sikkim. It is very small and black, floating like a speck before the eye; its bite, leaves a spot of extravasated blood under the cuticle, very irritating if not opened.—*Hooker's Him. Jour., Vol.* i, *p.* 157. See Peepsa.

SIAO. On the N. E. of Celebes, is an island larger than Tagolanda, and is rendered very conspicuous by a high conical volcanic peak, in lat. 2° 43' N., long. 125° 35¼' E.

SIAPOSH, a mountain tribe in Central Asia. See Kaffir, Siah Posh.

SIARD, HIND. Euphorbia antiquorum, *Linn.*

SIARU, HIND. Miseiessya hypoleuca.

SIBARU, see Kyan.

SIBBAR also Bol siah, PERS. Aloes.

SIBAYDU, TEL. White lead.

SIBBEL, AR. (lit., gratis) water offered at any time gratis to any person, dispensed in the name of God.

SIBERIA, a great region on the north of Asia; the vast steppes of the Gobi, its sandy deserts, and high mountain chains, give a peculiar character to this region. The traveller, who attempts to force his way into the lands on the South of Siberia will find that his rifle will be required for more purposes than obtaining a dinner. His courage and determination will be tested by men who seldom show fear, and are ever on the alert. It is only with a steady hand, a quick eye, and skill with his weapon, that he can remain safe from acts of violence. Plunder is the common trade; and what is still worse, the traveller, if not murdered, is carried off into certain slavery. Mr. Atkinson commenced his wanderings in southern Siberia beyond the river Narym, and crossed the Kourt Choum mountains, towards what has been called the Great Altai. But this chain can only be found on maps—in nature it does not exist. Numerous off-shoots from the Altai run down to the desert of Oulan-Koum, in which direction he turned his steps; riding over many a rugged ridge and crossing numbers of picturesque valleys, treading his way eastward towards Oubsa Noor. There are many peaks in the Tangnou chain, rising far above the line of eternal snow, some more than 11,000 feet in height. His route was eastward, crossing the heads of several streams which run from the Tangnou mountains into the Oubsa. There are to be seen herds of antelopes and flocks of bustards, animals characteristic of a steppe; with packs of ferocious wolves inconveniently numerous. A heavy sandy steppe—part of the Sarkha desert, extends into the Gobi,—and vegetation was so very scant, that even the steppe grass had disappeared. The salsola was growing in a broad belt around the small salt-lakes, its colour varying from orange to the deepest crimson. These lakes have a most singular appearance when seen at a distance. The sparkling of the crystallized salt, which often reflected the deep crimson around, gave them the appearance of diamonds and rubies set in a gorgeous frame-work. From the summit is a very extensive view over Sarkha desert, and there is no Great Altai but a low chain of hills only extends to the south, till lost in the Gobi desert. Of the vast network of mountains, which separates the enormous extent of level territory known as Siberia to the north, from the great Mongolian desert of Gobi to the south east, a comparatively small though lofty chain alone retains the name of Altai in Mr. Atkinson's map; and this is continued eastward into the much longer chain of the Tangnou mountains, extending from about the 90th to the 100th meridians of east longitude from Greenwich: successively diminishing ranges occurring northward, till lost in the Siberian level of marsh and lowland forest. The true Altai, from its position, accessibility, and vast mineral treasures, and the important Russian mining establishments there in full operation, has perhaps attained undue celebrity as the grand mountain system of the region; and the entire group of mountain chains, which as a group would appear to be tolerably isolated, is currently recognized as "the Altai" in popular estimation. There are no elevations comparable to the higher summits of the Himalaya; but the difference of latitude compensates, as regards severity of climate in the higher ranges. The best idea of the magnitude of the mountain masses that run through Asia, separating Siberia and Mongolia, is by a comparison with the Alps, which can be crossed in four or five days: the wanderer among the Asiatic Alps has lost no time if he contrive to cross them in thirty-five. Baron Humboldt, was informed by Tartar merchants who cross the steppe with the caravans, that a volcano exists on an island in the Ala-kool. But the one nearest to this place is in the Gobi desert, and Peshan in the Syan-shan. In all his wanderings in the Karatou, Alatou, and Actou, Mr. Atkinson did not discover one crater. Beyond the Syan-shan mountains in Mongolia and its continuations westward under various

names, is the vast depression of Yarkand. Mr. Atkinson's travels tended from Kokhan on the west to the eastern end of the Baikal, and as far south as the Chinese town of Tchin-si; including that immense chain Syanshan, never before seen by any European; as well as a large portion of the western part of the Gobi, over which Chenghiz Khan marched his wild hordes toward the west—scenes on which no pencil had previously been employed—comprising a distance traversed of about 32,000 versts in carriages, 7,100 in boats, and 20,300 on horseback—in all 59,400 versts (about 39,500 miles), in the course of seven years. The fauna of Siberia and even of the Altai appertains to the same immediate zoological province as that of Europe, with Asia Minor and the Caucasus, and to the same general region must likewise be referred that of all Middle and Western Asia, with Africa northward of the Atlas: again in North America, the differences are as nothing in comparison with the amount of resemblance; and the whole may be comprehended as the great northern or boreal fauna (or zoological region), with subordinate provinces, such as the Arctic, the American, the Central Asian, and the Sibirico-European (the last comprising Western Asia and Northern Africa); while China, the mountains of Indo-China, and the southern face of the Himalaya, having again so many peculiarities in common, that an Indo-Chinese province might be likewise recognised. The same types of form, characteristic of the region, even prevail in the north-west of India, where, as along as the sub-Himalayas, they become intermingled, gradually more and more to the east and south-east, with distinct types, which are mostly characteristic of South Eastern Asia and its archipelago, within the immediate influence of the monsoons.

The Saiga (Saiga tatarica), is a very remarkable antelope described by Pallas, whose great home is on the Kirghiz steppes, especially about the Aral, Lieutenant Woods' "herds of antelopes," observed by him on the plain west of Kunduz, must have been of this species; for it is not probable that the 'Ahu' (Gazella subgutturosa) inhabits northward to the Hindu Koosh; and lower down the valley of the Oxus, the Saiga is known to abound, especially about Lake Aral, into which that river flows. Once Mr. Atkinson mentions "a herd of small antelopes," when hunting with the Golden Eagle in Tchungaria; and these were not improbably the 'Dzeren' (Procapra gutturosa,) also described by Pallas,—whose great home is in the desert of Gobi, and which is the 'Yellow Goat' of the Ortous of M M. Huc and Gabet, and perhaps identical with the Tibetan 'Goa' (Pr. picticaudata of Hodgson),—at least Dr. J. E. Gray, of the British museum, suspects them to be one and the same animal, the former in its summer coat, the latter in winter vesture. The double-humped camel belongs properly to high Central Asia, south of the Gobi desert; and would even appear still to exist there in a state of nature. Its western boundary, where bred, seems to be among the Kuzak (or Cossacks), north of Bokhara. Lieut. Wood, of Sir A. Burnes' party, who explored the Oxus to its source in the Sir-i-Kol lake in Pamir, "had always supposed it to be a native of Uzbeg Tartary; but we here" he remarks, in Wakhan, "learned that it is bred only among the Kirghiz of Pamir and Kokan." Burnes remarks that—"The Bactrian camel, which has two humps, abounds in Turkistan; they are bred by the Kuzzak of the desert north of Bokhara." In its proper and more elevated habitat, this animal is employed together with the yak, as observed in an easterly direction by M.M. Huc and Gabet. In a westerly, Lieutenant Wood, ascending the valley of the Oxus, first encountered yaks when passing from Badakshan into Wakhan: they were grazing amid the snow on the very summit of the rugged pass of Ish Khasm (10,900 feet). Soon afterwards he came upon a Kirghiz encampment or horde which consisted of 100 families, and possessed about 2,000 yaks, 4,000 sheep, and 100 camels—not the ugly-looking camel of Arabia, but that species known as the Bactrian, and which, to all the useful qualities of the former, adds a majestic port which no animal but the horse can surpass. This was the first year of their abode in Wakhan, and the only instance of the Kirghiz having made this district their winter quarters." He subsequently remarks, that "the Kirghiz camel" (undoubtedly meaning the two-humped) is the beast of burthen in Shagnan, much lower down the valley of the Oxus. But other authors (Colonel James Abbott for instance) distinguish the one-humped camel of Turkistan as "the-Kirghiz camel," from the two-humped, which they designate as "the Kuzak camel;" and it is clear that the Kuzak of some writers are the Kirghiz of others. According to Lieutenant Wood—"The Kuzak range, the low-lying plains between the vast empires of Russia and China. The Kirghiz domain is the table-land of Pamir, which, buttressed by Tibet, slopes northward upon Kokan, having the Chinese territories to the east, and the rugged country which feeds the rivers Oxus and Sirr to the west. Their language does not differ, or only in a trifling degree, from that spoken in Kunduz." The Kirghiz of the table-land of Pamir employ, the two-humped camel, which we follow into Kokan, where the

ain residence of the "Great Kirghiz orde" is understood to be on the vast steppes ordering the Jaxartes. The "Kirghiz iddle horde" ranges to the north-east, across e Alatou chain, on what is called the "Kirhiz-Kuzak steppe," right on to the river tisch, and the eastern portion of which eppe was traversed by Mr. Atkinson into hungaria or Chinese Tartary, east of the eat lake Tengiz or Balkash Nor, where mels abounded with his "Kirghiz," but of at particular kind does not appear.

In Bokhara, according to Professor Eversmann, there are as many as three species of mel (as he terms them, and we much incline to suspect correctly), all of which intered and produce fertile offspring. The scendants of hybrid camels, however, are ted by various authorities to degenerate rally. We allude to the particular hybrid which known as the Armenian or Caramanian camel, hich is raised from a male two-humped camel d a female one-humped camel of the Turkistan e. (a.) Air, is the two humped Camelus bacanus, with long woolly hair; (b.) Nair, is the e-humped Camelus dromedarius, or common abian camel: and (c.) Luk, is the name given a camel with one hump, larger than the er, and having quite crisp, short, darkwn wool." The last should be the inary one-humped camel of Turkistan; e true Arab camel, though considerably less l and more robust. According to Colonel bbott, it is a stronger animal than the other; hile Captain T. Hutton designates it as "an hletic dwarf, beside the Arab camel."

There is confusion in the writings of suny authors respecting the camel and the romedary. Thus Burkhardt notices the wo-humped species by the latter name while umerous writers (and the French especially) term the one-humped Arab species, which as named by Linnæus C. dromedarius. allas observed no dromedaries among e camels which he saw with the northn Kirghiz. The name 'Dromedary,' howver, (from the Greek,) properly signifies fleet camel, of racer proportions, the Ashari r Mahairi or Barbary, and Sindani of Upper ndia, which is a highly cultivated race f the Arab camel, conspicuously different om the heavy baggage animal of the same pecies. In Arabia, and in all Northern Africa, onsiderable attention is bestowed in reguting the propagation of the best breeds of amels, but especially of the lighter kinds, or romedaries (properly so called). The smallness of the head is a characteristic feature of a well-bred one. "Those of Oman," remarks Lieut. Wellsted, "enjoy a deserved celebrity for strength and fleetness. Nejd is equally the nursery of the camel as of the horse; but the country of Oman, in all ages, is celebrated in the songs of the Arabs as producing the fleetest; their legs are more slender and straight, their eyes more prominent and sparkling; and their whole appearance denotes them to be of higher lineage than the ordinary breed of the animal." The ordinary breed of the true dromedary we take to be here meant, as opposed to the baggage camel of Arabia.

The one-humped camel of Turkistan, in common with other single-humped camels, authors miscall "the dromedary." According to Capt. (Col.) James Abbott, the dromedary of Khiva is a very noble creature. Its strength is greater than that of the Indian dromedary, and their appearance of power is increased by huge tufts of curled hair, which grow upon the muscles of the legs, and cover the neck. The intermediate breed between this and the two-humped camel is more powerful than either, and has generally, two humps though the contrary is mostly asserted. The dromedary will carry a burthen of 600lbs. at the rate of 30 miles a day, for almost any distance; provided that it be supplied with a sufficiency of the oil-cake, upon which alone it is fed while on the journey; grain being considered too expensive. It walks, under a burthen, about $2\frac{1}{3}$ miles an hour. The camel of the Kuzak is the real, or double-humped camel. It is, however, of far more delicate make than that of Arabia, and it is preferred for the saddle to the dromedary. It is the smallest of Asiatic camels: long in the back, very finelimbed, and covered with hair upwards a foot in length. It is a gentle and docile creature, better fitted for draught than the dromedary, owing to its greater length of its back; but as a beast of burden it is inferior in strength to the dromedary of Khiva and Bokhara, which is the finest anywhere seen." It is evident that there must be different breeds or races of the two-humped camel, which require elucidation. The one-humped camel of Turkistan is capable of enduring the severe winter of the Khiva steppe, as described in Colonel James Abbott's narrative of his winter journey over that desolate region, from Hirat via Khiva to the Caspian. Near the Aral he met with a double-humped camel, which he then regarded as a curiosity.

In the valley of the Ob, the Tetery or Black-cock may be shot in August; Reptchicks or the Tree-patridge in September. When the first snow has fallen black-cock shooting is conducted in this way. A common sledge, sometimes with one horse, at others with two, is prepared and nearly filled with straw; upon this the sportsman

sits down, and the man drives into the forest, keeping a good look out. When he sees the birds he drives along till within rifle distance, and then stops. The sportsman must shoot the lowest bird ; when this one drops, the others look down on their fallen mate and remain quite still in the trees. Mr. Atkinson more than once shot three out of the branches of the same tree, before the brood have taken flight. When the birds are going the man gathers up the game, throws it into the sledge and drives on again. In these woods it is not difficult to shoot from fifteen to twenty brace of black-cock in a day. This can only be done with a pea-rifle, which makes a very small report, and is certain in its effect. The valley of the Ob has great attractions for the sportsman from about the middle of June to the 1st of August. There are thousands of double snipes to be found on the banks of the river and the grass around the borders of the numerous lakes formed by the retiring flood.

Tungus, is a general name applied to a population common to a vast area in Siberia and China. Their physiognomy connects it with the tribes of Northern Asia in general, and their language forms a transition between the monosyllabic and agglutinate forms of speech. The Tungus, under the name Mantshu, constitute the dominant population of China itself. The tribes under Chinese rule, in Mantshuria, on the watershed of the Amur or Sagalin, are termed Mantshu. The Mantshu proper have a literature with an alphabet modified from the Mongol. They are agricultural and industrial.

Daurian, is a Tungus race dwelling on the Upper Amur, all well made, especially the women. The secretaries of the mandarins who are sent to this part, are privileged by a letter from the khan to select women or young girls, as companions.

The Ibex (Capra himalayana) frequents many of the lofty ranges of the western chains, and is known to the natives by the names "skeen" and "kail," which they apply indiscriminately in the districts of Aserung, Spiti, Kanawar, the Northern Cashmere mountains, Ladakh, Chinese Tartary, and the Altai. It is not clear that the European ibex is a distinct species. There appears to be a variety in Ladakh with shorter horns than the Himalayan, and specimens of the Siberian ibex possess the same peculiarity. Leopards, panthers, wild-dog and bearded vulture, are the common enemies of the ibex ; the latter preys on the kids only. The ibex is found on certain ranges in Ladakh, especially on the chains northward. The Caucasian ibex (Capra caucasia) frequents the mountains of Beloochistan, and is likewise a native of the Murree and other ranges on the north-western frontier of Sind. The Caucasus, Asia Minor, Syria and Arabia, are also countries which it inhabits. It does not appear to travel any great distance eastward, and is probably re-placed on the higher ranges of Affghanistan and Persia by its noble congener the Himalayan ibex. The Caucasian ibex has the hair short and dark brown, with a black line down the back. The beard is also black. Like the European and Himalayan animals, the horns are all bent backwards but they differ in being more slender and tapering. In the latter, moreover, the horns are three-sided, and the anterior and posterior surfaces sharp, and generally smooth, with the exception of a few irregular tuberosities on the frontal aspect. Like the other species, it frequents dangerous and inaccessible places, such as bleak and barren mountain tops.—*Z.* (*Mr. E. Blyth in Indian Field, April* 10, 1858 ; *Latham's Ravenstein's Russians, p.* 365 ; *Atkinson's Siberia, &c., with reference to its Sport and Natural History* ; *Oriental and Western Siberia* ; *A Narrative of seven years' Exploration and Adventures in Siberia, Mongolia, the Kirgiz Steppes, Chinese Tartary, and part of Central Asia, by Thomas Witlam Atkinson,* 1858 ; *Hurst and Blackett.*

SIBERIAN RHUBARB, see Rhubarb.

SIBI, see Kadjak.

SIBIA GLOMERATA.

Thit-phyew, Burm. | Thayat-phyew, Burm.

This tree is very plentiful in Prome, Pegu and Tounghoo, as well as about Donabew and it is a tree abundant on the sea coast from Amherst to Tavoy and Mergui. It yields a compact and close-grained wood, seven or eight feet in girth, and adapted for fancy work and cabinet-making. Its maximum girth is 5 cubits, and maximum length 30 feet. When seasoned, it floats in water. Thayat Pew, means white wood, and is a name equally applicable to "Calophyllum longifolium," "Dillenia speciosa," to a species of Dalbergia and to other woods.—*Dr. McClelland, Capt. Dance.*

SIBR, Ar. Aloe indica. A. literalis, *Koen.* Aloes.

SIBUKAS, Tag. Cæsalpinia sappan, *Linn., Roxb., W. & A.*

SICCA, Hind. A coin, to coin, a name of a rupee now uncurrent. The Sicca rupee of Bengal remained at 192 grains, but this coinage was discontinued in consequence of Act XVII of 1835, and since that date the Company's afterwards the Queen's rupee of 180 grains has been the only rupee coined at any of the government mints.

But the main purport of Act VII of 1833, was to fix the weight of the Furruckabad rupee at 180 grains. When the government of India decided on 180 grains as the tola, they in the same Act declared that this tola should be "the unit of a general system of weights in all government transactions."

SICHEL, a range of mountains, in the Dekhan. The Godavery river after entering the granitic table-land of the Dekhan, flows at the southern foot of the Sichel mountains into a sandstone and argillaceous limestone country. This district is similar to that of Bundlecund and Malwa; it also contains diamonds, and has been much broken up by erupted rocks.

SICHU, Hind. Cotoneaster obtusa.

SICKRONA, a river near Shekurgunge in Chuprah.

SICULIAN, see India, Khetri.

SID, or Cid, a mahomedan ruler famed in the history of Spain the Arabic Syud.

SIDA, a genus of plants, of the natural order Malvaceæ: 34 species of Sida are known to occur in the East Indies:

S. acuta, *Burm.*, Kureta, Bengal and both peninsulas of India.
S. alba, *Linn.*, Nag-bula or Nag-barjala, of Bengal, Coromandel.
S. cordifolia, *Linn.*, Barjala, Bengal, both peninsulas.
S. cuneifolia, *Linn.*,
S. humilis, *Willd.*, Bengal, both peninsulas.
S. microphylla, *Cav.*, Bengal.
S. retusa, *Linn.*, Bengal, both peninsulas.
S. rhombifolia, *Roxb.*, Lal-barjala, Bengal.
S. rhomboidea, *Roxb.*, Shwet-barjala, Bengal, both pen.
S. periplocifolia — ? Malayana.
S. tiliæfolia — ? China.

The species vary much in habit, and in the structure of their fruit and seeds, but they resemble each other in abounding in mucilage, and in some of them having tough ligneous fibres, which are employed for the purposes of cordage in different countries. Several are employed as demulcents in India, in the same way that the mallow and the marsh-mallow are in Europe. S. rhomboidea and S. rhombifolia abound in very delicate flax-like fibres, which may be used for many of the same purposes as hemp and flax; but when the plants are grown for the sake of their fibres, they ought to be sown thick, under which circumstances, like other plants similarly sown, they grow tall and slender without branches. S. periplocifolia, a native of the Malay islands, which succeeds well in India, may be cultivated for the same object, especially as when cut near the earth it quickly shoots into long simple twigs which abound in flax-like fibres. A species, S. tiliæfolia, King-ma from Pekin, is cultivated for this purpose in China as a substitute for hemp and flax. Sida hemp, or Flax of Burmah is the product of Sida acuta and Sida stipulata, (Burmese, Pyen-dan-gna-len.) They are more weeds, but the most troublesome in Tavoy.—*Mason*; *Eng. Cyc.*, *Wight's Icones*; *Roxburgh*, *Voigt*, *Hogg*. See Sida stipulata.

SIDA ACUTA, *Burm.*, *Rh.*, *Roxb.* *W Ic.*

S. lanceolata, *Retz.*	S. scoparia, *Lour*, *Rheede.*
S. stauntonia, *D.C.*	S. acuta. *Burm.*

Kureta,	Beng., Hind.	Malai tangai,	Tam.
Bariara, Kharanta,	Hind.	Male tengi,	Tel.
Barjala,	,,	Visha bodi, Chitiamuti	,,
Jeru pana,	Maleal.	Muttav pulagam chettu	,,
Pata?	Sans.	Sahadevi chettu,	Tel.
Arua manopondu,	Tag.		

An emollient and demulcent plant boiled with rice, said to prove serviceable in dysentery, flowers small, yellow. It grows wild in many parts of the Dekhan; being a native of the peninsula of India, but found also in the hilly districts. Grows to the height of about three feet; and no doubt, like the S. rhomboidea, a good fibre might be procured from it. The root resembles common liquorice but is very bitter. The infusion of the root combined with ginger is given in intermittents and in chronic diarrhœa. The leaves bruised with oil are applied externally as a poultice to accelerate suppuration. Dr. O'Shaughnessy used an infusion of the root with some advantage in the cases alluded to by Ainslie, but could not satisfy himself as to its febrifuge action. It promotes perspiration, increases the appetite, and is in many respects a useful substitute for more costly bitters. An electuary is prepared, in Bengal, from the expressed juice of the Sida and used in the treatment of worms in the intestinal canal, but experienced native practitioners say that no reliance can be placed on its efficacy. An infusion of the root is a very useful bitter tonic and astringent. Dose, one to two ounces, three times daily. Care must be taken not to confound the classical name of this plant with the Sidhee of the bazaar, which is a mixture of the dried leaves and young capsules of the Indian hemp, and a powerful narcotic. Pata is also the name of Corchorus olitorius.—*Drs. Roxburgh*, *Voigt*, *Ainslie's Materia Medica*, *p.* 87; *Riddell*; *O'Shaughnessy*, *p.* 214; *Beng. Phar.*, *p.* 304. See Pata root.

SIDA CORDIFOLIA, *Linn.*, *W. A.*, *Roxb.*

S. rotundifolia, *Cav.*	S. herbacea, *Cav.*

Barjala,	Beng.	Chiri benda, Tella antisa,	
Bariara,	Hind.	Muttava, Suvarnam,	Tel.
Kharanta; Kharenti,	,,	Tella gora chettu,	,,

Seeds.

Bijband,	Hind.	Kowar,	Hind.
Chuka; Hamaz,	,,	Simak,	,,

A plant of both peninsulas of India, of Bengal and the Panjab. It has middle-sized yellow flowers. Its mucilage, mixed with rice is given in dysentery and fevers, and its seeds in colic, tenesmus, and gonorrhœa, also taken

as an aphrodisiac.—*Drs. Roxb., Voigt, J. L. Stewart.*

SIDA INDICA, *Linn., Roxb.* Syn of Abutilon indicum, *G. Don.*

SIDA PERIPLOCIFOLIA, a native of the Malay islands, flowering and ripening its seed, a great part of the year. Its bark abounds in serviceable flaxen fibres, and as it shoots quickly into long, simple twigs, particularly if cut near the earth, it answers well for procuring the fibre of good length for most purposes."—*Drs. Roxburgh, Voigt, Royle Fib. Plant, p.* 263.

SIDA POPULIFOLIA, *Roxb., Rheede.* Syn. of Abutilon indicum, *G. Don.*

SIDA RETUSA, *Linn.*

Kurun tudi, MALEAL. | Karun tuti, TAM.

A shrub with small yellow flowers growing in Bengal, Malabar and Travancore, and Bengal used in medicine.—*Roxb.; Voigt.*

SIDA RHOMBOIDEA, *Roxb., W. A.*

Sida rhombifolia, *Wall.*

Shwet-bariala,	BENG.	Safed bariala,	HIND.
,, barjala,	,,	Atibala chettu,	TEL.

A plant with small yellow flowers, growing, in the rainy season, in Bengal and the peninsula of India, where the plants are indigenous the barks of S. rhombifolia and S. rhomboidea according to Dr. Roxburgh, yield abundance of very delicate flaxy fibres, which he thought might be advantageously employed for many purposes. When the seed is sown thick on a good soil, the plants grow full and slender, without branches, and are every way fit for such purposes. Major Hanney sent from Assam to the Agri-Horticultural Society in December, 1851, some of the fibre of Sida rhomboidea, which grows luxuriantly in that valley. Capt. Thompson thought from its length, its similarity to silk, and its great strength, that it would fetch a high price in England. A line half an inch in circumference after exposure to wet and sun for ten days sustained, 400 lbs.—*Drs. Royle, Roxb., Voigt.*

SIDA SCOPARIA, *Lour., Rheede.* Syn of Sida acuta, *Burm.*

SIDA STAUNTONIA, *DC.* Syn. of Sida acuta, *Burm.*

SIDA STIPULATA, this, the most troublesome weed in Tavoy, produces a very fine hemp or flax. The two species, Sida acuta and Sida stipulata, are not usually distinguished.—*Mason.*

S. abutilon, ROXB. | King-ma, CHIN.

SIDA TILIÆFOLIA. This is cultivated for its fibres in China, near Pekin. Dr. Royle saw plants in the garden at Chiswick, about eight feet high. The fibre is strong and pliable, very silky in its nature, and the plant of very rapid and luxuriant growth, three crops being obtained in one year. It may he says be brought into England at an estimated price of £8 p[er] ton, which is about one-fifth of the price [of] hemp of the best quality. Some of Dr. Ro[x]burgh's original specimens, marked July, 18[...] are still in the Indian House; the fibres [...] from four to five feet in length, and disp[lay] a fine soft and silky fibre, as well adapted [for] spinning as the jute, but are apparently sup[e]rior.—*Drs. Roxb., Royle.*

SIDA ATSU, HIND. Datisca cannabin[a].

SIDA, see Greeks of Asia.

SIDALAM, TAM. TEL. Corypha u[m]braculifera, *Linn.*

SIDASHEGHUR, a port on the wes[t] side of the Peninsula. See Sedasheghur.

SIDDEE, prop. Syudi, an African [or] Æthiopian.

SIDDEE, TEL. A leathern bottle, [a] dubber of the mahomedans.

SIDDHA, TEL.? URIA. A tree of G[an]jam and Gumsur of an extreme height 45 [feet] and circumference of 4 feet, the height fr[om] ground to the intersection of the first br[anch] 22 feet. Wood is said to be not liable to [be] attacked by insects, it is used chiefly [for] rafters and is burnt for fire-wood. The b[ark] and leaves are employed in tanning le[ather] and are also used medicinally.—*Ca[pt.] Macdonald.*

SIDDHA. The persons, character, [and] offices of the different inferior races of hin[du] divinities are very ill defined in the heav[enly] polity of the hindoos. The Siddha and V[idy]adhara are a class of ascetics, and a clas[s of] celestials beings of an intermediate or[der] between men and gods, tenanting the mi[ddle] regions above the earth, and are usually [des]cribed as attending upon Indra, altho[ugh] they have chiefs and kings of their o[wn]. The Vidyadhara have much intercourse w[ith] men, intermarrying with mortals, and o[ften] having earthly princes and heroes for [their] kings. The Siddha are of a more re[tired] race, and are rarely the subject of fabulo[us] mythological legend. Charana, and S[...] are terms used in place of Vidyadhara, [im]plying inferior demigods.—*Hind. Th[eatre] Vol.* ii, *p.* 308.

SIDDHA-MANTRU, SANS., from si[ddha,] accomplished, and mantra, an incarnation.

SIDDHA, SANS. To perfect.

SIDDHANTA, SANS., conclusion, f[rom] siddha, proved, and anta, end.

SIDDHANTACHARI, SANS., from [sid]dhanta, ascertained or proved, and acha[ri,] practice.

SIDDHARTHA, see Jains.

SIDDHISHWARI, SANS., from siddha, perfect, and ishwari, a goddess.

SIDDHEE, SANS., from Sidha, perfect.

SIDDI, a term by which the Mog[...]

admiral on the Malabar Coast was known. It is from Siddee and that, again, from Syud a lord. See Sidi.

SIDEROXYLON, a genus of plants of the order Sapotaceæ, natives of America, Africa, East Indies and Australia, of which the following species are known, viz :

S. cantoniense,—? China.
S. cinereum, *Lam.*, Mauritius.
S. tomentosum, *Roxb.*, Eastern Ghauts.
S. inerme, *Lam.*—?
S. regium, *Wall.*, Pegu.
S. wallichianum, *G. Don.*, Penang.

The species of Siderxylon are evergreen trees, with axillary and lateral fascicles of flowers. They are remarkable for the hardness and weight of their wood, which sinks in water, and the genus has hence derived the name of Iron-wood.

SIDEROXYLON CANTONIENSE.

Sha-kan-shii,	Chin.	Cornel tree,	Eng.

A native of China.

SIDEROXYLON INERME, *Linn.*

Romeria inermis, *Thunb.*

Has small white flowers.

SIDETES, see Greeks of Asia.

SIDHA HAT'H-DAWAN-HAT'H, Hind. The Right and Left-hand castes of the South of India.

SIDHAM, see Inscriptions, Junagurh.

SIDHANTA, see Vidya.

SIDHEE,—? Cannabis sativa.

SIDHERA, Hind. Euonymus fimbriata.

SIDHESWAR, see Burabur caves.

SIDHOUL, also Sir, and Sutti, Hind. Hedychium spicatum. *Royle, Illustrations of Himmalayan Botany.*

SIDI, Karn., Tel. The Charakh is so called in Karnatica and Telugoo.

SIDI, the term by which the Abyssinian and Negro races of Africa are known in India. They are often employed in the households of native sovereigns. Some of them, known as the Seedee or Janjera or Zanjera, were long a powerful and independent maritime people, occupying the coast a few miles south of Bombay. See Siddee, Siddi.

SIDILINGAM, Mal. Cinnabar.

SIDNEY SMITH, a Captain of the English navy who aided in the defence of Acre when attacked by Napoleon I. See Acre.

SIDON, or Tsaida, is the representative of the ancient capital of Phœnice. During the administration of Joshua, and afterwards, Sidon was governed by kings. He calls it "Zidon the great" by way of eminence. During the crusades, Sidon fell into the hands of the christians, who lost it in A. D. 1111. They recovered it from the Saracens in 1250, but were finally obliged to surrender it to the latter in A. D. 1289.—*Robinson's Travels in Palestine and Syria, Vol.* i, *pp.* 268 *to* 271. See Tyre.

SIDOR, Rus., Sidra, Sp. Cider or Cyder.

SIDRAJ ruled Samavat 1151 (A. D. 1095) to S. 1201 (A. D. 1145.) In the Komarpal Charitra, or history of the kings of Anhulwarra Puttun, the reign of Sidraj is stated to have been from S. 1150 to S. 1201, or A. D. 1094 to 1145.—*Tod's Rajasthan, Vol.* ii, *p.* 242.

SIEGESBECKIA ORIENTALIS, *Tatarinov.*

He-kien,	Chin.	Kau-kau,	Chin.

A plant of the China provinces of Sechuen and Honan. It is esteemed for its emetic properties and is given in ague and rheumatism.

SIEBOLD, Ph. Fr. de Siebold, C. J. Temminck, H. Schlegel, and W. de Haan, authors who have written on the East Indies. See Kamino-mitsi.

SIEGES and Campaigns, see Statistics of battles.

SIEKRAN, Pers. Hyosciamus niger, *Linn.*

SIEMIE, also Iniane, Pol. Flax seed. Linseed.

SIER AL BALAD, a book of travels by Kazvini.

SIERRAS, Sp. Saws.

SIEU, also called Subnah, a river near Mundasore in Sindhiah's territory.

SIFAN, a race or nation lying between Tibet and China, possibly, the same as the Gyarung, but with Tibetan forms of speech. Sifan, is said to be derived from two Chinese words, viz., Si, western, and fan, barbarians. —*Latham.*

SI-FAN, or Kham-pa, see India.

SIFERAH, or Sipperah, the Siferah of the Arabs, its ruins are within the Medina wall, near the southern extremity. See Babel.

SIFTI-I-IMAN, articles of belief.

SIGAPU SHANDANAM, Tam. Saunders wood.

SIGAPU SINDURAM, Tam. Red lead.

SIGARETUS, a genus of molluscs.

SIGHIMEL, Egypt. The harsh pronunciation of Jamal, a dromedary, Camelus dromedarius.

SIGHTA, also Suhòta, Hind. Sinapis dichotoma.

SIGILLI, It. Sigillum, Lat. A seal.

SIGIRI, an ancient capital of the island of Ceylon.—*Forbes' Eleven Years in Ceylon, Vol.* ii, *p.* 1.

SIGNS of the Zodiac. See Zodiac.

SIGRUMALA and Suhajuna, Sans. Horse radish tree. Moringa pterygosperma, Hyperanthera moringa.

SIGUR, a pass leading to the Neilgherry plateau, it is clothed with forests.

SIHARU, HIND. Nussiessya hypoleuca, a shrub yielding a fibrous bark.

SIH, PERS. Three, hence,

Sih-barga, PERS. A species of Trifolium. See Grasses.

Sih-pahi, a soldier, from the tripod rest for his matchlock.

Sih-pai, a tripod table, a teapoy.

Sih-yari, a term applied to the shiah mahomedans.

SIJ, HIND., SANS. Euphorbia neriifolia, also E. netilfolia, *Linn.*, and E. nivulia, *Buch.*

SIJARA, MALAY. See Jahore.

SIJDAH, AR. Prostration in prayer.

SIJISTAN, or Seistan. A province south of Herat.

SIJU, HIND. Fraxinus xanthoxylloides.

SIK, a leopard, in Tibet or contiguous countries. Tagh, is a tiger. Somb, is a red and a black species of bear.

SIKA KAI, GUZ., HIND., TAM. Acacia concinna, A. rugata, Mimosa abstergens.

SIKAKUL, a root like a carrot, brought from Cashmeer; used in Ajmere; as an aphrodisiac.—*Gen. Med. Top., p.* 150.

SIKAMBARI, see Inscriptions.

SIKAND, HIND., of Cis-Sutlej, sandy soil.

SIKANDA, HIND. Rosa webbiana.

SIKANDAR, Sikandar Rumi. Alexander the Great. See Alexander, Kabul.

SIKANDAR-BUT-SHIKUN, see Zingarri.

SIKANDERABAD, in lat. 17° 26′ 7″; 78° 28′ 0″ long., a military cantonment of British India, 5 miles north of Hyderabad, 1,830 feet above the sea. See Secunderabad.

SIKARTEN, GER. Chart.

SIKAYA, TEL. Acacia concinna, Mimosa abstergens, A. rugata.

SIKERWAL, a tribe, which never appears to have claimed much notice amidst the princes of Rajasthan; nor is there a single independent chieftain now remaining, although there is a small district called after them, Sikerwar, on the right bank of the Chumbul, adjoining Jaduvati, and like it now incorporated in the province of Gwalior, in Sindia's dominions. The Sikerwal was therefore in the early part of the 19th century reduced to subsist by cultivation, or the more precarious employment of his lance, either as a follower of others, or as a common depredator. They have their name from the town of Sikri (Futtehpoor), which was formerly an independent principality.

The Byce has obtained a place amongst the thirty-six royal races, though Tod believed it but a sub-division of the Sooryavansi, as it is neither to be met with in the lists of Chund, nor in those of the Komarpal Charitra. It is now a numerous tribe and has given its name to an extensive district, Bycewara in the Doab, or the land between the Ganges and Jumna.

The Dahia was an ancient tribe, whose residence was the banks of the Indus, near its confluence with the Sutlej; and although they retain a place amongst the thirty-six royal races, there is no knowledge of any as now existing. They are mentioned in the annals of the Bhatti of Jessulmer, and from name as well as from locale, we may infer that they were the Daha of Alexander.

The Joyha race possessed the same haunts as the Dahia, and are always coupled with them. They however extended across the Garah into the northern desert of India, and in ancient chronicles are entitled "Lords of Jungul-Desa," a tract which comprehended Hurriana, Bhatnair and Nagore. This tribe, like the Dahia, was, in the beginning of the 19th century, extinct.

Mohil.—All that can be learned of the past history of this race of Rajputs, is that it inhabited a considerable tract so late as the foundation of the present state of Bikaner, the Rahtore founders of which expelled, if not extirpated, the Mohil. With the Maluu, Malani, and Mallia, also extinct, it may claim the honor of descent from the ancient Malli, the foes of Alexander, whose abode was Mooltan. (qu. Mohil-t'han ?)

Nicoompa.—Of this race, to which celebrity attaches in all the Rajput genealogies, we can only discover that they were proprietors of the district of Mandelgurh prior to the Gehlote.

Raj-Pali.—This race, under the names of Raj-palica, or simply Pala, are mentioned by all the genealogists, especially those of Saurashtra, to which in all probability it was confined. This tends to make it Scythic in origin; the conclusion is strengthened by the derivation of the name, meaning 'royal shepherd:' it was probably a branch of the ancient Pali.

Dahirya.—The Komarpal Charitra classes this with the thirty-six royal races. Amongst the princes who came to the aid of Chetore, when first assailed by the arms of Islam, was "the lord of Debeil, Dahir Despati." Dahir was the despot of Sind, whose tragical end in his capital, Debeil is related by Abul Fezil. It was in the ninety-ninth year of the Hegira that he was attacked by Cassim, the Lieutenant of the Caliph of Bagdad, and treated with the greatest barbarity. Whether this prince used Dahir as a proper name, or as that of his tribe, must be left to conjecture.

The Dahima has left but the wreck of a great name. Seven centuries have swept away all recollections of a tribe who once

afforded one of the proudest themes for the song of the bard. The Dahima was the lord of Biana, and one of the most powerful vassals of the Chohan emperor, Pirthwiraja. The brothers of this house held the highest offices under this monarch, and the period during which the elder, Kaimas, was his minister, was the brightest in the history of the Chohan: but he fell a victim to a blind jealousy.

The same religion governing the institutions of all the Rajput tribes, operates to counteract that dissimilarity in manners, which would naturally be expected amidst so great a variety, from situation or climate. We have the same mythology, the same theogony, the same festivals, though commemorated with peculiar distinctions. There are niceties in thought, as in dress, of little interest; the tie of a turban and the fold of a robe are distinguishing badges of tribes.—*Tod's Rajasthan, Vol.* i, *pp.* 118, 119, 121.

SIKH, the name of a religious sect in the Panjab who are the followers of Nanuk. They are principally of the Jut race and under Runjit Singh obtained sovereignty over the Panjab. As a religious sect, the Sikh looks before him only; the ductility of his youthful intellect readily receives the most useful impression, or takes the most advantageous form, and religious faith is ever present to sustain him under any adversity, and to assure him of an ultimate triumph. The progress of this sect has not been great, and after four hundred years, their numbers are only estimated at from half a million to a million. The first converts were amongst the Jut peasants of Lahore and the southern banks of the Sutlej river, and the Jut of the Manjha and Malwa districts are mostly of this persuasion, but perhaps not one-third of the whole population between the Jhelum and the Jumna, ever embraced the tenets of Nanak and Govind, the other two-thirds being equally divided between mahomedanism and brahminism. The Sikhs in the time of the guru Govind, assumed the title of Singh. This literally means a lion, but since the time of guru Govind, it is applied to all Sikhs, as their distinctive appellation, meaning metaphorically, a champion warrior. The Sikhs should abstain from the use of tobacco and all intoxicating drugs, but they all drink heavily, the military life, which the most of them adopted not being conducive to moral purity. The Akali were the zealots of the Sikh religion, soldiers of God. They wore blue dresses and bracelets of steel and claimed for themselves a direct institution by Govind Singh. They combined warlike activity with the relinquishment of the world, became the armed guardians of Amritsir, but in a phrensy of zeal would win their daily bread at the point of the sword. It cost Runjit Singh both time and trouble to suppress them. So strong is the feeling that a Sikh should work, or have an occupation, that one who abandons the world, and is not of a warlike turn, will still employ himself in some way for the benefit of the community. Thus, Major Cunningham once found an Akali repairing, or rather making, a road, among precipitous ravines, from the plain of the Sutlej to the petty town of Keeritpoor. He avoided intercourse with the world generally. He was highly esteemed by the people, who left food and clothing at particular places for him, and his earnest persevering character had made an evident impression on a hindoo shepherd boy. The name of Sikh does not indicate a race, but a body of religionists, who take their name from the hindi word, "sikhna" to learn, Sikh meaning a disciple. For a short time, the Sikh religionists rose into a great nation in the country lying between India and Affghanistan. During the 16th and 17th centuries, Nanak and Govind, of the Khutree race with their succeeding gurus, obtained a few converts to their religious views among the Jat peasants of Lahore and the southern banks of the Sutlej. Towards the close of the 18th century, they grew to be a great nation, with an influence which extended from the Karakorum mountains to the plains of Sind and from Delhi to Peshawur. Their dominions were included between the 28th and 36th parallels of north latitude, and the 71st and 77th meridians of east longitude. This tract consists of broad plains, slightly above the sea level, or mountain ranges, two or three miles high. The Sikh population of the Punjab had commonly been estimated at 500,000 souls, but Captain Cunningham considered a million would be the more correct number. The total in all India is 1¼ million. In the former Sikh territory, all were not of the Sikh religion. The people and dependent rulers of Ladakh profess Lamaic buddhism, but the Tibetans of Iskardo, the Durdoo of Gilghit and Kukka and Bimba of the rugged mountains, are mahomedans of the shia sect. The people of Kashmir, Kishtwar, Bhimbur, Pukli and of the hills south and west to the Salt Range and the Indus, are mostly sunni mahomedans, as are likewise the tribes of Peshawur and of the valley of the Indus southwards, also the inhabitants of Mooltan, and of the plains northward as far as Pind-dadun-khan, Chuneeot and Depalpoor. The people of the Himalaya eastward of Kishtwar and Bhimbur, are hindoos of the brahminical faith, with some buddhist colonies to the north and some mahomedan families to the south-west. The

Jat of the Manjha and of the Malwa districts, in the Punjab territory, are mostly Sikh, but perhaps not one-third of the whole population between the Jhelum and Jumna, has, as yet, embraced the tenets of Nanak and Govind, the other two-thirds being still equallydivided between mahomedanism and brahmanism. Most of the modern Sikh in no way separate from their tribes and are known as Jat or Khatri or brahman Sikh, one member of a family being frequently a Sing'h while others are not. The written character in use with them is calledGurumukhi. It is the Devanagari, in form, but with different powers to the letters. The Sikh are the only sect whose religion forbids them to smoke tobacco. They have, however, no objection to other narcotics, opium and bhang and snuff-taking are not so common. Smoking was first prohibited by the tenth guru, Govind Sing'h, whose chief objection to it appears to have been that the habit was promotive of idleness, as people would sit smoking and do nothing. The Sikh owes his excellence as a soldier to his own hardihood of character, to that spirit of adaptation which distinguishes every new people, and to that feeling of a common interest and destiny implanted in him by his great teachers. The early force of the Sikhs was composed of horsemen, but they seem intuitively to have adopted the new and formidable matchlock of recent times, instead of their ancestral bow, and the spear common to every nation. Mr. Foster noticed this peculiarity in 1783 and the advantage it gave in desultory warfare. In 1805, Sir John Malcolm did not think the Sikh was better mounted than the Mahratta; but, in 1810, Sir David Ochterlony considered that, in the confidence of untried strength, his great native courage would show him more formidable than a follower of Sindhia or Holkar, and readily lead him to face a battery of well-served guns. The peculiar arms of the contending nations of the 18th century passed into a saying, and the phrase, the Mahratta spear, the Affghan sword, the Sikh matchlock, and the English cannon, became a proverb. From the specimen which I have seen of the Sikhs, says the Marquis of Hastings, I should describe them as a bold, athletic, and animated race. The sect of the Sikhs traces its origin to Nanuk, a hindoo of the Kshatrya caste, who was born in A. D. 1469, at Hulwandi, or Talwandi near Lahore. From his infancy he was given to religious meditation. In riper manhood he wandered into various countries, and returned to his home with his mind matured with reflection and travel to preach the unity of God and charity to men. The new creed spread rapidly, but soon provoked the persecution of the mahomedans. The cruelty with whi[ch] the Sikhs were treated turned them, und[er] Govind, their tenth and last gooroo or teach[er] from a band of religious devotees into a ch[osen] religious and military commonwealth [or] "Khalsa," animated with undying hatred [of] the mahomedans. Gooroo Govind waged a[n] unequal war with the emperor of Delhi. Frequently defeated and broken up, persecute[d] with inhuman cruelty, the Sikh religionists we[re] driven to hide themselves in the valleys an[d] caves of the hills from the fury of their enemi[es]. Openly to profess their religion became [a] capital crime. The sect would soon hav[e] been exterminated had not the distractions o[f] the empire which followed the death o[f] Aurungzeb, given them a breathing tim[e] from persecution. Gradually the Sikh[s] emerged from their hiding places, and gather[-]ing in small parties, established themselves i[n] petty isolated forts. Issuing from these always well mounted, they scoured the country burning and plundering, and giving infinit[e] annoyance to the weak mahomedan governme[nt] of Lahore and Sirhind. After the return o[f] Ahmed Shah, Abdali, to Cabool, from his fi[fth] invasion of India, in which he had broken th[e] Mahratta power in the decisive battle o[f] Paniput, the Sikhs found themselves stro[ng] enough to possess themselves of the count[ry] round Lahore. But they drew down th[e] vengeance of Ahmed Shah, who, in 1762, re[-]turned to India, disastrously defeated them and destroyed and polluted their sacred temple at Umritsur. From this defeat the Sikhs soon recovered. In the following year they defeated the Affghan governor of Sirhind, and spread themselves over the plains south and east of the Sutlej, as far as the Jumna. The eighth invasion of Ahmed Shah, which took place in 1767, ended in leaving the Sikhs masters of the country between the Jumna and Rawulpindee. Within three years their authority was extended over the Jumna and the Rajputs of the lower hills. The spread of the dominion of the Sikhs south of the Sutlej received a severe check from the Mahrattas, who, recovering from their disastrous overthrow at Paniput, again overran Northern India. In 1788 Sindia was in possession of Delhi, and by 1802 the Mahrattas had established their supremacy as far as the Sutlej; and exacted from the Sikh States to the south of that river a tribute of three lakhs of rupees. But the Mahratta power in the north was broken by Lord Lake in 1803; the chiefs of Khythul and Jheend tendered their allegiance to Lord Lake, and rendered occasional service, and all the chiefs of Sirhind became virtually dependents of the British Government. It was the policy of the day,

however, to maintain a strict neutrality in regard to the affairs of the chiefs, north of the Jumna, and beyond establishing the Sikh chiefs in the territories which they then held, and rewarding those who had done good service, the British Government did not interfere in their affairs till 1809, when the Sikh chiefs threw themselves on its protection from the encroachments of Runjeet Sing. One of the sirdars, who earliest raised himself to power and influence, was Maha Sing, of the Sookurchakea Misl, one of the weakest and latest formed of the twelve clans. To him, on 2nd November 1780, was born a son, Runjeet Sing, by his wife, a daughter of the rajah of Jheend. During the invasion of Shah Zaman, in 1798, Runjeet Sing rendered service to the Affghan monarch by recovering for him several pieces of artillery which had been lost in the Jhelum, and he had the address to procure for himself the appointment of Governor of Lahore. By force and artifice, Runjeet Sing gained possession of the city, where he established himself, and whence, in concert with Futteh Sing, Aloowallia, he soon extended his supremacy over the neighbouring sirdars, and meditated the extension of his authority beyond the Sutlej. In 1803 he made proposals to Lord Lake for the transfer to the British Government of the territory belonging to the Sikhs south of the river Sutlej, on the condition of mutual defence against the respective enemies of himself and the British nation. The offer was declined. In 1805 Runjeet Singh was recalled from a campaign against the mahomedans between the Chenab and the Indus, by the sudden appearance of Holkar in the Punjab, closely pursued by Lord Lake. With the death of Runjeet Singh, the career of the Sikhs, as a nation may be said to have closed. Internal anarchy led to aggressions on British territory from which war twice resulted, and finally the whole of the Sikh dominions in the Punjab, were annexed to British India.

The Grunth is the name of the sacred book of the Sikh religionists. The Grunth is written in the Gooroomooki character, a modified species of the Nagari. It is placed in the holy temple of Umritsir.

Nanuk, was the son of a grain-factor: in early life he deserted the humble shop of his father to seek in study and retirement more genial occupation for a naturally reflective mind. The tenets of the hindoo and the mahomedan of that day alike dissatisfied him; and he came forward as a reformer of his country's faith. For the gross polytheism of hindoo mythology he substituted what may be defined a high philosophic deism, and succeeded in collecting together a body of followers, whom he called the Sikhs, or "disciples;" from Sikhna, to learn, and these, he organised under a theocratic form of polity, being himself recognised as their gooroo, or "teacher." For many years this body of converts continued to lead a peaceful meditative life, absorbed in the study of their holy book, the "Grunth," which contained all the recorded dogmas of their founder. They gradually spread over other parts of India, a college of them was found to exist so far south as Patna, probably founded by gooroo Tegh Bahadur, and of which an interesting account is given in an early number of the Asiatic Society's Journal, dated March 17, 1781, by C. Wilkins, Esq. But in the beginning of the seventeenth century, Govind Singh, the tenth gooroo, gave a new character to this religious community. He was a man of a naturally warlike spirit and ambitious views and thirsting to be revenged for domestic wrongs, soon converted the hitherto contemplative Sikhs into a band of warriors. These were the men who a century afterwards formed the flower of Runjeet Singh's army, and who animated with a powerful religious sentiment, in the 19th century, presented so formidable an array on the different battlefields during the Sutlej and Punjab compaigns.

The highest class amongst the Sikhs, are the Bedee. Like the Syud, who claim a priority over all mahomedans, as being lineal descendants of Mahomed, the Bedee rank first among the Sikh, as being descended from gooroo Nanuk, the founder of their sect. They form, by virtue of their descent, the hereditary priesthood. They are to be found, in greater or less numbers in all parts of the Punjab: in the districts lying at the base of the Kangra hills, at Goojranwalla in the middle of the Rechna Doab, at Gogara on the Ravee, at Shahpore on the Jhelum, and a few at Rawul Pindee; they are also occasionally to be met with to the south of the Sutlej. But their home and stronghold is at a town named after their founder, Derah Baba Nanuk, on the Ravee, near Buttalla. So notorious has been the crime of infanticide among them, that a Bedee was generally known by the opprobrious title of Kooree Mar, or "daughter-slayer." The Bedee adopted as their patronymic the name of the tribe to which their ancestor, Nanuk, belonged. But there are Bedee still of that original tribe, who are not descendants of the Gooroo, nor, indeed, Sikhs at all. With these men, pride and pride alone prompted to the crime. The fear of poverty arising from marriage expenditure would have little weight with them, as, unlike the impoverished Rajputs, they were generally men of

wealth and affluence; they held fertile jagheers, and their priestly coffers were well filled with the offerings and dues of their race. But in defence of the unnatural custom, which they did not attempt to deny, they, like the Rajput races, were ready with a traditionary obligation laid upon them by an indignant ancestor. Major Herbert Edwardes, after the Punjab campaign, held a civil appointment in the Jullundhur district, and was then brought into close contact with the Bedee, and he thus relates their story; A daughter had been married, and when the bridegroom and his party were departing, the two sons of Dhurm Chund, as in duty bound, accompanied them to give them the Rooksat, or permission to depart, leave, or the French 'conge.' The weather was hot, the party out of temper, and they took a malicious pleasure in taking the young Bedees further than etiquette required. When the lads returned home footsore, Dhurm Chund asked 'if the Khutrees had not bid them to turn back sooner?' The boys said, 'No;' and it was then that the old man, indignant at all the insults which the bridal of his daughter had brought down upon him from an inferior class, laid the inhuman injunction on his descendants, that in future 'no Bedee should let a daughter live.' The boys were horror-stricken at so unnatural a law, and with clasped hands represented to their father that to take the life of a child was one of the greatest sins in the Shastras. But Dhurm Chund replied, 'that if the Bedees remained true to their faith, and abstained from lies and strong drink, Providence would reward them with none but male children; but, at any rate, let the burden of the crime be upon his neck, and on no one else's'. And from that time forth Dhurm Chund's head fell forward upon his chest, and he ever more walked as one who bore an awful weight upon his shoulders. With consciences thus relieved, the Beedee race continued for three hundred years to murder their infant daughters, and if any Bedee, out of natural feeling, preserved a girl, he was excommunicated by the rest, and treated as a common sweeper. Through the mists of this story it seems clear that religious pride, and horror of giving a daughter to an inferior caste, and not pecuniary considerations, first led the Bedees to adopt the custom of female infanticide.

The Akali are armed Sikhs, religious devotees. They were first established by the guru Govind, the founder of the Sikh faith, and they zealously supported him against the innovations of the ascetic Banda, the byragi. Their Boonga or temple, is a fine building on the side of the holy reservoir at Amritsir and Lahore, but others are met with all over the Panjab, though chiefly in the Manja territory, between Lahore and the Gharra where Tarantara is their chief town. A considerable number are settled at Nandair on the banks of the Godavery but they are quiet and peaceable. In reality wealthy, they affect poverty and beg; but, in the time of the Sikh rule, their begging was an insolent demanding, and as they were a bold united body who made common cause, and did not scruple to expose their own lives or to make false accusations of crimes, these wild-looking men enforced their demands with an insolent independence, which those only could understand who have witnessed a band of drunken Akali, almost in a state of nudity, brandishing their naked swords, and bawling out abusive and obscene language: their power to enforce their demands therefore was very great. They particularly showered their angry words on Europeans; but, until Runjeet Singh mastered them, even his life was several times in danger. Under the British rule, and with power to enforce toleration, they are never heard of. They were wont to extort alms from chiefs and others, by interdicting them from the performance of religious rights, and a chief unpopular with the Akali, who made common cause with each other, risked his authority. Their name is derived from Akali-purusha, 'worshippers of the Eternal,' the word Akal being a compound of kal, 'death,' and the privative 'a' meaning 'never-dying, or 'immortal.' It is one of the epithets of the deity, and is given to this class from their frequently exclaiming 'Akal, Akal,' in their devotions. They wear blue chequered dresses, and bracelets of steel round their wrists, which all Sikhs do not wear; though it is indispensable for a Sikh to have steel about the person, and it is generally in the shape of a knife or dagger. They formerly initiated converts, and had almost the sole direction of the religious ceremonies at Amritsir. The Akali had a great interest in maintaining the religion and government of the Sikhs as established by guru Govind, upon which their influence depended. They often went profusely armed with half a dozen swords; perhaps a matchlock and several steel discs on their turbans.

Another account describes Nanak, the religious reformer, and founder of the Sikh faith, as born in A.D. 1469, at the village of Kanakatch near Lahore, and he died at the age of 80, at Kurtarpoor on the Ravi, in A. D. 1549. He was a Khutree by race. After prolonged travel in search of truth, he returned to his family and passed his life in calling upon men to worship the one Invisible God, to live vir-

tuously and to be tolerant to the failings of others. His believers were named his Sikh or disciples. The Sikhs believe the spirit of Nának to have been incarnate in each succeeding guru. The fourth guru was Ram Das, who founded Amritsir. A piece of land was presented by Akbar to Ram Das, within which a pool or reservoir was dug, since well known as Amritsir, or the pool of Immortality, but the temples and the surrounding huts were at first named Ram-Das-pur, from its founder. Arjun, his son and successor, was the first who really understood the pure doctrines of Nanak, and made Amritsir the seat of his followers. This Arjun was the fifth guru of the Sikhs, was born A. D. 1553, and died 1606. Har Govind, son of Arjun, the sixth guru of the Sikhs, was the first of them who became a military leader, as well as spiritual teacher. This impulse effectually removed the Sikhs from the possibility of becoming ascetic monks or mendicants. He became a follower of the emperor Jehangir. After a tumultuous life, during which he was often engaged in repulsing attacks made upon him, he died at Keritpur on the Sutlej in A.D. 1645. Govind was the tenth guru of the Sikhs. He introduced the Khalsa. He was born A. D. 1662, and was killed in his 48th year by two Pathans, in 1708, at Nander, on the banks of the Godavery. Banda, a byragi ascetic, succeeded Govind as the guru of the Sikhs: he was a gloomy man and in 1708, was tortured to death at Delhi, in the reign of Ferokshir, son of Bahadur Shah. Briefly reviewing the several characters of the principal gurus of the Sikhs, we may mention that Nanak disengaged his little society of worshippers from hindoo idolatry and mahomedan superstition, and placed them free on a broad basis of religious and moral purity. Umar Das preserved the infant community from declining into a sect of quietists and ascetics. Arjun gave his increasing followers a written rule of conduct and a civil organization. Hur Govind added the use of arms and a military system, and Govind Singh bestowed upon them a distinct political existence, and inspired them with the desire of being socially free and nationally independent. Grunt'h is the name given to the religious books of the Sikhs, the first of which, the Adi-Graut'h, is attributed to Arjun, who seems to have arranged the various writings of his predecessors. Mr. Prinsep says that guru Angad wrote some of the sacred books. In 1581, Arjun Mal compiled the Adi Granth. The first warlike leader, Har Govind born 1606, in 1676 reformed the government. Between 1708 and 1774, the country was infested by predatory bands, when Nan-Singh extended his rule, and died in 1792. The most famed of the Sikhs however was Runjeet Singh, born 1780, who in 1805 established the Lahore independency. The Sikh government after his death, became torn by internal convulsions, was checked by Lord Hardinge, and finally closed in the time of Lord Dalhousie.

The Sikh or Nanak Shahi, in their religious doctrines, have seven sects, amongst whom may be mentioned.

The Udasi established by Dharma Chand, the grandson of Nanak. These, as their name denotes, profess indifference to worldly vicissitudes. They are purely religious characters devoting themselves to prayer and meditation, and are usually collected in convents or colleges called Sangat. They are ascetics, though they do not solicit alms, are generally well-dressed, and celebacy does not seem imperative. Many of them are well-read in Sanscrit, and are able expounders of the Vedanta philosophy, on which the tenets of Nanak are founded, and in the Gangetic provinces, their office consists chiefly in reading and expounding the writings of Nanak and Govind Singh, as collected in the Adi Granth and Das Padshah ki Granth.

Ganj Bukshi, a small sect of no note.

Ram Raya, a small political sect, claiming for their founder, Ram Raya, who flourished in A. D. 1660.

Suthreh Shahi, whose priests lead a vagabond life, begging and singing songs of a moral or mystic tendency, but are not unfrequently gamblers, drunkards and thieves. They look up to Tegh Bahadur, father of guru Govind, as their founder.

Govind Sinhi.—Are the most important of the Sikh community, and comprehend the political association of the Sikh nation generally.

The Nirmala, who observe celibacy, and go nearly naked, in other respects resemble Udasi Sikhs.

Naga, go without clothes, but otherwise resemble the Nirmala, and unlike the saiva and vaishnava Nagas, do not wear arms.

The Sikhs, as soldiers, are brave and trustworthy, with but a very small care for caste. Impulsive beyond any other Asiatic, still they think deeply, and fully appreciate a nation's means, offensive and defensive. They respect and trust British power, and are proud in being selected as instruments for supporting so great a nation. Great Britain might do worse than consider how far it would be well to introduce a system of reliefs among the irregular infantry in India, in the event of war with any foreign power, and necessity arising for the British Infantry line being

employed on the continent or elsewhere, their places could be taken in garrison by Sikhs.

The two great classes of Sikhs are those of the Manjha and the Malwa. The first term Manjha, is applied strictly to the southern part of the Bari Doab near Lahore and Umritsur, but vaguely includes all Sikhs to the north of the Sutlej. Malwa comprises all to the south of that river as far as Delhi and Bikaneer. The head of the latter class is the house of Pathialla with the allied families of Nabha, Jhind, Bhadour, Malod, Badruka, Jiundan, Dialpura, Laudgharia, Rampur and Kot Dhuna, and the more distantly connected houses of Faridkot and Kythal. Their ancestors were simple Jat peasants who migrated from Jeysulmere about the middle of the sixteenth century. They continued to follow the hindoo law for a century, when they adopted the new faith then preached by Govind. In the anarchy which accompanied the decay of the Mogul power, the Cis-Sutlej chiefs arose and were saved only by British interference from absorption by Runjeet Singh. Under British firm rule their law of succession adopted a consistent form. The Manjha Sikhs similarly rose to power after the last invasions of Ahmed Shah and the Affghans, till Runjeet Singh subdued them, all except the rajah of Kapurthulla, who owed his existence to the fact that his house held estates on the British side of the Sutlej. Equal division among sons was the ordinary rule of Sikh succession, and primogeniture was known, though not followed consistently, but only in the three great sects of the Phulkian clan, Pathiala, Nabha and Jhind. In theory the estate descends to the widow for life, on the failure of male heirs, but a widow needs protection and hence the custom of marrying her to one of her brothers-in-law. But such a marriage, even when not Chaddar-dalna or Chadr-andazi (throwing a sheet) or inferior, has never ranked with the vya, shadi, or regular marriage with a virgin. In polygamous cases that widow has seniority who is of the same caste as the deceased husband. The remarriage of Sikh widows is common, and not only with brothers-in-law. Third marriages, even, are met with and termed threwa, yet suttee was prevalent before British rule, the last instance being the widow of sirdar Sham Singh Attariwala, who burnt herself with her husband's clothes the day after the battle of Sobraon. Most of the principal Sikh families are sprung from Chaddar-dalna marriages, but the custom has ceased since the recognition by the British Government of the right of adoption, the rule of primogeniture and the exclusion of females from the succession.

The succession to chiefships were governed by a rule which recognized the right of a paramount state to succeed in certain cases as the ultimate heir. In the Jhind succession case, where sirdar Śarup Singh, of Bazidpur, claimed the estate of his great grandfather raja Gajpat Singh, he desired the territory to be considered as private property and subject to the ordinary rules of inheritance. But Gajpat Singh was a talukdar of the Delhi emperor, giving him service, and paying revenue, and he was, on one occasion, carried to Delhi and kept there a prisoner for three years on account of arrears of revenue, by bakshi Najif Beg; as, for similar reasons, the Pattiala chief was captured and taken to Sirhind in the reign of Muhammad Shah, and as Bhai Lal Singh, the chief of Kythal, was carried to Delhi and there tortured. The Malwa Sikhs, when, after a period of comparative independence, they placed themselves under the protection of the British Government, they assumed to it the same position which they had held to the emperor of Delhi. Their privileges were no greater than before; their competency to alienate estates was no further extended; their relations to the paramount power were no less clearly defined. If the right of claiming escheats, on failure of lineal heirs, was denied to the British Government, its assumption of the protectorate of the states was altogether a mistake. This protectorate was a source of constant anxiety, trouble and expense. The chiefs, the moment that they had escaped the danger of absorption by the Lahore maharaja, turned their hands against each other, and their perpetual disputes and intrigues, gave rise to innumerable political complications and necessitated the maintenance of a large force on the north-west frontier. The Government of Lahore, rapacious and unscrupulous as it might be, was a thousand times better, in every way, than that of the Cis-Sutlej chiefs. In the procedure followed by Runjeet Singh, the right of collateral succession was altogether denied; and, on failure of lineal male heirs, an estate lapsed, unless the maharaja re-granted it, as was generally the case, to some near relation, on payment of a large nazrana or fine. This nazrana, paid by a collateral succeeding, was a complete admission that such succession was by favour of the supreme power, not by right; yet the Sikhs of the Manjha had a far stronger title to secure, by collateral succession, the permanency of their chiefships than those of the Malwa, for they were true conquerors, possessing the lands they had themselves won, and independent of the Delhi Government, to which the Malwa Sikhs had been subordinate, and by connection with which their privileges

and rights had been reduced or modified. This view has always been upheld by the courts, and was never questioned till chiefs with a grievance began to fee English officers to write pamphlets and petitions in their favour. It is well for the empire and still better for the people of British India that the law of lapse, as followed by hindoo and mahomedan powers and recognised by all chiefs, was put in force by all Governors-General down to Lord Dalhousie. But when the British India empire had received its natural boundaries and the treading out of the Indian mutiny enabled the British at once to reward loyal chiefs and exact strict guarantees if not for the good government at least against the mis-government of their subjects in feudatory states, it was no less well that Lord Canning should abolish, or restrict, the law of lapse, by his Adoption Charter. The Sikh doctrine bears the same relation to the hindoo, as that of the Protestant christian does to the Romish. Mohan Lal mentions that the Sikh Jat are polyandrous, and that one brother takes his brother's wife. Masson also states that the Sikhs are polyandrous: but in saying this they seem to allude to the custom of Curao, also written karao seemingly from "karana," to cause to do, this being the term given among the Jat, Goojur, Ahir, and other races and tribes in N. western Hindustan to concubinage generally; but more especially to marriages of widows with the brother of a deceased husband. This practice is known to the eastward of the Punjab, by the name of Oorhai, in the Dekhan of But'hee and, in other provinces, by the term Dhureecha, is followed among several races, but is not very openly confessed even among them, as some degree of discredit is supposed to attach to it. Amongst the Jat, it is only younger brothers who form such connections, elder brothers being prohibited from marrying their younger brothers' widows, but among the Jat of Delhi even this is not prohibited. This practice has been common among several nations of the east. The Jews followed it, and in Egypt it was admitted for a childless widow to cohabit with a brother of the deceased husband. At the time that the laws of Menu were enacted, Curao appears to have been a recognized institution, but as is not unusual with the Institutes, there is much contradiction between the enactments relating to it. From a consideration of all the passages on the subject, it appears that failure of issue was the point on which the legality turned. He who was begotten, according to law, on the wife of a man deceased, or impotent, or disordered, after the due authority given to her, is called the lawful son of the wife (Manu, ch. ix, and 176). From the fact of Draupadi marrying the five Pandu brothers, it is shown that polyandry must have prevailed amongst the heroes of that period; and if polyandry, the practice of Curao was, no doubt, not uncommon: indeed, the compiler of the Mahabharata, Vyasa, was himself appointed to raise up offspring to his deceased brother. There is perhaps no circumstance which so strongly shows the northern descent of the deified heroes, as the marriage of the five Pandu brothers. Herodotus tells us that this practice prevailed among the nomadic Scythians, as it does at present among the Bhotia. The practice is adopted also with some modifications by the Nair race of Malabar, between whom and the people of the Himalaya, Wilson traces the obscure vestiges of a connection. Amongst the Jat, Goojur and Ahir, children born to Curao are considered legitimate, and are entitled to inheritance accordingly. Children begotten by the women previous to Curao, except in the case of fraternal Curao, are known by the name of Kudhelura, and do not inherit the property of the father-in-law. Sikh-ladies knot the hair at the crown and throw a white robe over it which entirely envelopes the body and gives a conical shape to the head. Their features are sharp and angular. When a Manjee Singh dies, leaving no male offspring, his brothers, or his nephews of the full blood, assume the right of succession, to which the widow or widows become competitors. According to the shastra (if they may be considered applicable to public property and chiefships), the prior title of the widows is held; but, as the Sikhs follow the custom, termed karao or chad'r-dála or chad'r-andazi, which obtains in every family, with the exception of those of the Bhaee, the eldest surviving brother of the deceased places a white robe over, and the nuth, or ring, in the nose of, the widow, which ceremony constitutes her his wife. This practice accords with the hindoo and Mosaic laws, (Deuteronomy, chap. xxv, 5 to 10) and acts as a counter-agent to the many evils attendant on female rule. If the free-will of the widow were consulted, it is scarcely to be doubted, she would prefer the possession of power, and the charms of liberty, to the alternative of sacrificing her claims to her brother-in-law, and taking her station amongst his rival wives. Judging from the masculine disposition, want of modesty and of delicate feeling, which form the characteristic features of Sikh females, necessity, and not choice, must have led them to yield to the adoption of an usage, which must often be repugnant to their natures, and disgusting to their thoughts. Yajnyawoleya says, "If a brother die without male issue, let another approach the widow in the proper

season." And Menu ordains, "having espoused her in due form, she being clad in a white robe." The Bhaee tribes of Khytul and other places, although they reject the union by kurawa, yet set aside the claims of a widow, in favour of the brothers and nephews of one dying without male issue. The widows of the Bhaee tribes receive small jagirs for their support during life. Captain Cunningham, writing of the Sikhs whilst they were still a ruling nation, says a living spirit possesses the whole Sikh people, and the impress of Govind has not only elevated and altered the constitution of their minds, but has operated materially and given amplitude to their physical frames.' The features and external form of a whole people have been modified, and a Sikh chief is not more distinguishable by his stately person and free and manly bearing than a minister of his faith is by a lofty thoughtfulness of look, which marks the fervour of his soul, and his persuasion of the near presence of the Divinity. This physical change has been noticed by Sir Alexander Burnes, (Travels, i, 285, and ii, 39), by Elphinstone; (History of India, ii, 564), and it also slightly struck Malcolm (Sketches, p. 129.) Similarly, a change of aspect, as well as of dress, &c., may be observed in the descendants of such members of hindoo families as became mahomedans one or two centuries ago, and whose personal appearance may yet be readily compared with that of their undoubted brahminical cousins in many parts of Malwa and Upper India. The whole character of individuals seems ennobled on their becoming mahomedans, and the natural dignity of the human race is never more beautifully seen than when a mahomedan calmly but proudly says mai moosalman hoon: and so it is with the Sikh sect whose open manly bearing is a conspicuous feature in their character. The Sikhs wear a kind of breeches instead of girding up their loins after the manner of the hindoos. The adoption of the "hutch," or breeches, is of as much importance to a Sikh boy as was the investiture with the "toga virilis," to a Roman youth. The Sikh women are distinguished from hindoos of their sex by some variety of dress, but chiefly by a higher top-knot of hair.

The Sikh, or Nanuk Shahi, are classed under seven distinctions, all recognizing Nanuk as their primitive instructor, and all professing to follow his doctrines, but separated from each other by variations of practice, or by a distinct and peculiar teacher. At the risk of some repetitions, the following notices of the sects may be given;

The Udasi may be regarded as the genuine disciples of Nanuk, professing (as the name denotes) indifference to worldly vicissitudes. They are purely religious characters; devoting themselves to prayer and meditation, and are usually collected in their sangat, colleges or convents, they also travel about to places of pilgrimage, generally in parties of some strength. They profess poverty, although they never solicit alms; and although ascetics, they place no merit in wearing mean garments, or dispensing altogether with clothes; on the contrary, they are in general well dressed, and, allowing the whiskers and beard to grow, are not unfrequently of a venerable and imposing appearance. Though usually practising celibacy, it does not appear to be a necessary condition: they are generally the ministrant priests, but their office consists chiefly in reading and expounding the writings of Nanuk and Govind Singh, as collected in the Adi Graut'h and Das Padshah-ki-Graut'h. With that fondness for sensible objects of reverence which characterizes the natives of India, the book is also worshipped, and rupees, flowers, and fruits are presented by the votaries, which become, of course, the property of the officiating Udasi. In return, the Udasi not uncommonly adopts the presentation of the Prasada. Mr. Moorcroft said he had seldom met with persons of more simple, unaffected, and pious manners than the Udasi.

The Ganj Bakshi division is not numerous, and little is known of it.

The Ramrayi derive their appellation from that of Ram Rai (son or grandson of Har Rai), who disputed unsuccessfully the succession to the pontificate with Har Krishin, son of Har Rai. Their distinction from the other Sikhs is more of a political than a religious complexion.

The Suthreh Shahi are more common than the two preceding; they lead a vagabond life, begging and singing songs, mostly of a moral or mystical tendency. They are not unfrequently gamblers, drunkards, and thieves, and are held in great disrepute. They look up to Tegh Bahadur, the father of guru Govind, as their founder.

The Govind Singhi form the most important division of the Sikh community; being, in fact, the political association to which the name is applied, or to the Sikh nation generally. Although professing to derive their national faith from Nanuk, and holding his memory in veneration, the faith they follow is widely different from the quietism of that reformer, and is chiefly of a worldly and warlike spirit. Guru Govind devoted his followers to steel, and hence the worship of the sword, as well as its employment, against both mahomedans and hindoos.

By his institutions he separated the Sikhs, in political constitution as well as religious tenets, from the hindoos, though they still worship the deities of that people, and derive their legends from the same source. The Govind Singhi pay great veneration to brahmins, notwithstanding their avowed rejection of caste.

The Nirmala differ but little from the Udasi, and are, perhaps, still closer adherents to the doctrines of the founder (as the name imports), professing to be free from all worldly stain, and leading a wholly religious life. They observe celibacy, and disregard their personal appearance, often going nearly naked. They are not, like the Udasi, assembled in colleges, nor do they hold any particular form of divine service, but confine their devotion to speculative meditation on, or perusal of, the writings of Nanak, Kabir, and other Unitarian teachers. They are always solitary, supported by their disciples or opulent individuals, and are often known as able expounders of the Vedanta philosophy, in which the brahmins do not disdain to become their scholars.

The Naga or naked mendicants, are not distinguishable from the Nirmala, except in going without clothes.

Masson says it is no unusual arrangement for the many brothers of a family to have a wife in common, and he had known the soldiers of M. Allard request permission to visit their homes, alleging that their brothers had gone on a journey, and their wives are alone. The plea was considered a good one. Such customs must not be imputable to them as Sikhs, they are rather the remains of an ancient and rude state of society. It must also be observed, that trespasses on the rules of decency must be made by themselves and amongst themselves; liberties taken by strangers would be held as crimes, and resented accordingly.

The Sikhs in the time of the guru Govind, assumed the title of Singh. This literally means a lion, but since the time of the guru Govind, it is applied to all Sikhs, as their distinctive appellation, meaning metaphorically, a champion warrior. The Sikhs should abstain from the use of tobacco and all intoxicating drugs.

The bulk of the Sikh sect are converts from the Jat, a great race, along the banks of the Indus from the Panjab to Sindh and to the banks of the Jumna in Hurriana, in the N. West Provinces, Bhurtpore, Dholpor and Bekanir, some of whom according to Wilson claim to have come from Ghuzni and the far west and others claim to be descended from the Yadu, the rajah of Bhurtpore is a Jat. They are supposed to be the descendants of the Getæ and Yue-chi of antiquity. They are a bold industrious people, and there are two sub-divisions of them, the Dhe and Hele, or Pach-hade and Deswale, but there are many tribes. They are partly of the Sikh, partly hindoo and partly of the mahomedan religion.

The Gurumukhi is a modification of the Devanagari alphabet devised by the Sikhs: it does not differ in shape, but the forms of many of the letters are interchanged. The institutionary discipline of a young Khalsa Sikh is very compendious: when he can bend a bow, wield a sabre, and mount a horse, his instruction is completed. Talking aloud is so habitual to a Sikh that he bawls a secret in your ear, a boisterous and rude habit due perhaps to their living almost constantly in a camp, in which the voice certainly loses that nice modulated tone which distinguishes the more polished inhabitants of cities. When Ranjit Singh died, his corpse was placed upon a splendidly gilt car, constructed in the form of a ship, with sails of gilt cloth to waft him into paradise. It was borne upon the shoulders of soldiers, preceded by a body of native musicians, playing their wild and melancholy airs. His four queens, dressed in their most sumptuous apparel, then followed, each in a separate gilt chair, borne upon the shoulders of their attendants; the female slaves following on foot. Before each of the queens was carried a large mirror, and gilt parasol, the emblems of their rank. After them came the successor to the throne, the maharajah Kurruck Singh, attended by the whole of the Sikh sirdars, barefooted, and clothed in white, none but persons of noble rank being permitted to join the procession. To the last moment, the queens exhibited the most perfect equanimity, far from evincing any dread of the terrible death which awaited them, they appeared in a high state of excitement, and ascended the funeral pile with alacrity. The slaves also appeared perfectly resigned, but less enthusiastic. The body of the maharajah having been placed upon the pile, his queens seated themselves around it, when the whole were covered over with a canopy of the most costly Kashmir shawls. The maharajah Kurruck Singh then taking a lighted torch in his hand, pronounced a short prayer, set fire to the pile, and in an instant the whole mass, being composed of very ignitible material, was in flames. The noise from the tom-tom drums and shouts of the spectators immediately drowned any exclamation from the wretched victims. It was with some difficulty that the rajah Dhyan Singh (Runjeet's minister), under strong excitement, was prevented from throwing himself into the flames. Considerable

doubt has been thrown over the sincerity of this intended act of self-devotion; but the general opinion was that he fully intended it from the apparent absence of any motive for hypocrisy. The ashes of the founder of the Sikh dynasty were afterwards collected together and thrown into the Ganges, in conformity with the religious custom of the country.—*Malcolm's Sikhs, pp.* 7, 116, 129-130; *Steinbach's Punjaub, pp.* 18-19; *Major H. Edwardes' Jullundhur Report on Infanticide*; *Malcolm's Journey, Vol.* i, *p.* 435: *The Law of Inheritance to Chiefships as observed by the Sikhs previous to the annexation of the Punjab, by Lepel Griffin, B. C. S., author of "The Punjab Chiefs," Lahore, Punjab Printing Company, Limited,* 1869; *Burnes Travels, Vol.* i, *pp.* 284-85; *Major Browne's observations on India Tracts, Vol.* ii, *p.* 4; *Phil. Recherches sur les Egyptiens et les Chinois*; *Selections from the Mahabharata, pp.* 8, 66; *Elliot's Sup. Gloss*; *Tod's Rajasthan, Vol.* i, *pp.* 6, 60, 322, 605; *Pennant's Hindustan*; *Chatfield's Hindustan*; *Recherches sur les Langues, Tartares, pp.* 1, 8; *Kennedy on the Origin of Languages, p.* 57; *Overland Mail*; *Masson's Journ., Vol.* i, *pp.* 435, 451; *Mohun Lal's Journ., p.* 9; *Ward's View of the Hindus, Vol.* ii, *pp.* 273-4; *As. Res., Vol.* xi; *McGregor's History of the Sikhs, Vol* i, *pp.* 44, 81, 236-37. *Browne's Indian Infanticide, pp.* 113 *to* 117; *Prinsep's Antiquities, by Thomas, p.* 286; *Professor Wilson, in Transactions of R. As. Society*; *Captain Cunningham's History of the Sikhs, pp.* 3, 9, 79, 90, 118, 185; *Marquis of Hastings' Private Jour., Vol.* i, *p.* 287; *Aitchison, B. C. S., Treaties, Journ., &c., pp.* 8, 9, 227, 229; *Lepell Griffin's Law of Inheritance*; *History of the Panjab, Vols.* i, ii, *pp.* 8, 9, 120, 123, 130, 147 *to* 150, 311; See Affghan, Amritsir, Baber, Banda, Boonga, Discs, Hindoo, India, Jat, Jut, Kajar, Kamaon, Kandahar, Khyber, Mahomedanism, Manja, Odassi, Prasada, Runjit, Scythia, Sikhs, Singh, Tarantara Yeuti.

SIKHA, Sans. The tuft of hair which hindoos are accustomed to leave when shaving their heads is called in Sanscrit the Sikha, in Tamil the Kudumi; a considerable number of European missionaries have come to regard the wearing of this tuft as a badge of hindooism, and require the natives employed in the missions to cut off their kudumi as a sine qua non to their retention of mission employment. The idol-worshipping hindoos believe that the top of the head including the anterior and posterior fontanelles is the most sacred part of the body. They say that the fontanelle is the residence of the deity, and call it the 'top eye.' They think also that it is the fountain of the generating fluid of man which supplies the lower members of the body when required; they consider that such holy and useful parts of the body must not without good reason be left uncovered and hence they say is the necessity of protecting those spots by a tuft. A sect of sanyasi, however, walk about with bald heads pretending that they have entirely renounced the world, passed the lower steps of ritualism in the ladder to ascend to heaven and are living in close communion with God, constantly looking at him with their top eye. The sanyasi of this sect do away with their sacred thread, also, evidently showing that they regard the kudumi in the same light as the other ceremonies belonging to the lower step of the heavenly ladder. When a hindoo wife is in the family-way the husband allows his hair to grow without being shaved. After the confinement, if the child be a boy, he, on the 16th day, rises up early in the morning, performs ablutions, comes home with a wet head, enters the room where the child is laid, takes a few drops of water from his wet kudumi, pours them into the child's mouth and then for the first time sees and handles the child. After this ceremony he shaves his hair as usual. When the hindoo parents think it necessary to shave the head of the child they consult an astrologer who fixes an auspicious day when the barber is invited to do his duty. A small image of Pillayar, the son of Siva, is made, before which, on a plantain leaf, a thali or platter filled with paddy, a broken cocoanut, and some plantain fruit are laid and incense offered to the image. The barber puts his razor before the image and worships it, and then begins the sacred rite of shaving, by putting his razor around the "top eye" and leaving a circular portion of hair over the sacred spot unshaven. The brahmin father holds the hair of the child at the crown of the head, and puts the razor around it, while his guru repeats certain mantra and then shaves the rest of the hair himself, or asks somebody else to do it. It is the custom with certain castes to wet the head with the juice of the cocoanut kernel beginning with the circular portion of hair to be left as kudumi. A portion of the juice thus used is then poured at the foot of a palmyra tree as an offering to Parvati, the sakti or consort of Siva. The hindoo believes that the way of extracting toddy from the palmyra was taught by Parvati, and to this day it is the custom of the palmyra-climbers to make special offerings to her when they begin their career. The hair shaven from the head of a little child, especially from the head of the first-born, must not be thoughtlessly thrown away,

inasmuch as it is derived from the father of the child, who allowed his hair to grow unshaven with a special vow for the safety of the child from the time of its conception till its birth. Some old men say that it was formerly the custom to burn the hair with certain ceremonies as the Nazarites of the Hebrews did theirs. The shaven hair is now in general carefully enclosed in a silver case, and tied around the waist of the child as an amulet to ward off sickness. Some people tie them in a cloth and carefully preserve them in pots. The circular portion left on the head must be carefully kept and oiled, while the rest of the hair shaven must thus be respectfully treated, otherwise the prosperity and welfare of the child is endangered. If the parents lose their children successively one after another, they keep the kudumi at the back of the child's head on the posterior fontanelle, and if the child survive the period in which the one previous to it died, the parents go about asking alms, make a feast to the pandarams, take off the "tail" as it is called, and then remove the kudumi to the front of the head.

When a boy has become old enough to go to school, or has so far advanced in study as to begin to write on the cadjan or palm leaf, a feast is made by the parents and in one corner of the house previously daubed with cow-dung, a small image of Pillayar is made, before which is placed an offering of plain fruit and cocoanuts. The schoolmaster writes in a cadjan book, respectfully places it before the image, and worships it. The boy is then called before the image, and while he is standing there with great veneration and awe, the schoolmaster touches him by his kudumi, divides it into three parts, and after having plaited them together, puts over the kudumi at the crown of the head some raw rice and some sacred amgu grass and worships it. Some add to these things, a little raw paddy, sacred ashes and flowers, and tie them in the plaited kudumi. The schoolmaster then respectfully takes the cadjan book, and delivers it into the hands of the scholar, while the scholar respectfully puts the cocoanut and the other offerings into the hands of the schoolmaster, and while doing so, the scholar is taught to repeat some congratulatory words thus :—"Book and learning to me. Cocoanut and money to the teacher." It was formerly the custom with several lads to wear their hair long, tied up in a knot at the back of the head nearly after the manner in which women usually wear their hair. This, however, was not usual before they became of age unless under peculiar vows. The devotees of Parvati believe that their goddess is extremely pleased with this fashion, and in honour of her still wear their hair in this manner. The Maravar caste in South Travancore wear kudumi until they are about 12 years of age, and then allow their hair to grow long, and tie it up in a knot at the back of the head. Until very recently each caste differed from another in the way of wearing the kudumi. A Shanar never dared to imitate a brahmin, nor a Pariah a Soodra. Although the sacred spot of the head which ought to be adorned with the kudumi did not differ, yet the manner, quantity and position of the kudumi differed in each caste. The chief use of the kudumi, however is in the performance of a funeral ceremony urgently necessary for the salvation of a married man. A Tamil poet in describing the lamentations of a king who performed penance for obtaining the gift of a son, says that a father can enter Siva's paradise in no other way than by his son performing the funeral ceremony. The hindoos believe that a man so soon as he is married, commits a serious sin that renders him liable to hell. When he dies he has no alternative but to suffer its torments unless prevented by the ceremony which his son performs. In order to quench the fire of hell, the son must uncover the sacred portion of his head by shaving off the kudumi, must put upon it a new pot full of water, that it may therefrom absorb the virtue of quenching the hell fire, must walk with it three times around the deceased parent, each time cutting a new hole in the pot that the water may sprout out as he walks along, and on the third time must break the pot at the head of the bed of the deceased parent, and pour a few drops of this sacred water into the mouth of the corpse in the same manner as the parent poured a drop of water into the mouth of the son while an infant. He also puts a small coin into the mouth that the deceased may reward with it the porter of the next world. The Romans also did so that the deceased might pay Charon the ferry-man of hell for a passage across the Styx. The cutting off of the kudumi on this funeral occasion is not regarded as a token of sorrow but is considered as an essential requisite for performing the funeral ceremony which is absolutely necessary for the eternal welfare of the deceased parent. No one but the heir of the deceased cuts off the kudumi, and that at no other time but on the occasion of the parent's death. A father may lose a dozen children but he never thinks of shaving off his kudumi as a sign of sorrow. On the 16th day it is generally the custom to perform another ceremony in order to send up the spirit of the deceased to heaven, for, until the ceremony is performed, the spirit of the deceased is supposed to hover about the grave. After this the son allows

his hair to grow for one year as a token of sorrow, at the expiration of which he makes a feast to brahmans and others, shaves his hair and wears the kudumi. It is true that the hindoo races of brahmans styled the twice-born, do not cut off the kudumi on the occasion of performing the ceremony for the deceased parent, because his being regenerated by the sacred thread, imparts full power to his prayers and other ceremonial that are absolutely necessary for the salvation of the deceased parent. The Chinese who wear their hair very much like the kudumi, believe that unless certain ceremonies are performed with a knot in the kudumi, the deceased cannot go to heaven. From what certain Tamil poets have sung, it is evident that they have regarded the kudumi in the same light as the sacred thread of the brahmans. One says, 'What is caste but the sacred thread and the kudumi.' Another says, 'The sacred thread, kudumi and other ceremonies of the brilliant sacred writings were they born with you?' In a letter sent by a learned caste hindoo, he says, wearing the kudumi is as important to us as the sacred thread is to a brahman. Not to wear the kudumi renders a man guilty, and liable to hell, Naragu-prerbathee. The goldsmiths say that their god Visvakarma sprung from the third eye of Siva with sacred thread and kudumi, and that his devotees wear kudumi in order to resemble him just as the Saivaite devotees wear the Chadei in order to resemble Siva. Herodotus says that the Arabians cut their hair in such a manner that the circumference of their head is found to be round all about as if they had been cut with a bowl in imitation of Bacchus and in honour of him. He says also that the Macians, a people of Sybia, cut their hair round so as to leave a tuft on the top of the head. We learn from Homer that it was customary for parents to dedicate to some god the hair of their children which they cut off when they came to manhood. Achilles at the funeral of Patroclus, cut off his golden locks which his father had dedicated to the river-god Sperchias. From Virgil it appears that the topmost lock of hair was dedicated to the infernal gods. In Athens it is said Hercules and Apollos were the chief deities selected for dedicating the hair, to the first by the humbler part of the community, and the latter by the more wealthy. Tertullian speaks of an extraordinary rite about the dedication of the hair of infants which was practised even before they well had any hair, and that cut off when they were named. One of the rites pleasing to Siva of the hindoos, is wearing sikha, and his son Pillayar is invoked when any infant's head is to be shaved. Parvati is said to be pleased with Kondei, another form of the sikha. Parvati the mother of the world corresponds with Magna Mater, the grandmother of Bacchus.

A remarkable command is given to the Israelites in Lev. xix, 27 :—"He shall not round the corners of your head or literally 'ye shall not go round,' *i. e.*, with a razor, 'the sides of thy head.'" The Septuagint renders this, 'Do not make Sisoen of the hair of your head.' The Greek Lexicographers say that Sisoen though not a Greek word means a lock, or circular portion of hair left unshaven, and consecrated to Saturn. This Saturn is the grand-father of Bacchus, who is thought to correspond with Siva. In some respects Saturn also resembles Siva. A recent commentator says on the above text, 'It seems probable that this fashion had been learned by the Israelites in Egypt, for the ancient Egyptains had their dark locks cropped short or shaved with great nicety, so that what remained on the crown appeared in the form of a circle surrounding the head. Frequently a lock or tuft of hair was left on the hinder part of the head, the rest being cut round in the form of a ring, as the Turks, Chinese, and Hindoos do at the present day.

Poole says, 'the Gentiles cut their hair for the worship of devils or idols to whom young men used to consecrate their hair as Homer, Plutarch and many others write.' Professor Vitringa looks upon this manner of trimming the hair in a circular form while the rest of the head is shaven, as a symbol of the sun equally diffusing his rays which the ancients called his hair. The Romans are said to have worn the hair of the head uncut, either loose or bound behind in a knot and consecrated it to Apollos.

The Kammalar, a sudra race of South Travancore, contend that the kudumi originally belonged to them, and that the brahmins afterwards copied it from them. The author of the Arunchala Purana describes the demons who accompanied Veeraputram in his expedition against Dacca, with kudumi. These demons can refer to no other than the aborigines of Southern India, who molested the Aryans in the performance of their religious ceremonies. See Hair.

SIKHAMHAT, Hind. ? A tree of Chota Nagpore, with a hard, yellow timber.—*Cal. Cat. Ex.* 1862.

SIKHARI, a mountain stronghold or hill-fort.—*Forbes' Eleven years in Ceylon, Vol.* ii, *p.* 2.

SIKHI, Hind., of Murree, &c. Euonymus fimbriata or E. hamiltonii.

SIKHUNAS, see Jatamansi.

SIKI, Hind. Euonymus fimbriata.

SIKIM is called See-i by the Nepaulese, and by the Sikimese themselves is styled Deejon or the Rice-growing place. Sikim occupies an intermediate position between Nepal and Bhotan : a considerable part of it belongs to the British, the rest is maintained by British influence and authority. Sikim is the country between the Teesta river and the Singhaleela ranges and consists of the valley of the Teesta river, which with its tributaries drain the whole territory. Its great tributary is the Ranjit river which, at first separated by a mountain range, joins it from the west, flowing for a short distance parallel to the plains, through a deep ravine not 1,000 feet above the sea, to the north of a transverse range elevated 28,000 feet. Being opposite to the gangetic valley, it is open to the full force of the monsoon, its rains therefore are heavy, almost uninterrupted, and are accompanied by a dense fog and a saturated atmosphere. The rainy winds sweep almost without interruption up to the base of Kanchinjanga, (28,178 feet) the loftiest mountain and most enormous mass of snow in the world. The snow-level is here 16,000 feet. The two principal sources of the Teesta river are the Lachen and the Lachung, these run in two valleys which are separated by a lofty snowy range projected to the south-west, the valleys are somewhat sheltered, and the perpetual snow-line rises to above 18,000 feet. From the level of the sea to an elevation of 12,000 feet, Sikim is covered with dense forest of tall umbrageous trees. At 10,000 feet, on the summit of Tanglo. yew appears. There are in Sikim about 2,770 species of flowering plants and 150 ferns. In the Darjeling district, in addition to the Europeans, hindoos and mahomedans from the plains, the population consists of Nepalese ; of the Bhoteah from Bhutan, Tibet and Sikkim ; of the Lepcha and Mechi who are considered the prior occupants of Sikim. The Rajbausi of Sikim are the Koch or Kooch race, of the same descent as the rajah of Cooch Bahar, on which account they call themselves Rajbansi. In the plains of Sikim, the Raj-bansi and Bengali are in equal numbers. The Mechi inhabit that portion of the Terai, which lies under the hills. They are a migratory race who have no caste distinctions and live by cultivating the virgin soil. The country of Sikim and Darjeling is the land of the Lepcha, a Bhot race who are hemmed in between the Newar and other Nepal tribes and the L'hopa of Bhutan on the east, the Lepcha area being barely 60 miles in breadth. His physiognomy is markedly Mongolian, stature short, from 4 feet 5 inches to 5 feet ; face, broad and flat, nose depressed, eye oblique, chin beardless, skin sallow and olive, with a little moustache on the lips: broad chest and strong-armed but small-boned with small wrists, hands and feet. The Lepcha is honest, timid and peaceful with mild and frank features. The Lepcha are a dirty, good-natured people, resembling in character the Mongol beyond the Chinese wall. The Lepcha throws over him loosely a cotton cloak striped with blue, white and red, and uses an upper garment with sleeves in the cold weather : a broad umbrella-shaped hat of leaves and a pent house of leaves in the rains. The women dress in silk skirt and petticoat, with a sleeveless woollen cloak. The Lepcha man carries a long, heavy and straight kinfe serving for all purposes to which a knife can be applied. They drink the Murwa, the fermented juice of the Eleusine coracana, which gives a drink, acidulous, refreshing and slightly intoxicating, and not unlike hock or sauterne in its flavour. Their songs and the music of their bamboo flute is monotonous. They marry before maturity, the brides being purchased by money or service. The Lepcha, like the Borneo Dyak, kindle a fire by the friction of sticks. The Lepcha burn or bury their dead. In their food they use mountain spinach, fern tops, fungi and nettles. Their ailments are small pox, goitre, remittent fevers and rheumatism. Darjeling has a mixed population of the Sikim, Nepaul and Dharma Bhoteah, also Lepcha and Pahari. Dr A. Campbell tells us that a gradual increase of population has taken place under British rule ; from a few scattered tribes in 1853 to upwards of 60,000 in 1870. They consist of Brahmins and Rajpoots, few in number, with a sanscritic tongue, and an Indo-European physiognomy, confined to Nepal. The Rhu, Majar and Goorong, a mixture of hindoos and Mongolians with features of a type belonging to the latter, comparatively free from caste prejudices and speaking the Parbutta dialect. They are short and squat highlanders, and make good soldiers. The Bhoteah, Lepcha, and Moormi are buddhist and speak the Tibetan language. They are strong and active and incline strongly to the Mongolian race. The Limbo, Sunwar and Chepang possess a small Mongolian type, strongest in the Limbo, and their language is referable to either the Tibetan or Indian standard. The Mechi, Dhimal and Gharo are lowland tribes with a Mongolian physiognomy, but are neither hindoos, buddhists nor mahomedans. The Tharoo and Dhunwar are buddhists or mahomedans with fair and barely Mongolian features. The Bahir, Kebent, Amatti, Maralia, Dhanook and Dom are not Mongolian, but a dark race speaking Hindi or Bengalee. The Koch or Raj-bansi are a

race of dark hindoos inhabiting the Terai of Nepal and Sikim, but who have spread into British territory. The term Sikim Bhotea is applied to the more recent immigrants from Tibet, who have settled in Sikim, and are an industrious, well conducted people. The Bhotea, again, of Bhotan, to the eastward, bear the worst reputation (and most deservedly) of any of the numerous people who flock to Darjeling. These should not be confounded with any other Bhotean tribes of Thibet, Sikkim or Nepal. The mountain slopes are so steep, that the spurs, or little shelves, are the only sites for habitations between the very rare flats on the river banks, and the mountain ridges, above 6,000 feet, beyond which elevation, cultivation is rarely if ever carried by the natives of Sikim. Firing the forest is so easy in the drier months of the year, that a good deal of cultivation is met with on the spurs, at and below 5,000 feet, the level most affected by the Lepcha, Limbo and Sikim Bhotea. The varieties of grain are different, but as many as eight or ten kinds are grown without irrigation by the Lepcha, and the produce is described as eighty-fold. Much of this success is due to the great dampness of the climate ; were it not for this, the culture of the grain would probably be abandoned by the Lepcha, who never remain for more than three seasons on one spot. The average rain-fall at Naini Tal is 88 inches. Naini Tal is elevated 6,500 feet on the last spurs of the Gogar, overhanging the plains of Rohilkhund. Almorah is 15 miles further than Naini Tal from the plains and it is at 5,500 feet, but only 34 inches of rain-fall. The fall at Darjeling is 165 inches. Oak trees, maple and other mountain trees throw out great knots in the places to which the Balanophora attach themselves. These knots are hollowed out into the wooden cups by the Lepcha of Tibet. Some of the Lepcha cups are supposed to be antidotes to poison ; they are of a peculiar pale coloured wood and cost a great sum, but common cups cost only 4*d.* or 6*d.* They are all imported into Tibet from the Himalaya. The Lepcha have no caste distinctions, but they speak of themselves as belonging to one or other of the following sections :—

Burphoong Phoocho.	Tungyeld.
Udding Phoocho.	Lucksom.
Thurjokh Phoocho.	Therim.
Sundyang.	Songme.
Sugoot.	

Captain J. D. Herbert, when writing of the Lepcha race, described them as the same people whom he had met with at Nailang, at Jahnabbi, at Shipchi on the Sutlej, in Hangarang, and at Lari in Ladak. They are, he says, in fact the people who have been erroneously called Chinese Tartars and are in reality of the same race as the Tibetans, being a family of the great division of Eleuth Tartars or Kalmuks. Sikim contains the Lepcha and Limbu dialects. The Sikim Terai gives us the Dhimal, the Bodo or Mechi and the Koch which latter also occupy the plains of Koch Bahar, and the northern parts of Runjpoor, Dinajpoor and Purneah. At the base of the Sikim Himalaya, under the hill station of Darjeeling the great mass of the lofty hills is composed of schistoze rocks of various characters considerably disturbed and contorted. These are decidedly different from, and more recent than, the gneissoze rocks of the greatest portion of India. Near the base of the hills, and faulted against these rocks at high angles, there is a small extent of sandstone and black shales, which contain vertebrata, pecopteris, &c., similar to those occurring in the great coal-fields of Bengal. These fossils are peculiarly interesting, from the fact of their being changed into graphite, and occurring in beds which themselves have a very strongly marked graphitic character. They are of very limited extent ; the greater portion of the sandstones, which in this section exhibit a thickness of some thousand feet, belonging to a series of a much more recent date, and which has been subjected to a much smaller amount of disturbance and alteration. This upper group contains many large stems, in all observed cases prostrate, and in most cases giving evidence of great wear and long exposure previously to being imbedded ; and in some of the finer and more earthy deposits an abundance of leaves occur, of the same general character as those occurring in Burmah and Tenasserim. This group was therefore provisionally referred to the pliocene age. No traces of the great nummulitic series have been observed in this district. The whole of Sikim presents a region of flora which is the best investigated of any district east of Kumaon, and unites the floras of Nepal, Bhotan, East Tibet, and the Khassia mountains, being hence, in a geographico-botanical point of view, one of the most important provinces in India, if not in all Asia. In Sikim and Bhootan there are twelve Coniferæ, viz., three Junipers, Yew ; Cupressus funebris, Abies webbiana, A. brunnoniana and A. smithiana, Larch, Pinus excelsa and longifolia, and Podocarpus neriifolia. Four of these, viz., Larch, Cupressus funebris, Podocarpus neriifolia and Abies brunnoniana, are not common to the north-west Himalaya, west of Nepal, and the other eight are common. The region of Sikim is perhaps the most productive in fleshy fungi of

any in the world, both as regards numbers and species, and Eastern Nepal and Khassia yield also an abundant harvest. The forms are for the most part European, though the species are scarcely ever quite identical. The dimensions of many are truly gigantic, and many species afford abundant food to the natives. Mixed with European forms a few more decidedly tropical, and occurring amongst those of East Nepal is a Lentinus which has the curious property of staining every thing which touches it of a deep rhubarb yellow, and is not exceeded in magnificence by any tropical species. The Polypori are often identical with those of Java, Ceylon, and the Philippine Isles, and the curious Trichocoma paradoxum which was first found by Dr. Junghuhn in Java, and very recently by Dr. Harvey in Ceylon, occurs abundantly on the decayed trunks of laurels, as it does in South Carolina. The curious genus Mitremyces also is scattered here and there, though not under the American form, but that which occurs in Java. Though Hymenomycetes are so abundant, the Discomycetes and Ascomycetes are comparatively rare, and very few species indeed of Sphæria were gathered. One curious matter is, that amongst the very extensive collections which have been made there is scarcely a single new genus. The species moreover in Sikim are quite different, except in the case of some more or less cosmopolite species from those of Eastern Nepal and Khassia : scarcely a single Lactarius or Cortinarius for instance, occurs in Sikim, though there are several in Khassia. The genus Boletus through the whole district assumes the most magnificent forms, which are generally very different from anything in Europe. Yoksun, in Sikim, occupies a very warm sheltered flat and about it many tropical genera occur, such as tall bamboos of two kinds, grasses allied to the sugarcane, scarlet Erythrina, and various Araliaceæ, amongst which is one species whose pith was of so curious a structure, that Dr. Hooker had no hesitation in considering the then unknown Chinese substance called rice-paper to belong to a closely allied plant. The natives of Sikkim collect the leaves of many Aralias as fodder for cattle, for which purpose they are of the greatest service in a country where grass for pasture is so scarce: this is the more remarkable since they belong to the natural family of ivy, which is usually poisonous. The use of this food however gives a peculiar taste to the butter. In other parts of Sikkim, fig leaves are used for the same purpose, and branches of bird-cherry, a plant also of a poisonous family, abounding in prussic acid. The only Aralia occurring in S. E. Asia, is A. papyrifera. Others of this genus are well known in America : and the young shoots and roots of Dimorphanthus edulis are used as food in China and Japan.—*Dr. Latham's Descriptive Ethnology*; *Gleanings of Science, p.* 939 ; *Dr. Campbell in Royal Geographical Society's Journal* ; *Hooker's Him. Journal, Vol.* i, *p.* 359 ; *Hogg's Vegetable Kingdom, p.* 390. See Bhothea, Himalaya, India, Lepcha, Limbu.

SIKOFF, see Japan.

SIKRAM-PO, TAM. A gig, a buggy.

SIKTHA, SANS. Wax.

SIL, HIND. Amarantus anardana, also Imperata kœnigii, also Celosia argentea.

SIL, HIND. A slab, a stone on which spices, &c., are ground, resembling an oilman's grinding stone and muller, but the surfaces are rough.

SILAAM, NEP. An oil seed from Nepal.

SILAHDAR, an armour-bearer, a mounted soldier providing his own horse and armour.

SILAJITU, TEL. Ophelia elegans, *R.W.*

SILAR, a river of Rewah.

SILARAS, TEL. Ophelia elegans, *Wight.*

SILARUMBA, SANS. Canna indica.

SILASSATTU, TEL. Agathotes chirayta, *G. Don.*

SILCHAR, the chief town of Cachar. It is 300 miles from Calcutta, on the Barrak river.

SILEIN, HIND. Alnus, *sp.*

SILENACEÆ, the Dianthus tribe of plants comprising 12 genera. They are natives of America, Mexico, Straits of Magellan, Europe, the Canaries, the Levant, N. Africa, the Altai Siberia, Tauria, Caucasus, Arabia, Persia, Tartary, China and Japan, 32 species have been found in Southern and Eastern Asia, in Arabia, Persia, Himalaya, Kashmir, Kunawar, China and Japan, all with unimportant properties but several species are cultivated as ornamental flowering plants.

Dianthus arbuscula, *Lindl.*, China.
„ chinensis, *Linn.*, China.
Cucubalus bacciferus, *Linn.*, Europe, Himalaya.
Silene inflata, *Sm.*, Europe, Himalaya, Kemaon, Nepal.
Silene viscosa, *Pers.*, Europe, Levant, Kanawar.

A species of Silene, grows in China, called there, Wang-puh-liu-hing. Its dark reddish roundish seeds, resembling turnip seeds, are believed to be vulnerary, styptic, diuretic, galactagogue, discutient and solvent, and are a common remedy taken by soldiers after injuries. Silene compacta, the Catch-fly, are elegant flowering plants, of easy culture from seed, the flowers are of various colours, and require only the same treatment as the other species of Lychnis. The Silene inflata, or inflated Catch-fly or Bladder campion ; its

young shoots combine the flavour of asparagus and peas.—*Riddell, Voigt.*

SILENUS VETER, *Gray, Blyth, Horsf.*

S. leonina, *Shaw.*		Inuus silenus, *Less., Jerd.*	
Nil bandar,	BENG.	Nella manthi,	MALEAL.
Shia-bandar,	HIND.		

The native country of this monkey, is Travancore and Cochin. It is black, with a reddish-white hood or beard surrounding the face, neck, and tail with a tuft of hair at the tip. The Wanderoo is closely allied to the Magot and Macaque of the same countries. Its hair is a deep-black throughout, with the exception of the long beard or mane which decends on each side of the face, in the form of a ruff extending downwards over the chest, and varying from an ash-grey to a pure white. The upper part of the face between the eyes, is naked and flesh coloured, the muzzle is perfectly black. It has large cheek pouches and flesh coloured callosities of considerable size. The tail is about half as long as the body, and, when perfect, which in captivity is not often the case, it terminates in a brush of tufted hairs. It extends up the west Ghats as far as the Ram-ghat, leading from Belgaum to the coast.—*Jerdon's Mammals of India.*

SILEX, known as Tabashir, is secreted by bamboos and obtained from their hollow interior. Siliceous substances are used in India medicinally. The following are principally known:

Rock chrystal. . Bilur.	———?..Sang-i-Asshar.
Carnelian..........Akik.	Mill stone grit..Sang-i-Assyum.
Agate ....Sulimani.	Sand .....Ret.
Onyx........ ...... „	Plasma....Yashm.
Flint,..............Chakmak.	

SILHET, a district and town in Bengal, the town is 260 miles from Calcutta, in lat. 24° 53' 0", long. 91° 47' 1", 120 miles N.E. of Dacca and about 133 feet above the sea. Silhet lies between the Khasyah hills and independent Tippera, it is watered by the Barak and Surma rivers. Cachar and Silhet are in the valley, or rather marshy plain, of the river Surma, which lies to the south of the Khasyah mountains, and very much resembles the Assam valley in its general features. It is an open plain, scarcely raised above the level of the sea, which is three hundred miles distant and presenting here and there a few scattered hills; below, it expands into the jheels of eastern Bengal, and, contracts in its upper part as the spurs of the Tipperah and Naga hills encroach upon it separating fertile plains by narrow ridges covered with dense forest. The valley of the Surma is separated from that of Munipur by a meridional range of moderate elevation, which is continued to the southward, and separates Tippera, Chittagong and Arracan from the kingdom of Ava. Blue Mountain, which lies nearly due west of Chittagong, is said to attain the considerable elevation of 8,000 feet, and a peak on the same range forty miles to the south-west, in lat. 22°, is elevated according to Wilcox's map, 3,100 feet. Sitakund, thirty miles north of Chittagong, has an elevation of 1,140 feet. The provinces of Tipperah and Chittagong are throughout hilly. The rain-fall during the monsoon is about the same as in Bengal, at least on the sea-coast and in its immediate vicinity, averaging 86 inches annually at Chittagong; on the higher ranges in the interior it is probably much more considerable.—*Hook. Him. Journal.*

SILHOUETTE, in lat. 4° 29' S., long. 55° 17' E., is the highest of the Seychelle Islands. It abounds with timber.

SILIGOREE. Dr. Hooker here noticed a wild hog, the first wild beast of any size he had seen in the plains, except the hispid hare (Lepus hispidus) and the barking deer (Stylocerus ratna.) The hare he found to be the best game of this part of India, except the teal.—*Hooker, Him. Jour., Vol.* i, *p.* 369.

SILIDITYA, 3rd, was ruler of Balabhipura, when it was destroyed A. D. 524.

SILINDHRA, SANS. A tree, the name of which has not yet been found in botanical works on Indian plants.—*Hind. Theat., Vol.* ii, *p.* 100.

SILING, a Chinese and Yarkand manufacture from the wool of the shawl-goat.

SILIQUARIA, a genus of molluscs.

SILK.

Seolc	ANGLO-SAXON.	Seta,	IT.
Kuz: khuz,	ARAB.	Sericum,	LAT.
See; szu,	CHIN.	Sutra,	MALAY.
Sir,	COREAN.	Sirghe,	MANCHU.
Silke,	DAN., SW.	Sirkek,	MONGOL.
Zijde,	DUT.	Ab-resham,	PERS.
Soie,	FR.	Sheolk,	RUS.
Seide,	GER.	Seda,	SP., PORT.
Serikon,	GR.	Siden,	SWED.
Reshm,	HIND.	Pattu,	TAM.

The arts of rearing silkworms, of winding off the threads spun by them, and of manufacturing those threads into clothing seem to have been first practised in China. So many of the names applied to this substance by the many nations of the earth being from one root, this alone suffices to prove that they at least obtained the substance and its name from one region. The name seres by which China was known to the western nations was either applied to it from silk being a product of that country or the country gave its name to the substance known as silk. The Chinese terms see and szu, silk, are found in the Corean language or dialect in the form of sir, in Mongol sirkek, in Manchu sirghe. Klaproth supposes this word to have given rise to the Greek ser, the silkworm, and seres the

people furnishing silk, and hence sericum, silk. The eggs were brought to Europe by monks. The country from which they brought their precious charge is called by Theophanes simply that of the Seres, but by Procopius Serinda. China may be intended, but of this there can be no certainty. Indeed it is possible that the term was meant to express a compound like the Indo-China, some region intermediate between Serica and India, and if so not improbably Khotan. "It would be curious," says Klaproth, "to know at what period the word silk was introduced in the English language. It appears to be the same as the Russian chelk, which I believe to be derived from the Mongol silk: this is so much the more likely as Russia was for a long period under the Mongol yoke." Silk, then, seems to have given its name to the people who first fabricated it, and sent it to the west; and the Seres of the Greeks and Romans were evidently the Chinese, whose empire was formerly separated by the Oxus from that of Persia. M. P. Muilla in his l'Histoire generale de la Chine, mentions that B. C. 2600, Si-ling-chi, wife of the emperor of China, Hoang-ti, was enjoined by him to utilize the thread of the silkworm in which she succeeded.

China.—Two of the principal manufactures of China are those of silk and porcelain, and could the Chinese urge no other claims to praise on account of their ingenuity, these two alone might serve to give them a high rank among the nations of the world. D'Herbelot justly considers that, as Rome obtained the silk manufacture from Greece, and Greece from Persia, so the last was indebted for it, according to the best oriental authors, to China. The tradition, indeed, of the invention is there carried back into the mythological periods, and dates with the origin of agriculture. Husbandry and the silk manufacture, the chief sources of food and clothing, form the subject of one of sixteen discourses to the people. It is there observed, that "from ancient times the Son of Heaven himself directed the plough: the empress planted the mulberry-tree.' Thus have these exalted personages, not above the practice of labor and exertion, set an example to all under heaven, with a view to leading the millions of their subjects to attend to their essential interests." In the work published by imperial authority, called 'Illustrations of Husbandry and Weaving,' there are numerous woodcuts, accompanied by letter-press explanatory of the different processes of farming and the silk manufacture. The former head is confined to the production of rice, the staple article of food, and proceeds from the first ploughing of the land to the packing of the grain, the latter details all the operations connected with planting the mulberry and gathering the leaves, up to the final weaving of the silk. Notices of the cultivation of the mulberry and the rearing of silkworms found in Chinese works have been collected and published by Mr. Julien by orders of the French government. From his work it appears that credible notices of the culture of the tree and manufacture of silk are found as far back as B. C. 780; and in referring its invention to the empress Siling or Yuenfi, wife of the emperor Hwang, to B. C. 2602, the Chinese have shown their belief of its still higher antiquity. "The Shi-king contains this distich: The legitimate wife of Hwangti named Siling shi, began to rear silkworms." The best silk is found in the provinces of Sz'cheun, Hupeh; Chehkiang, and Kiangnan, but every province south of 45° N. produces it of different degrees of fineness. Probably the kind called tsa-tle, brought from Hupeh, is the finest silk found in the world. In China, while the worms are growing, care is taken to keep them undisturbed, and they are often changed from one hurdle to another that they may have roomy and cleanly places; the utmost attention is paid to the condition and feeding of the worms and noting the time for preparing them for spinning cocoons. Three days are required for them to spin, and in six it is time to stifle the larva; and reel the silk from the cocoons; but this being usually done by other workmen, those who rear the worms enclose the cocoons in a jar buried in the ground and lined with mats and leaves, interlaying them with salt, which kills the pupæ and keeps the silk supple, strong and lustrous; preserved in this manner, they can be transported to any distance, or the reeling of the silk can be delayed till convenient. Another mode of destroying the cocoons is to spread them on trays, and expose them by twos to the steam of boiling water, putting the upper in the place of the lower one according to the degree of heat they are in, taking care that the chrysalides are killed, and the silk not injured. After exposure to steam, the silk can be reeled off immediately, but if placed in the jars, they must be put into warm water to dissolve the glue, before it can be unwound. The raw silk is an article of sale; the sorts usually known in the Canton market are tsa-tle, taysaam, and Canton raw-silk. The Chinese loom is worked by two hands, one of whom sits on the top of the frame, where he pulls the treddles, and assists in changing the various parts of the machine. The workmen imitate almost any pattern, excelling particularly in crapes, and flowered satins

and damasks, for official dresses. The common people wear pongee and senshaw, which they frequently dye in gambier to a dust or black colour; these fabrics constitute most durable summer garments, and the pongee becomes softer by repeated washing, many of the delicate silk tissues known in Europe are not manufactured by the Chinese, most of their fabrics being heavy. The lo or law is a beautiful article, used for summer robes, musqueto curtains, festoons and other purposes, but is seldom sent abroad. The English words satin, senshaw, and silk, are probably derived from the Chinese terms sz'tiin, sensha and sze, intermediately through other languages.

Silk in Europe.—About the middle of the sixth century, the western world received a supply of silkworms' eggs: these were conveyed from China to Constantinople by two Persian monks, who had gone to the east as missionaries, and had observed in China the various processes connected with the rearing of the silkworm, the nature of the trees on which they fed, and the preparation of the silk. This occurred about the year 552, in the reign of Justinian, who gave every encouragement to the introduction of the valuable insect. The eggs were secretly conveyed from China within a hollow cane: at the proper season they were hatched, and the caterpillars were fed with the leaves of the wild mulberry tree. The monks continued to superintend, at Constantinople, the rearing of the insects, and the whole process of manufacturing the silk. From this small commencement the myriads of silkworms have sprung, which throughout Europe and western Asia have met the demand for silk, which has gone on increasing from that time to the present. The silkworm in Europe, is the caterpillar of the mulberry tree moth (Bombyx mori) belonging to the tribe Bombycidæ. The eggs of this moth are smaller than grains of mustard seed, very numerous, slightly flattened, yellowish at first, but changing in a few days to a blue or slate colour. In temperate climates they can be preserved through the winter without hatching until the time when the mulberry tree puts forth its leaves in the following spring. This insect, in many parts of China in the open air, goes through all its changes without any attention from man, whose only care is to gather in the harvest of silk cocoons at the right season. In some parts of China, however, the silkworm requires the same care in the way of shelter, feeding, and nursing which in other countries is found necessary to ensure success. The Morus nigra is not the best species for the nourishment of the silkworm, although the caterpillar feeds readily on the leaves. The white-fruited mulberry, M. alba, a native of China, is the best, and is greatly preferred by the insect. The latter is now cultivated into many parts of Europe, frequently as a pollard by road sides. It comes into leaf a fortnight earlier than the black mulberry, which is an advantage in the culture of silkworms. The white mulberry does not thrive in Britain, the winters being too severe. The Philippine mulberry is a favourite in the south of France, on account of the size and quantity of the leaves, and the ease with which it can be propagated. In the south of Europe, mulberry leaves are sold by weight in the market, and the buyer chooses them either young or mature, according to the age of the insects which are to feed on them. Young worms are fed on tender leaves, while full-grown caterpillars require the stronger nutriment of the mature leaf. Attempts have been made to store food for the silkworm by drying the leaves in the sun, them reducing them to powder, and placing the latter in jars. This powder, moistened with water is eaten with avidity by the silkworm and may prove a valuable resource in late seasons, or under circumstances which affect the principal crop. It is even thought that three or four crops of cocoons per year may be obtained in northern climates, by keeping successive hatchings of eggs in warm rooms, and supplying the worms with this food during winter. The silkworm, when first hatched, is about a quarter of an inch long, and of a dark colour. If supplied with appropriate food it remains contentedly in one spot: this is the case throughout its changes, so that there is no trouble in retaining it within bounds, as there would be with some other caterpillars. After eight days' feeding and rapid increase of size, it prepares to change its skin, the first skin having become too small for its body. It remains three days without food, during which time a secretion forms on the surface of the new skin, which helps the caterpillar to cast off the old one; but the operation is further facilitated by silken lines which the insect casts off and fixes to the adjacent object: these hold the old skin tightly, while the caterpillar creeps out of it. The whole covering of the body is thus cast off, including that of the feet, and of the teeth and jaws, but it is done with difficulty, and sometimes the skin breaks, and a portion of it remains attached to the hinder part of the body, compressing it, and usually causing death. The newly moulted worm is pale in colour, and wrinkled; but it immediately recovers its appetite, and grows so rapidly that the new skin is soon filled out, and in five days another moult becomes necessary. Four of these moults and re-

newals of the skin bring the caterpillar to its full size, when its appetite becomes voracious, and the succulent parts of the mulberry leaves disappear with extraordinary rapidity. The insect is now nearly 3 inches long; its structure consists of 12 membranous rings, which contract and elongate as the body moves. There are 8 pairs of legs; the first 3 pairs being covered with a shelly or scaly substance, which also invests the head. The mandibles are strong, and indented like a saw. Beneath the jaw are 2 small orifices through which the insect draws its silken lines. The silk is a fine yellow transparent gum, secreted in slender vessels, which are described as being wound, as it were, on 2 spindles in the stomach; these vessels, if unfolded, would be about 10 inches long. The insect breathes through 9 pairs of spiracles distributed along the sides of the body. The caterpillar has 7 small eyes near the mouth; the 2 spots higher up are not eyes, but portions of the skull. Arrived at maturity, the caterpillar is of a rich golden hue; it leaves off eating, and selects a corner in which to spin its cocoon. It first forms a loose structure of floss-silk, and then within it the closer texture of its nest, of an oval shape: here the caterpillar remains working until it is gradually lost sight of within its own beautiful winding-sheet. Taking no food and emitting this large quantity of silk, its body diminishes one-half, and on the completion of its cocoon it changes its skin once more, but then becomes an apparently inanimate chrysalis or aurelia, with a smooth brown skin, and pointed at one end. It remains in this corpse-like state for a fortnight or three weeks, when it comes forth a perfect winged insect—the silk moth. In escaping from the cocoon it pushes aside the fibres, first moistening the interior of the cocoon with tasteless liquid from its mouth to dissolve the gum which holds the fibres together. The mouth has no teeth, therefore it cannot gnaw its way out as generally supposed. In the perfect form, the insect takes no food, and only lives 2 or 3 days: the female dies soon after laying her eggs, and the male does not long survive her.

The common silkworm is not the only caterpillar from whose cocoons silk has been obtained for manufacturing purposes; but it is superior in the quality and quantity of its silk to all other insects. The larvæ of many European moths produce a strong silk, the native silkworms of America yield a material which has been manufactured into handkerchiefs, stockings, &c., by the inhabitants of Chilpancingo, Tixtala, and other places of South America. The ancient Mexicans used the internal layers of white cocoons, which strongly resemble Chinese paper, as a material for writing on. A quantity of inferior silk is obtained in British India from the Tusseh and Arindy silkworms. The first affords a coarse dark-coloured silk, which is woven into a cheap durable cloth; the second yields a delicate flossy silk, which cannot be wound from the cocoons, and is therefore spun like cotton. Of this, a coarse kind of white cloth is manufactured, which is loose in texture, but so durable that it can scarcely be worn out in a life-time.

The domestic treatment of the silkworm has been brought to great perfection in Italy. Formerly the eggs were hatched at uncertain periods, depending on the natural warmth of the season, or they were put in manure-beds, or were worn in little bags about the person next the skin. They are now hatched in an apartment heated to the proper degree by a stove; but they are first washed in water, and afterwards in wine, to separate light eggs, as well as dirt, and the gummy envelope which surrounds the heavy ones. The temperature of the hatching-room is at first 64°, but is gradually raised 1 or 2 degrees daily, until it reaches 82°, which it is not to exceed. Pieces of coarse muslin, or of white paper pierced with holes, are placed over the eggs when they are about to be hatched. Through these the worms creep to the upper surface, and are removed as soon as possible to a cooler place. Young leaves and sprigs of mulberry are laid upon the muslin or paper, when the worms eagerly settle on the leaves, and can thus be transferred to trays, and removed to the nursery. This is a dry room of regulated warmth, with windows on both sides, so that free ventilation may be attainable. Chloride of lime should be in use to purify the air, and a thermometer and hygrometer to regulate the heat and moisture; the latter is apt to abound where silkworms are kept, and is very prejudicial to them. Moist exhalations arise from the leaves and from their bodies; fermentation, also, soon takes place if litter and dung be not speedily removed from their trays; these are fertile sources of disease among the worms, and may carry off thousands in a day. One of the diseases to which silkworms are liable consists of the formation of a minute cryptogamous plant of mildew within the body of the living insect. Damp and fermenting food and litter produce, in the first place, among the fatty matter of the body of the caterpillar, an infinite number of sporules supported by minute stems. These increase to such a degree that the vegetation soon pierces the skin, gives a general mealy appearance to the body of the caterpillar, ripens its seed, which is borne by the winds

to every part of the nursery, carrying contagion with it, and at length causes the death of the worms. The dead bodies of worms or moths (for the insect is infected in all stages) are sources of contagion unless immediately destroyed. This disease is called Muscardine in France, Calcinetto in Italy; the French name arises from the resemblance of the diseased caterpillar to a mealy kind of sugar-plum made in Provence, and sold by the name of Muscardine; the Italian name also refers to the chalky or mealy surface of the skin. Various fumigations and washes have been tried, in order to purify infected nurseries, and to preserve others from the ravages of this malady: a solution of blue vitriol, the sulphate of copper applied to the wood-work, frames, &c., of the nursery, is of great use in destroying the seeds of the fungus, but nothing is so good a preservative as rigid attention to cleanliness and good ventilation. The improved means, first employed in Italy, for preserving the health of these valuable insects, are due to Count Dandolo, who gave particular and scientific attention to the subject, and superseded many an absurd custom in the rearing of silkworms. According to his method wicker shelves are arranged in a room at convenient distances, and are lined with paper on which the worms are placed. Such worms only are placed together as have been hatched at the same time, the space allowed them being, for each ounce of egg, 8 square feet during the first age, 15 feet for the second age, 35 feet for the third age, 82½ feet for the fourth, and about 200 feet for the fifth age. The mulberry-leaves are chopped in order to present a large number of fresh-cut edges to the young insect. Four meals a-day, as a regular rule, and luncheons between when the worms are particularly voracious, is the liberal allowance for their subsistence. The temperature at which silkworms are healthiest appears to be from 68° to 75°, though they are able to bear a much higher temperature. Alternations of heat and cold are exceedingly injurious to them. In Europe, when the silkworms are about to spin they are provided with little bushes of broom, heath, or other flexible substance, which are arranged upright between the shelves, their tops being bent into an arched form by the shelf above. The bushes are spread out like fans, to allow plenty of space for the cocoons; for if crowded, the worms are apt to form double cocoons, two working together, and these are worth only half the price of single cocoons. These bushes, laden with cocoons, appear like diminutive trees bearing golden fruit. In the department of the Drome, in France, the method of managing the insects is slightly different from that which now described. The culture is so extensive that upwards of 2,000,000 of mulberry-trees are required to supply the food of the myriads of worms. Instead of wicker shelves lined with paper, large bamboo-like rushes which grow on the banks of the Rhone, are cut down, split open, and attached together so as to form long cane beds about 2½ feet broad, called claies. These are arranged one above another on a rude frame-work erected throughout the chamber, spaces being left at intervals as passages for the attendants to traverse. The worms, as soon as they are hatched, are strewed among the claies, and the mulberry leaves at the proper moment scattered over and amongst them. The attendants make use of a short ladder to ascend to the higher claies. In other establishments the claies are arranged so as to hang from the circumference of large wheels placed at each end of the apartment; by turning these wheels the ranges of shelves rise and fall, and are transferred from side to side at the pleasure of the attendant. The manufacturing treatment of the silk, when the labours of the silkworm are over, is as follows:—When the crop of cocoons is complete it is gathered from the bushes, and about one-sixtieth part is set aside for the production of eggs, the finest cocoons as to web and colour being selected for this purpose. A difference of weight generally determines which are the cocoons of male, and which of female insects: the latter are heavier and rounder than the former. The cocoons intended to produce eggs are preserved in a very dry room, and in about 10 days, they lose in weight to the amount of 7½ per cent. The main crop of cocoons is next sorted into 9 qualities, known in the factories as—1. Good cocoons, which are strong, firm, almost equally round at both ends, not very large, but free from spots. 2. Calcined cocoons, in which the worm has died after having completed its work, and is reduced to a powder substance. 3. Cocalons, which are larger and less compact than good cocoons. 4. Choquettes, cocoons in which the worm has died before finishing its work. 5. Dupian, or double cocoons, difficult to unwind, and often kept for seed. 6. Soufflons, cocoons of so loose and soft a texture that they cannot be unwound. 7. Pointed cocoons, in which one end rises in a point, which breaks off after a little silk has been unwound, and so spoils the thread. 8. Perforated cocoons, from which the moth has escaped. 9. Bad choquettes, in which the silk is spotted, rotten and blackish in colour. The vitality of the chrysalis is destroyed previously to unwinding the cocoons: this is done either by expo-

sure to the sun, or by artificial heat, such as that of an oven after the bread is withdrawn. The floss silk is removed from the cocoon by opening it at one end and slipping out the cocoon. In reeling, it is necessary to use cocoons of one quality, as different qualities require different treatment. The natural gum of the cocoons is softened by immersion in warm water, kept at the proper temperature by a charcoal fire, or by a steam pipe. After they have remained in it for a few minutes, the reeler (generally a woman) gently stirs up or brushes the cocoons with a short birch-rod, and to this the loose threads of the cocoons adhere, and are thus drawn out of the water. They are then taken 4 or 5 together, twisted with the fingers into one thread (as many as 30 can be wound together) and passed through a metal loop, which rubs off dirt and impurities; it then passes on to the reel, which has a slight lateral motion, so that the thread of one revolution does not overlay the other. If it were allowed to do so, the threads would be glued together before the gum had time to harden by exposure to the air. When any single thread breaks or comes to an end its place is supplied by a new one, that the united thread may be of equal thickness throughout. The new thread is merely laid on, and adheres to the rest by its native gum, and as the filaments are finer near their termination than at the commencement, it is necessary to add other cocoons before the first set is quite exhausted. The cocoons are not entirely wound off, but the husk containing the chrysalis is used, together with the floss silk, under the name of waste. Improved methods of reeling are introduced from time to time, but they are on the same principle as the above. The length of filament yielded by a single cocoon is 300 yards, though some have yielded upwards of 600 yards. Eleven or twelve pounds of cocoons yield one pound of silk from 200 to 250 cocoons going to the pound weight: thus about 2,817 cocoons are included in that quantity. The reeled silk is made up into hanks for sale and use. The form and contents as well as the quality of these hanks differ according to the quarter whence they are received.

Madras.—The breeding of the silkworm is carried on to some extent in Denkencottah in the Salem district. There are about 41 persons (of all castes) in this town who breed the worm, and the value of the silk produced yearly is about Rs. 1,000, it being disposed of in Salem and Bangalore, at Rs. 1¾ per seer. The moth usually lays its eggs in the evening, and they take from 10 to 14 days to hatch, after which 40 days elapse before the worm commences to spin its cocoon. In the interval, the worm becomes sickly about 4 times for periods of 4, 5, 6 and 7 days respectively, during which it remains for 30 hours at a time without feeding. Fresh mulberry leaves are supplied seven times a day at intervals of three hours. Half of the worms are reported to perish during the extremes of hot and cold weather. The moth usually emerges from the cocoons in the morning ten or fifteen days after the completion of the cocoon. The male and female moths are allowed to remain together till 5 P. M. when the males are ejected and the females commence to lay eggs. When ready to spin, the worms are placed on a bamboo tray (exposed to the sun) in which are raised numerous circular walls of matting (one within another) the outer one measuring about four feet in diameter. The cocoons are boiled, and afterwards placed in hot water, when the silk is reeled off: 1,000 cocoons are supposed to yield from 2 to 6 Rupees weight of raw silk. The mulberry trees are planted chiefly in black and red soils, and require continuous moisture. With care they last ten years and yield fresh leaves six times a year, the stems being periodically cut down. One yield of leaves on an acre of ground sufficed for seven bamboo trays of worms, each tray measuring about four feet. As each tray of worms is calculated to produce one seer of silk, and as the trees yield leaves six times a year, the cost of production and the net profits on one acre are Rupees 27-4-0.

China.—There seems to be no doubt that China is the country where the product of the silkworm was first used as a material for textile fabrics, and that the industry has gradually radiated from China as a centre, till it covers, at the present day, a number of very widely distributed areas of very diverse climatic conditions. The Chinese historians carry back the cultivation of the mulberry and the breeding of silkworms to the period of myths. If they are to be believed, the art of silk reeling was known in China in the time of Fouh-hi, a century before the date usually assigned to the biblical deluge, and the empress Si-ling-chi, wife of the celebrated Hoang-ti (2602 years before the christian era) did not disdain to share in the labours attending the care of the insect, as well as in those of the loom, the invention of which seems to be attributed to her, and to have raised her to the position of a tutelary genius, with special altars of her own. But whatever the precise date of the discovery, it appears there can be no question of the very high antiquity of the knowledge of the worm and its product in China. A series of imperial edicts, and a voluminous literature of practical treatises, testify to the importance of the indus-

try and the care that was taken to foster an art which was considered, according to M. de Rosny, 'best fitted to promote the morality of the people and extinguish pauperism in the empire.' The original cradle of sericulture in China, included the country of 'Yen, lying south-west of the present province of Shantoung; the country of Ts'ing, answering to the north-west region of the same province, the country of Siu, covering the south of Shantoung and the northern portion of Kiangsou; and lastly the country of King, which now constitutes the province of Houkouang.' The industry now extends to the whole of China except the extreme northern provinces. Not even an approximate estimate can be made of the amount of silk produced, but, besides exporting some 10 million pounds annually by sea, the yield is sufficient to clothe in silk all but the lowest classes of a population alleged to number 400,000,000. According to Captain Bowers, of Sladen's Expedition, the silk trade in the west of China is now nearly suspended. Large quantities used to be raised in Yunnan and Szechuen, but the industry has suffered from the Panthay revolt and consequent disturbances.

Corea.—The region indicated above, as the cradle of the silkworm in China, lies over against the peninsula of the Corea and the Japanese Island of Kiu Siu, where the civilisation of Niphon seems to have first taken root six or seven centuries before the christian era. The jealousy of the Chinese Government appears, for some centuries, to have kept the secret from spreading even to the Corea. But, according to a Chinese authority, the art of silk-reeling was introduced into that peninsula in the 12th century before Christ, and spread rapidly throughout the whole region; this account is confirmed by the narrative of an embassy from China to the Corea in the years 1119-1120 B. C., which describes the nobles and the chief officers of the court, with their wives, as dressed in the same kinds of silk fabrics as are still to be found in this extreme eastern peninsula.

Anam and Siam.—Later, the industry had spread southward in China far beyond its original limits, and it reached the Anamite kingdoms. M. de Rosny dates its introduction there from the third century before our era. In Tonquin and Cochin-China the manufacture of silk took considerable hold, and in the 17th century there appears to have been a large export of silk from these countries. At the present day the silk is mostly used for home consumption; and it is said to be markedly inferior to that of China. The Siamese appear to have learnt the art in the beginning of the 7th century B. C., but the manufacture made no great progress till the 18th century, when the opening of more frequent communication with China gave a certain stimulus to the traffic in silk. At the present day, according to Crawfurd, the industry has again fallen into disfavour, and the few places where it still maintains an existence, only produce a small quantity of a coarse fabric inferior to the manufactures of Java and Celebes. Some Siamese silk now finds its way to the looms of Ahmedabad.

In Labuan, silk was produced, from a multivoltine worm, in 1869 and 1870. The then Governor was sanguine of success, and a report by Mr. Cobb, on the silk and cocoons sent from Labuan in 1870, is favourable.

Into Indo-Chinese regions there seems reason to believe that the knowledge of silk passed from the Western Provinces of China. The breeding of silk-worms is now practised in the modern kingdom of Ava and the provinces of British Burmah.

Persia.—By the 7th century of the christian era, the breeding of the worm and the manufacture of silk fabrics had firmly established themselves in Persia, and probably, where sericulture has taken root in Affghanistan, it is an offshoot of the Persian industry. At the present day the mulberry grows almost throughout Persia; but the true silk region lies on the south shore of the Caspian, between the mouths of the Araxes and Gurgan, or, in other words, the provinces of Shirwan, Ghilan and Mazenderan. The first is a Russian province. The industry is also carried on in the Persian provinces of Kachan, Meshed and Yezd. A paper in the "Technologist" for 1865, states that the worms are very carelessly treated and the silk very variable in quality. England, Russia and France import raw silk from Persia. But its quality is low, it being ill-reeled and irregular. The Persian silk crop of 1863–64 is said to have yielded 1,129,536 lbs., valued at £734,198. The average price was 12*s.* to 16*s.*: for the best quality 18*s.* Of this produce 400,000 lbs. were shipped to Great Britain, 30,000 lbs. to France, and 141,600 lbs. to Russia. Within the last few years the yield has much diminished.

Japan.—The date of the introduction of the silkworm into Japan seems somewhat doubtful. But, commencing with the 5th century of the christian era, the industry has rapidly spread. In fact the people addicted themselves to the pursuit with such ardour that, in fear lest other branches of agriculture should be altogether abandoned, the Japanese Government has, at times, forbidden the extension of mulberry cultivation, or attempted, by sumptuary laws, to restrict the use of silk garments to certain classes. Sericulture has spread to almost all the islands of the Japanese Archipelago. But

the northern isles are somewhat too cold, and the southern too hot, to be a favorable field for the enterprise. According to a report by Mr. Adams, Secretary of Legation, "the silk districts are confined to the principal island, and may be divided into three groups; the northern designated under the general name of Oshiu; the south-western, including those of Echizen, Sodai, Mashita, &c.; and the central, which produces the Mayebashi, Shinshiu and other varieties of hank silks, as well as the silks of the Koshiu and Hachoji." The opening of the ports has considerably increased the growth of mulberry in Japan. There are no statistics as to the internal consumption of silk: the Consul at Kanagawa estimated the total yield at 135,000 bales. In 1862–63 the exports rose to 25,800 bales (or a little over 100 lbs.) This year was exceptional. But the average exports of the four following years were about 15,000 bales. Cocoons and eggs are also largely exported. The following are given as the values, in dollars, of raw silk, cocoons and eggs, respectively, exported in 1868 and 1869:—

	1868.	1869.
Silk......	10,638,041	4,864,990
Cocoons....	123,040	177,805
Eggs......	4,199,138	2,728,500

Europe.—In the middle of the 6th century of the christian era the silk-worm was introduced into Europe. After an unsuccessful attempt to stimulate to competition "his christian allies the Æthiopians of Abyssinia, who had recently acquired the arts of navigation, the spirit of trade and the sea-port of Adulis, still decorated with the trophies of a Grecian conqueror," the emperor Justinian found by a lucky chance the means of gratifying his wish to defeat the monopoly of silk hitherto held by the Persians. This chance was the advent of two Persian monks who had been long resident in China, and who now offered to import the eggs of the silkworm. They were liberally encourged by Justinian, and Gibbon relates how they "again entered China, deceived a jealous people by concealing the eggs of the silk-worm in a hollow cane, and returned in triumph with the spoils of the east." "Under their direction," he continues, "the eggs were hatched at the proper season by the artificial heat of dung; the worms were fed with mulberry leaves; they lived and laboured in a foreign climate; a sufficient number of butterflies was saved to propagate the race, and trees were planted to supply the nourishment of the rising generations. And the Sogdoite ambassadors acknowledged, in the succeeding reign, that the Romans were not inferior to the natives of China in the education of the insect and the manufacture of silk."

Greece.—The industry rapidly took root in Greece, as is apparent from Gibbon's account of the manufactures of Corinth, Thebes and Argos in the 10th century, and silk is still produced in the Morea and in the islands of Cyprus and Crete. But the total out-turn does not seem to exceed 150,000 lbs. per annum, and the silk is of inferior quality.

Spain seems to have been the next country of Europe to see the silk-worm introduced. "The secret," says Gibbon, "had been stolen by the dexterity and diligence of the Arabs, and two cities of Spain, Almeria and Lisbon, were famous for the manufacture, the use, and perhaps the exportation of silk." In 1842 Spain produced about 2,000,000 lbs., of which Valencia yielded three-fifths and Murcia and Grenada each one-fifth. The cocoons are said to be excellent, but the silk, reeled by the peasantry, is irregular.

In Portugal, the silk-worm of the province of Traz-os-Montes alone in Europe escaped the 19th century epizoic. The average annual export of cocoons is 7,500 cwt. The industry is more generally in the hands of small producers than in other parts of Europe. The tree used was the black mulberry, which attains the dimensions of a forest tree; but of late many plants of the best varieties of French and Italian white mulberry had been planted. At the Exhibition at Oporto in 1867 ten provinces competed, and beautiful cocoons and manufactures are said to have been exhibited. A thriving factory had been established and three new reeling machines invented.

In Italy, till the out-break of the 19th century epizoic, the insect seems to have found a most congenial habitat, and sericulture has spread more or less all over the peninsula. The estimates of the total produce of Italian silk vary exceedingly. The report of the Turin Chamber of Commerce for 1870 estimates the out-turn of the preceding season at the value of 77½ millions of francs, representing about 13 million kilos of cocoons. It is not clear whether this is for the whole Italian kingdom; but at any rate it seems to include the northern provinces down to Tuscany, Umbria, and the Marches. Mr. Winkworth in the "Technologist," on the other hand, estimates the yield of Italy at upwards of 100 million pounds of cocoons, or more than three times the estimate of the Turin Chamber of Commerce. The British Trade Journal, too, puts the value of Italian cocoons at 11¼ millions sterling, or between three or four times the value estimated by the Italian authority cited above. By the year 1870 the epizoic disease had made great havoc in Italy, which was then largely dependent on imported seed.

In France, the culture of silk does not seem to have taken any hold till the commencement of the 16th century, when

Francis I. introduced silk-worms from Milan to Lyons, and the rearing of the worm was simultaneously commenced in the valley of the Rhone. This tract still continues the head-quarters of the industry in France, the Cevennes silk bearing the highest reputation. But sericulture had, up to the year 1857, been also much extended towards the north and west. In 1789 France produced 1,000,000 lbs. of raw silk, and in 1853 the out-turn of cocoons reached to 26 million kilos (corresponding to about 5 million English pounds of raw silk.) In 1857, however, the fatal epizoic broke out, and the yield of cocoons had fallen to 13 million kilos in 1867.

In Algeria.—France carried the industry to Algeria, and in 1861 that province produced 4,206 kilos of cocoons. A Government bounty was offered to encourage the pursuit, and about £1,000 paid in rewards in the same year. In 1869 the produce had risen to 22,754 lbs. (English) of cocoons. But the cocoons had carried disease with them.

Great Britain.—The manufacture of silk in England dates from the year 1585, when the sack of Antwerp by the Spaniards drove many Flemish artisans to England. The industry received a further impetus from the revocation of the edict of Nantes, just a century later, when a large body of French weavers crossed the channel and settled themselves in Spitalfields. The manufacture has always been fostered by Government, though not perhaps in the most judicious way, and now consumes some 12 million pounds of raw silk annually. Several efforts have been made to establish the breeding of the silk-worm in the United Kingdom, but none of these efforts have been successful.

United States.—At the end of 1869 it was calculated that there were upward of four million trees in the State, belonging in almost equal proportions to three species, viz., Morus multicaulis, M. alba, and M. moretti. The last is described as like M. alba, but with a purple berry. The worms introduced are also of three species, one annual, the second bivoltine, the third trivoltine. But the first is the species by far most common, and is indeed said to pay better than the others.

New South Wales, South Australia, Victoria, and Queensland have all produced silk, but the possibility of commercial success has not yet been demonstrated. The Ailanthus worm has been bred at Sydney, and both that breed and the Bombyx mori seem to have been tried in Van Diemen's Land so long ago as 1862.

In New Zealand experiments have been made with the Ailanthus worm (Attacus cynthia) and with Japanese (seemingly) trivoltines.

In Madagascar, there is said to be an indigenous silkworm of great size, fed in the open fields on the pigeon-pea (Ambiravatry) and yielding very large cacoons. Little attention, however, is paid to it by the natives. This is probably the silk of which Mr. Consul Pakenham writes:—There is another silk in Madagascar much esteemed on account of its strength, which I am told is collected in a state of floss in the interior, and afterwards treated much the same as cotton." (Compare the carding of the Eria silk in Assam.) Mr. Pakenham states that "the notorious M. deLastelle" imported Bombyx eggs from China, introduced the mulberry and set up a regular establishment at Tamatave, which produced "several thousand pounds" of fine silk. The letter containing these particulars is dated the 11th August 1869.

Bengal.—From 1793 to 1835 the supply of raw silk from Bengal fluctuated within wide limits as will be seen from the following table:—

Year.	Company's Bengal raw silk imported.	Private Bengal raw silk imported, warehoused by the Company.	Total.
	lbs.	lbs.	lbs.
1793	677,988	91,885	769,873
1794	494,487	....	494,487
1795	379,543	12,984	392,527
1796	340,060	21,046	361,106
1797	88,219	....	88,219
1798	352,780	....	352,780
1799	643,803	1,618	645,421
1800	454,600	....	454,600
1801	310,368	....	310,368
1802	78,950	35,794	114,744
1803	336,189	68,904	405,093
1804	415,917	205,793	621,710
1805	460,303	375,601	335,904
1806	235,215	173,308	408,523
1807	225,984	267,601	493,585
1808	325,243	53,225	378,498
1809	116,124	46,623	162,747
1810	373,598	211,120	584,718
1811	258,953	145,803	404,756
1812	558,862	423,565	982,427
1813	831,891	252,459	1,084,350
1814	722,727	114,239	836,966
1815	522,810	279,476	802,286
1816	381,215	398,549	779,764
1817	373,459	128,876	502,335
1818	758,116	420,860	1,160,976
1819	553,105	197,922	751,027
1820	811,875	259,572	1,071,447
1821	817,625	172,838	990,463
1822	845,382	197,235	1,042,617
1823	850,668	310,518	1,161,186
1824	660,012	271,637	931,649
1825	699,230	220,206	919,436
1826	898,388	338,635	1,237,023
1827	926,678	99,361	1,026,039
1828	1,039,623	96,686	1,136,309
1829	1,129,710	258,044	1,387,754
1830	1,096,071	90,092	1,186,163
1831	1,030,280	64,597	1,094,877
1832	750,828	205,625	956,453
1833	698,851	52,129	750,980
1834	757,517	53,124	810,641
1835	721,509	6,026	727,535

Dr. Forbes Watson's "Textile Fabrics of India" includes silk piece-goods, and "loongees" and "sarees" of cotton and silk used conjointly from Surat; embroidery of gold and silver on silk from Sattara; silk piece-goods, from Ahmednuggur; silk piece-goods and silk and cotton "sarees" from Belgaum; silk and cotton "loongees" from Bombay; and silk and cotton "sarees" from Dharwar. Berhampore near Khandesh also manufactures silk, and there are small colonies of weavers at Jinjeerra, Yeola, Tanna and Revdanda (in Colaba.) The establishment of the manufacture at the two last places seems to be due to the Portuguese. The Bombay Chamber of Commerce, writing under date the 28th December 1871, says that there is "no production of silk in any portion of the Bombay Presidency." At any rate there is no export trade. The raw silk used in Bombay manufactures is, according to the same authority, mostly imported from China. Very little Bengal silk is used. The Chamber seems to have overlooked the imports from Mysore. There is a considerable import both of China and Bengal manufactured silks. The China silk imported is chiefly "punjum," a very inferior sort, worth from Re. 1–4 to Re. 1–12 per ℔. A better variety is, however, imported in small quantities, and some fine raw silk is imported from the Persian Gulf, and is in great request at Ahmedabad for fine kinkhobs. The imports of China silk into Bombay seem to be gradually increasing. For the years 1861–62 to 1865–66 they averaged about 1,200,000 ℔s. In 1870–71 they had risen to 2,043,631 ℔s.; the average price also having risen from Rs. 3 to 4. Bombay also imports some Bengal silk by sea; an average of about 100,000 ℔s. was thus annually imported during the five years ending 1870–71. About 300,000 ℔s. of China silk and a small proportion of Bengal silk is re-exported to Kurrachee. The importation of Persian silk seems to have fluctuated greatly. In 1861–62 86,303 ℔s. of this silk were imported into Bombay: in 1865–66 the amount fell suddenly to 23,000 ℔s. and in the following year to 10,000 ℔s. It has now again risen, and in 1870–71, 42,558 ℔s. were imported, valued at Rs. 2,12,449. As in regard to China silk so, here, the price seems to have risen, if the custom house valuation is to be trusted. The recent increase in the quantity imported is somewhat remarkable, as of late the silk crop in Persia has been short. Indeed, Sir H. Rawlinson (in his recent evidence on the Euphrates valley scheme) speaks of "a total failure." This must not, it would seem, be understood literally. There is nothing to show accurately the quantity of silk exported by rail from the Bombay Presidency.

Ahmedabad has long held a prominent place as a silk-manufacturing city. Its kincobs and brocades, though not quite so rich as those of Benares, are much sought after in consequence of their durability and non-fading qualities of their gold tissues. Its mushroos are supposed to be the best in India, and the ordinary silk cloths are also in good demand. But the improvement of machinery in Europe and the extensive traffic in cotton and woollen goods, which flows into this country from England and the Continent, and which places within the reach of the Indian people, cloths at comparatively accommodating prices, have affected it to a considerable extent. But the trade still gives occupation to a very large section of the population of this city, whose means of support depend wholly upon it, and the exports of kincobs, mushroos and other silk goods maintain even now a very fair position. Bombay, Kattywar, Rajpootana, Central India, Nagpore territory and the Nizam's dominions are among the provinces where these goods find a sale. The various processes in their manufacture, from the assorting of silk to the last touches of finish, are all conducted in the city itself. Raw silk is imported from China, Bengal, Bussora, and Bokhara *viâ* Bombay, and the quantity brought averages about 2,500 Indian maunds, the value of which may be estimated at Rs. 15,00,000. The imports of Bokhara silk are of recent origin; it was first brought three or four years ago, and the quantity imported is small. The silk is ready spun, and is used only for woof in a loom. Of China silk the consumption is large, and both descriptions are imported—white and yellow. The hanks or skeins are first reeled off on a circular bamboo frame, and the thread is then assorted according to quality. It is well known that the entire length of a hank is not of one uniform fineness. The assorting is made with particular reference to the degree of fineness or coarseness of thread, and the process, which is carried on also by reeling (a separate reel being assigned for each quality,) depends entirely upon the feel or touch of the silk on the finger of the person manipulating it. A hank is divided into five different sorts—

1. Tumbolia,	3. Takra,	5. Koree,
2. Serika,	4. Wana,	

and the value of the silk varies from Rs. 24 per Indian seer for the superior sort to Rs. 19 or 20 for the inferior description. Nos. 1 and 3 are used almost invariably for the woof, while No. 4 supplies the warp, and No. 5 is sold to the Putwas who make cords, tassels, &c., of it. When cloths of a superior texture have to be turned out, both the woof and warp are taken from Nos. 1 to 3. The best Bussora silk is valued at Rs. 18 or 19 per Indian seer. It

comes in a raw state, and does not yield any Tumbolia. The Bengal silk stands in the same estimation as the Bussora, and commands the same value. Two descriptions are imported, viz., Radhanugree, which yields chiefly Tumbolia and Jadee or coarse-yielding Takra and Wana. A new trade has sprung up very lately in Siam silk, which is known here as Singaporee, from the fact of its coming from Singapore. It is very inferior in quality, and sells at Rs. 8 to 6 per Indian seer. It is used for warp in coarse manufactures. Manufactures in silk are carried on also at Baroda and Surat, though not to the extent obtaining in Ahmedabad. If silk were raised in Guzerat it is impossible to say to what extent the trade in the articles manufactured from it might not be developed from the impetus it would receive from a reduction in the prices of the raw material, not to speak of the means of livelihood the industry would give to hundreds of people who now fritter away their time in idleness and have no fixed occupation of any kind; and if the produce were large enough we might also have an export trade in the raw material itself to the positive benefit of the province.

Mooltan, in 1851, according to Mr. Cope, imported 370 maunds of Bokhara silk, the manufacture of which, minus 100 maunds re-exported, gave work to 811 persons. Mooltan also imported 60 maunds from Bombay. Lieutenant Corbyn, Assistant Commissioner, ascertained that about 300 packages of 1st, 2nd, and 3rd quality raw silk, weighing in all 750 maunds, the price of which averages Rs. 3,75,000, are imported annually into Mooltan from Kabul, Bokhara, Khorasan and Herat. Of this, 225 maunds, worth Rs. 1,12,500, are exported to the following places, viz., Bhawulpore, Kurrachee, Bombay, Dera Ghazee Khan, Shikarpore, Sukkur, Hyderabad, Suratbundur, Delhi, Furruckabad, Bikaneer, Sirsa, Ajmere, Benares, Lahore, and Umritsur, &c.; 225 maunds of cleaned silk, after being dyed various colours, valued at Rs. 1,12,500, are also exported to Jung, Kurrachee, Pindibhuttian, Chiniot, Bunnoo, Dera Ghazi Khan, Dera Ismail Khan, Leia, and Sukkur. The remaining 300 maunds of silk at Rs. 1,50,000, after undergoing the process of cleaning, are applied in the manufacture of dopatta, daryai, gulbadan, susi, mashree, and lunghi fabrics, which are partly used there and partly exported to Shikarpore, Hyderabad, Sukkur, Kurrachee, Dera Ghazi Khan, Dera Ismail Khan, Leia, Jhung, Chiniot, Kamaliya, Lahore, and Umritsur. The approximate cost of dyeing, per seer of silk is

	RS.A.		RS.A.
Kirmji, crimson...	2 0	Zard, yellow.... ...	1 0
Sabz, green.........	1 0	Gul-i-anar, scarlet	0 8
Siyah, black........	1 0	Safed, white..... ...	0 6

Panjab.—The silks generally manufactured in the Punjab are classed by Mr. Cope under two heads: (1) "gulbadan," very stout and mostly broad and of high price; (2) "daryai," of a lighter texture and to be had both plain and shot. Mooltan also produced two other kinds, viz., "khes" and "eklal," both very broad and much higher priced than anything made in Lahore. From Lahore come "loongees" of cotton with silk ends or borders, or silk and cotton mixed; rich "loongees" all silk, and piece-goods of pure silk or mixed cotton and silk. Kohat, Leia, and Pind Dadun Khan produce "loongees" in which silk and cotton are used in conjunction; Dera Ismail Khan sends all silk piece-goods; Jhelum "loongees," either all silk, or silk and cotton; Bhawulpore contributes rich silk "loongees" and silk piece-goods; Goordaspore and Rawul Pindee also appear among the silk-weaving districts, sending silk "loongees." "Rutul Mudpore" (sic) is also mentioned as a Punjab silk centre. Bunnoo is said to produce mixed cotton and silk loongees.

Central Asia.—With regard to Bokhara, Mr. Cope gives the following account by Khanikoff:

Among the fruit-trees cultivated with great care, although not grown in orchards, is the mulberry tree of two sorts:—

(1) The donedar, which is properly the Bokharian mulberry; and

(2) The tut-i-balkhi, translated from Balkh.

The grafting of the one on the other gives a third sort called khaseki, the fruit of which is sweeter and more savoury than that from the former. The tut tree blossoms usually ten days after the vernal equinox, but the year we were at Bokhara it happened at the close of that month. The fruit of the tut is used in two ways, to make syrup and wine.

The value of raw and waste silk free of duty, imported from the Khanates, is for eleven years as follows:—

Year.	Value in roubles.	Year.	Value in roubles.
1857	.. 75,643	1863	.. 51,779
1858	.. 68,901	1864	.. 45,699
1859	.. 93,520	1865	.. 35,534
1860	.. 82,053	1866	.. 146,209
1861	.. 149,969	1867	.. 1,273,088
1862	.. 156,148		

Of the imports in 1867, Captain Kostenko gives the following further particulars. The weight of raw silk imported was 7,822 poods, the sources of which were as follows:—

Kirghiz steppe..	23	Bokhara.....	6,566
Khiva........	336	Tashkend.....	2,887

Silk fabrics also to the value of 48,818 roubles were imported into Orenburg, Orsk, and Troitsk. The value of manufactured silk exported from Russia to the Khanates was:—

Year.	Value in roubles.	Year.	Value in roubles.
1857 ..	17,338	1863 ..	58,358
1858 ..	32,209	1864 ..	72,267
1859 ..	54,332	1865 ..	33,076
1860 ..	45,381	1866 ..	71,011
1861 ..	40,103	1867 ..	98,138
1862 ..	50,494		

Of the exports of 1867, 45,246 roubles worth was destined for the Kirghiz steppe, while the value of exports to Khiva was 3,850 roubles.
„ „ to Bokhara „ 10,902 „
„ „ to Tashkend „ 38,410 „

In 1867, moreover, 24 poods of raw silk, valued at 236 roubles, were exported to the steppe. The route of export was by way either of Orenburgh or Petropavlovsk.

Mysore has always produced a little silk. In the Bangalore District, in 1859–60, the yield of raw silk was estimated at 350,928 lbs. In 1866, Signor deVecchj described the native reeled silk as the worst he had ever seen, the thread being bad in colour, "irregular, flat, knotted and dirty," and worth in Europe not more than 13 or 14 shillings per lb. For the fourth time, in January 1870, a large quantity of newly imported Japanese cartoons was distributed in the Bangalore, Toomkoor and Kolar districts. The first results were favorable, and the demand for eggs was very large, but the worms did not seem to thrive in the second generation, and the foreign species became extinct. Again, in February 1871, 500 Japanese cartoons were distributed gratuitously; but proved a complete failure. In the Bangalore and Kolar districts a small number only of the eggs were hatched, and even in these cases the worms died within a few days. The symptoms preceding death appear to have been similar everywhere: the worms assumed a reddish colour, their heads became enlarged, and a greenish fluid exuded from the mouth. Colonel Meade is disposed to attribute the failure to the climate of Mysore, to which the cartoons were brought direct from Japan, without undergoing any preparation for so marked a change, and he is of opinion that no advantage would arise from continuing the experiments with that species of worm. On the other hand, the China species has successfully established itself, having been cultivated in the province for very many years, and though deteriorated by close breeding, it is possible that the cause of the sickness and mortality to which it is now subject, and which threatens to extinguish the industry, may be removed by importing fresh seed from the south of China, the climate of which approaches more nearly than Japan to that of this plateau. The Mysore Administration Report for 1870–71 states that 31 per cent. of the cultivated land was under mulberry, and the value of the silk produced in the province is estimated at 5½ lakhs of rupees. The Nundidroog division was said to have exported 4,610 maunds (Madras maunds probably.)

In the Central Provinces, silk is manufactured from the imported raw silk of the domesticated worm, but more largely from the indigenous tusser worm at Raipore, Bilaspore, Sumbulpur, the Upper Godavery, Chanda, Bhandara, Nagpore, Balaghat, Seonee, Chundwara, Baitool and Narsingapore. Sumbulpore is said to yield 3,500 seers of silk, Raipore 6,000, Bilaspore 900, and Chanda 22,500. The quantity used is very considerable, but varies greatly from year to year, the collection and rearing of the worms being pursued not steadily, but as an accessory to other employments. The tusser silk is, for the most part, woven up and used in the province. It seems to be chiefly employed for fringes, or for weaving with cotton into mixed fabrics, the woof being cotton and the warp silk; cloth all of tusser silk is rarely manufactured; in Seonee, according to Captain Brooke, only on the order of European residents. But, at any rate, in some districts, muktas (garments worn by brahmans after bathing,) cholees (women's bodices,) and doputtas and dorwas, seem to be made of pure tusser silk.

The Tusser is the most important and most widely distributed of the wild silk-producers of India. It is generally identified with Antheræa paphia, but Captain Hutton has shown that there are probably several species called under the name of tusser. At any rate the insect known by this name is found in the Sub-Himalayan tracts almost throughout the extent of the range, through the hills from Assam to Chittagong, in the Soonderbuns, everywhere in the great belt of hill and forest inhabited by the Sontal, the Kol, the Khond, and the Gond, in the western ghâts, and in portions of the Madras Presidency. The worm is multivoltine, but it is not very clear how many times in the year it goes through its transformations, or whether its periods of existence may not vary according to conditions of climate. But, on the whole, it seems probable that the apparent discrepancy in this respect between various accounts arises from the fact that in different tracts different crops are gathered, the intermediate ones being neglected and the worm left to shift for itself. It feeds variously on the ber (Zizyphus jujuba) the country almond (Terminalia catappa), the seemul (Bombax heptaphyllum), the asun (Terminalia alata), the saj (T. tomentosa), the sal (Shorea robusta) and other trees. Mr. Fretwell, in his paper on silk in Mysore, mentions a wild worm spinning large cocoons found in the jungles of Coorg and feeding on the Ficus elastica, Ficus religiosa and Isonandra acuminata. If this be a

tusser, it furnishes here an important addition to the list of trees on which the tusser insects feed. Dr. Henderson of Shahpoor also mentions a wild worm as occurring in the Panjab Salt Range and feeding on the camel-thorn. This moth is noticed by the Bengal Board of Trade in a Minute of 1819. It is said to be reared in all the western forests from Ramghur to Midnapore, the gootee or cocoon being of three qualities, "mooga, teerah, and bonbunda." The mooga is the "most common and plentiful; the thread coarse, but winds easily:" the teerah is a "smaller goottee, said to be the male of the mooga;" the thread is finer, but not so easily wound; the bonbunda is the "largest of the wild silk-worms; being found in forests in its natural state" (as the name indicates), "and not stinted in its food, it attains a greater size than the mooga, which appears to be the only difference between them; but it is scarce. Thread coarser, but runs easily." These three kinds are bred in September. The mode of rearing is thus described: "The seed is purchased from the jungle people, and plots in the forest appropriated, where the ashun, sal, and sejah trees predominate, especially the first, which is the best food for the worm. * * * In all Baudoon (August—September) the grub eats out, and is immediately placed on the trees. * * * When eggs are produced on the leaves, they are carefully folded into a kind of cup, and gently rubbed with turmeric. In a few days the young worms appear, and are removed to the trees in which they are to remain. The rearers keep guard with pellet-bows. * * * About the beginning of Assin (middle of September) the worms begin to spin, and by the end of that month the gootee is finished." The grubs are killed with boiling water. "The rearers have advances from the pykars in money, rice, salt, cloth, and other commodities. After the collection the price is settled, and the advances adjusted accordingly. The rearers are of no particular caste, but a superstition exists amongst them that one of the party should keep neeaum (a ceremony which enjoins daily ablutions and restrictions as to particular food, &c.) for the success of their operations."

According to Dr. Walker, the tusser breeders of Hyderabad in the Dekhan, and Chinnore, at Chilpoor, Madapoor, are mostly Telugus of low caste, or Gonds. As the rains commence they collect a few cocoons which their experience teaches them to be females, and place them in a box of teak leaves dried. When the moths eat out the males speedily approach; the eggs number about 60, and are hatched in 10 days. The small worms are fed on Careya sphærica, and in six weeks begin to spin. The first crop of cocoons is preserved for seed, and the same process gone through, except that the second brood is fed on Pentaptera tomentosa. The cocoons yielded by this brood are sold, the moth being killed by heat and the winding being "accomplished by boiling the cocoons and twisting 8 or 10 filaments from as many cocoons on the middle of the thigh with the left-hand to be wound on a rude reel." Dr. Smith's account, obtained from the talookdar of Wurrangul, differs somewhat from the above. According to his account, the trees on which the worms are fed are Terminalia alata and Zizyphus jujuba; the male and female have generally to be approximated (a task requiring absolute ceremonial purity on the part of the person performing it;) the number of eggs is much larger than given by Dr. Walker, and three broods are reared in the year. The wild cocoons too are said to be gathered in the mowah season, not in the rains. A mixture of "dhobee's earth" with alkaline ashes of the sesamum, castor oil plant, or Butea frondosa is said to be used for boiling the cocoons.

Dr. Shortt of Madras, who observed the insect in the jungles west of Orissa, describes the eggs as of the size of a split peppercorn; nine of them in line occupy the space of one inch in length. They are circular and bi-convex, with a light creamy colour. The worm is very small, scarcely perceptible when first hatched, but before it attains maturity it is from 3 to 4 inches long and from two to three lines in girth (? diameter.) The larva is of a light green colour with a slightly yellowish streak on either side, the 6th and 7th segments are marked with an oblong yellow spot, and on the back are several round darker-coloured spots surmounted with a few dark coarse hairs, while smaller ones are scattered all over the body. The larva is chiefly found on the bher or Zizyphus jujuba, asan or Pentaptera tomentosa, and the teak or Tectona grandis. The larva when ready to undergo transformation forms a cord round a twig from a peculiar resinous substance it secretes, and with which it also encircles the selected part of the branch and then prolongs it to the extent of one or two inches. If the branch be thick, the cord is short and stout and about a line in girth, but if it be a twig, the cord is thin, from 3 to 4 inches long and fastened to an upper and thicker branch and prolonged to the end of the twig with several intermediate ties of the same material. From the end of the cord, which is solid, begins the expansion of the cocoons which is reticulated with fine fibres of the same stuff as the cord is made of, on the outer surface, thus giving firmness and solidity to the cocoon, and as it approaches completion, a few of the leaves in the vicinity are drawn to line and conceal the cocoon externally, and thus to a certain extent mask it

from observation; but this occurs only on the bher tree, for he had seen no such leaves attached to the cocoons found on other trees where the foliage is large and dense. The larva now imprisons itself within the cocoon, and the same secretion that forms the cord is freely applied to all parts to make it water-tight. Having done this, the transformation commences, and lasts nine months (?) before the moth is perfected, having its head at the upper part next to the cord, from whence it appears to discharge an acid secretion which readily dissolves the plastering from the cocoon, and the fibres of the silk giving way, the perfected moth emerges from its prison, as a rule, early in the morning about daybreak. That the secretion is an acid can be readily ascertained by examining an empty cocoon immediately after the moth has emerged; as the part being moist, it can be readily tested with litmus, when it is seen to give an acid re-action. This knowledge Dr. Shortt practically applied by adding diluted sulphuric acid in the water in which the cocoons are boiled to dissolve the gummy substance out and loosen the thread, and it can then be readily wound off on a hand-reel The male and female moths differ in size, the male measuring from the tip of one wing to the other between four and five inches, whilst the female measures from six to seven inches in expanse of wing; both are of a uniform yellowish brown having a couple of lunated transparent talc-like spots, on each wing, said by the natives to resemble Vishnu's "chakra" or discus, whence the sacredness of the insect, and it is chiefly in the form of these spots that they differ from other moths of the same kind. It takes from 10 to 12 days for the eggs to hatch, and from 6 to 7 weeks from the extrusion of the young larva to the completion of the cocoon. The cocoon is slightly rough, of a greyish white colour and slightly reticulated externally with an internal smooth varnished surface; is of an oval form, measuring one and a half inches in length and one inch in breadth; the average weight with the chrysalis is 150 grains, that of the chrysalis itself 130 grains, the empty cocoon 20 grains, and the prepared thread 12 grains. But the cocoons vary much in size.

In the northern half of the district, the Dheemuru fishermen is the principal caste engaged in rearing the tusser moth,—as a rule, they add the production of tusser cocoons to their ordinary calling, but in the jungles of the central and southern parts, the Kumhar (manufacturers of earthern vessels), Bussore (bamboo-mat weavers), and a few mahommedans are also engaged in the trade. In Seonee, the silk-producing worms may be said to be in a state of partial domestication, the rearers tending the insects through all their stages, but depending entirely on the wild cocoons for each year's stock. In the months of May and June, wood-cutters and graziers find the wild cocoons on the saj (pentaptera tomentosa), lendeya (lagerstrœmia parviflora), and dhowra (conocarpus latifolia). These they collect and sell to the rearers at the rate of 4 cowries for a small, and 8 or 10 cowries for each large cocoon; the small cocoons nearly always yield male moths, the larger female; the rule, however, is not without exception, although it generally holds good. These wild cocoons, from which the stock of the rearers is invariably replenished, are called in the north of the district, where a pure Hindi dialect is spoken, "ariya," and in the south bordering on the Nagpur province "ranwat." When the moths, "phudi," have cut their way through the cocoons, the males, "gaura," and females "kir," are placed together and allowed to remain so far nine or ten hours; they are then separated, and the wings of the female broken off; accepting this process as a hint that she is not to leave the place, she begins at once to deposit her ova, the larger and healthier insects continuing to lay about 12 hours. The eggs are then tied up in pieces of cloth and carefully opened on the same day in the ensuing week. The rearers have new little sacks made from one or two leaves of the tendoo (diospyros melanoxylon), which are apparently chosen for their toughness. In each of these packets, as soon as the worms begin to appear, which happens usually on the ninth day, from 50 to 100 eggs are placed, and the tendoo leaf sacks are then fastened to lendeya trees, upon the leaves of which the insects begin at once to feed. In a few days they are removed to saj trees, and are changed about according as they require fresh food. When the worms show signs of beginning to spin, they are known as "dunihaa." Some rearers at this time remove them from the saj to kowha trees (pentaptera arjuna), but this is not common; the bulk of the cocoons produced are spun on the saj. During the feeding time the greatest care is necessary to preserve the worms from being destroyed by birds and ants. The outer covering of the cocoon, consisting of inferior silk removed by the Koshta before spinning of the true tusser, is not lost, but sold to another class of weavers called Patwa. The silk bracelets and armlets worn by all classes among the hindoos, in the month of Sawan at the feast of "rakhi bundun," are made from this refuse. Its value, however, is very small, being sold for one rupee per seer. In Upper Assam the tusser is not utilized as a fibre-producer. It is known as the kutkuri. In the Punjab the cocoons, from their extreme toughness, are cut into strips, and used to bind the

stocks of matchlocks. In Bombay and Madras, though found, the tusser does not seem to be utilized, except, perhaps, in the jungles of Ganjam. M. Perottet, of Pondicherry, says it is generally found on the Terminalia catappa, (best cocoons) 50 weighed 'one French pound.' Syzygium jambolanum, Zizyphus jujuba, less frequently on Pentaptera coriacea.

These cocoons are exceedingly rich in silk; they reel by means of an alkali, or any other solvent, with great facility, and to the very end. The silk they produce is very elastic, and of singular brilliancy.

At the *Madras Exhibition*, of 1855, tusser cocoons were exhibited from several localities. They were formed by caterpillars of several species of moth, belonging to the genus Saturnia. That which is most commonly met with in Southern India appears to be S. paphia. The caterpillar feeds on the leaves of the country almond tree (Terminalia catappa), whence it is often called the almond moth. It is also found on the leaves of the ber tree, Zizyphus jujuba, the casuarina, &c. The cocoons are ingeniously attached to the twiggy branches of the ber by a long stalk, terminating in a ring, encircling the branch. In the thicker foliage of the casuarina the silk is woven among the leaves without the above provision. It has not been obtained in any quantity from this source in the Madras Presidency. Considerable quantities of the small silk cloth worn by the brahmins at their meals are imported into the Northern Circars from Cuttack. The only use to which the cocoons appear to be turned is that of a ligature for native matchlocks. They are cut spirally into long narrow bands, with which the barrels are tied to the stock.

In Assam, the moonga and eria worms are said by Colonel Agnew to be chiefly bred by low caste Hindoos, Mikirs, and Cacharees; whereas the pat or Bombyx textor is bred by the joogee caste. Colonel Agnew (writing in 1869) puts the price of the eria silk at from Rs. 2 to 3 the seer. The Attacus cynthia closely resembles and is nearly allied to the Attacus ricini; indeed, some naturalists hold the Attacus ricini to be only a domesticated form of the latter. However, the wild Attacus cynthia occurs throughout the greater part of the Himalaya, in the Dehra Doon, and in Assam and Cachar. It feeds on the Xanthoxylon hostile, the Coriaria nipalensis and some other indigenous shrubs, and will eat the castor-oil plant. In China, and in Europe, whither the worm has been transported from China, it is fed on Ailanthus glandulosa, and Dr. Bonavia, in an unsuccessful attempt to introduce it into Oudh, fed it on A. excelsa. In the wild state it is annual. Captain Hutton thinks by patience it might be domesticated. He has crossed it with Attacus ricini. The cocoons are wrapped into a leaf, and present the same difficulty in reeling as the eria cocoons. The silk is at first glossy white and changes to dull sandy brown or grey. The Attacus cynthia or Ailanthus worm was introduced into Europe in 1857 and tried in Piedmont, France, and Algiers. In 1860, M. Guerin-Meneville believed that he had proved that it could be profitably grown in the open air in the north of France, yielding two crops annually. From examination of the Chinese-made fabrics, he maintains that the thread must have been in some cases wound.

The Attacus atlas, the largest of the group in India, is found at Mussoorie, and is abundant in Kumaon and eastwards to Cachar. At Mussoorie it is found on the Falconeria insignis, Bradleia ovata and other plants; in Kumaon on the barberry. The silk is difficult to reel, though it yields partially if boiled in vinegar. The silk is said by Captain Hutton to be "decidedly good."

The Antheræa perotteti was found by M. Perottet of Pondicherry on the Odina wodier, *Roxb.*, and he could not make it eat anything else. The silk is reported strong, wiry, and brilliant, but had to be carded. The worm breeds in captivity, undergoes four moults, and yields four crops in the year. The chrysalis of the fourth generation remains in cocoon till the tree it feeds on (which is deciduous) is again in leaf.

Antheræa roylei is found at Darjeeling and in the Himalayas from Kumaon to the Punjab, feeding on Quercus incana. It is properly an annual, but can be made to yield two or three crops. Its silk is favorably spoken of, but not abundant. The true cocoon is contained in a large closely-woven glazed case and enveloped on all sides by the leaves of the tree, the impression of the nervures being deeply imprinted on the glazed surface. It is like the tusser moth, but smaller. It can be domesticated.

The Bombyx huttoni, a bivoltine, feeds on the wild mulberry and ranges westward in the Himalaya from Kumaon. The B. bengalensis found near Calcutta on the Artocarpus lacoocha, is apparently rare. Another species of Bombyx resembling the B. huttoni was found in Ranchee, Chota Nagpore, also feeding on the Artocarpus lacoocha. The Bombyx religiosa is found in Assam upon the pipal (Ficus religiosa.) Dr. Helfer identified this with Mr. Hugon's Deo-moonga found on the Ficus indica, and described as spinning a small cocoon, active, under 2½ inches long, slender, reddish in colour and glazed, the moth resembling the mulberry

moth. The silk was declared a delicate white thread. Mr. Creighton of Maldah in 1839 mentions a wild cocoon on the mango tree; the silk was used to mix with that of the arindy worm. Mr. Hugon also mentions a worm called "haumpottonee." It forms an imperfect cocoon, feeds on "most leaves," is said to go through the same stages as other silk-worms, is two inches long, brown and covered with hair. The moth is of the same colour as the moonga, but only half the size. The cocoon is of a transparent yellow, with an opening at one end. The silk is capable of being spun like eria silk, but not used, because it excites severe itching. This is identified by Mr. Moore with the Circula trifenestrata which Captain Haughton found also at Moulmein feeding on the cashew-nut tree (Anacardium orientale.) Other species are Antheræa frithii, Saturnia sylhetica, Actias selene, Attacus edwardsi, and some kinds of Ocinara; but their value as silk-yielders is unknown.

Bombyx mori, Lin., is the largest of the domesticated Chinese bombyces, originally from China, about North latitude 32° to 34°, also in Japan. It has been cultivated in Europe, especially in France and Italy, as well as in Syria, Egypt, Persia, Bokhara, Affghanistan, Cashmere, in one or two localities of the Northern Punjab near the hills, and thrives well at Mussoorie, everywhere feeding upon various species of mulberry and everywhere an annual only except at Mussoorie, where Captain Hutton obtains two crops. This is the worm that lately failed in France after centuries of domestication. This species has been introduced into Australia, where it is said to thrive well. The best silk of all is produced by this species, and readily sells with good reeling, at 25 shillings per lb. When in health, the silk is golden yellow.

Bombyx textor, Hutton, is cultivated sparingly in several parts of India, but its constitution is thoroughly worn-out, and it ought to be sent to a hill climate. At Mussoorie it thrives well, and although like the last, an annual everywhere else, here it yields a second or autumnal crop also. It was originally brought from China, near Nankin, in North latitude 32°, but is fast fading away from Bengal. It is cultivated in France and Italy and in China, as well as in Bengal, and in those countries generally produces a pure white silk. This species is often termed the Milanese or Italian stock, and in Bengal is known as the Burra pooloo, because its cocoon is larger than those of the so-called desee worms or polyvoltines. It is cultivated in Assam, and, according to Dr. Royle, is there and elsewhere called "Pat major," although it is invariably confounded with B. mori, than which it is at least an inch smaller, though in other respects closely resembling it. The cocoons are of a different texture, with more floss. The silk varies in price from 18 to 22 shillings per lb.

Bombyx cræsi, Hutton, is the largest of the monthly worms, in Bengal it passes under the native name of the Madrassee or Nistry, and is as usual confounded by Europeans with B. mori, although the one passes as an annual, and the other as a monthly worm. The silk is good, of a golden yellow, and the worms thrive best in a temperate climate; in Assam according to Royle it is known as "Pat minor." This species is cultivated in several parts of India and thrives well at Mussoorie.

Bombyx fortunatus, Hutton, is known to the Bengalees as the desee worm, and like the others is dignified by Europeans with the name of B. mori. Silk—golden yellow, distributed over Bengal and other parts of Southern India. A sure mark of distinction between the worm of this species and that of any of the others exists in the fact that when near maturity, it becomes of a dull leaden blue colour. This species thrives best in the cold weather. It is very small, but yields a good cocoon, although the returns of silk are said to be uncertain; there are no dark worms observable among them.

Bombyx sinensis, Hutton, is known as the "Sina" of Bengal, but, like the others, it originally came from China; it is very prolific, and even at Mussoorie goes on yielding crop after crop, up to the middle of December. The cocoons vary in colour, some being white and others yellow, while others even have a beautiful faint greenish hue; all the other species hatch slowly during the morning, from six to twelve o'clock, the Sina worms come forth all in a batch, or continue hatching all day and all night.

Bombyx arracanensis, Hutton. This, Captain Hutton has only once been able to procure and the worms died off soon after hatching. The cocoon is said to be larger than those of the Bengal monthlies.

Bombyx huttoni, Westwood, the Theophila huttoni, is a wild mountain species, feeding on the indigenous mulberry of Simla, Mussoorie and Almorah. Captain Hutton first discovered it at Simla in 1837, and afterwards in great abundance at Mussoorie. In some years they swarm to such an extent, that by the end of May, the worms of the first, or spring brood, have thoroughly denuded even large forest trees, not leaving a single leaf. In this predicament they quit the tree in search of another which they generally find near at hand, and which is then soon thickly covered with cocoons spun in the leaves; but if, unfortunately, they fail to find a

tree at hand, the whole brood perishes, the most forward worms spinning cocoons among shrubs and grass. The trees thus denuded instead of dying are in another month once more in full leaf, as if nothing had happened. It is a strong and hardy species, yielding a beautiful, soft, whitish silk, and although the worm is too intractable and wandering to be treated in the usual manner in the house, yet he thinks it might be turned to good account by collecting the cocoons from the trees, as was evidently done in the outset by the Chinese with respect to Bombyx mori.

Bombyx (Theophila) *bengalensis*, Hutton, of Chota-Nagpore, feeds on the Artocarpus lacoocha.

B. affinis, Hutton, of Chota-Nagpore, the eggs of B. huttoni are pale straw colour, glued to the trunk or branches of the tree, and quite naked, whereas those of B. affinis are of an orange colour and covered with dark hair. This renders it difficult to detect them on the bark, and the covering is probably used as a non-conductor of heat. The silk resembles that of B. huttoni, and is equally good, although from the smaller size of the cocoons there is less of it.

Bombyx (Theophila) *sherwilli*, Moore, larva is unknown.

Bombyx (Ocinara) *religiosæ*, Helfer.

Ocinara lida, Moore, is found at Mussoorie where it feeds upon the leaves of Ficus venosa, the larva being very like that of a geometra, and spinning a small white cocoon on the leaf or against a stone beneath the tree. It is too small to be serviceable. It is a multivoltine. It feeds on the wild fig also.

Ocinara lactea, Hutton, also occurs at Mussoorie, feeding on Ficus venosa and spins a curious little cocoon of a yellow colour, within the leaf; over the cocoon is laid a net-work of yellow silk, too small to be of use. It has several broods during the summer. The larva is smooth, whereas that of the preceding is hairy.

Ocinara comma, Hutton, moth is white, with a dark comma-shaped mark on the disc of the upper wings; hence the name. It occurs both in the Doon and at about 5,500 feet of elevation below Mussoorie.

Trilocha varians, Moore, is a small species found in Canara and Calcutta. As a silk yielder, it is of no value.

Cricula trifenestrata, a handsome and curious species is found in various parts of India, sometimes in such numbers in the larva state as to become a perfectly destructive pest; it denudes the mango trees of every leaf, destroys the foliage of the cashew-nut, and is even said to attack the tea plants. It occurs in Burmah, Assam, Moulmein, and Chota Nagpore in Central India. The cocoons are formed in clusters, more closely woven and scarcely reticulated at all. This will never prove productive as a silk yielder, unless the cocoons can be reduced to a gummy pulp, and used for some other purposes.

Antheræa paphia, Linn., a handsome species, is distributed all over India from Burmah to Bombay; but there are in this wide range several distinct species included under the name. To separate these effectually must be the work of time, and until it is done, there can no really good Tusseh silk be produced. That several of these species are capable of producing a very valuable article of commerce is an undoubted fact, and from its cheapness and durability it would be a boon to that class of the British population which cannot afford to indulge in expensive silks. Tusseh silk is compounded by the natives by the mixture of the silks of three, if not four, distinct species whose fibres are of different thickness. The silk of any one uncrossed species if reeled as carefully as is done with the produce of the Chinese bombyces, the product would be good. At present the native method is this: At the season when the cocoons have been formed, the jungles swarm with them, and men sally forth to pluck them from the trees. These jungles, however, contain several distinct species, a thing of which the natives are profoundly ignorant; these cocoons are all promiscuously huddled together, placed in hackeries or carts and carted off to the dealers. They are then sorted according to size, thickness, colour, &c., and named accordingly as a kind of trade-mark, but without any reference to species. The cocoons selected for reeling are treated in the roughest manner and all kinds spun off together; those that are kept for breeding are allowed to eat out of the cocoon, as it is termed, and to interbreed, still without reference to species; and as this has been going on from time immemorial, of course the species have become blended into a most confusing cross-breed. Hence it results that if a dozen cocoons are taken at random, no two moths will probably resemble each other.

Antheræa nebulosa, Hutton, is one of the species that has been crossed upon A. paphia, and it seems to be not uncommon throughout Central India. It is a well-marked species, and specimens have been sent to England.

Antheræa pernyi, Guer. Men., was discovered in Mantchouria to the north of China, where it feeds on the oak.

Antheræa yamamai, Guer. Men., is a Japan species and is well thought of both in England and in France, where great efforts have been made to introduce it, but as yet with very indifferent success.

Antheræa assama, is the Mooga or Moongah worm of Assam which produces a very excellent silk, which, if well reeled by skilful hands, instead of being carded, would be extremely valuable. Captain Hutton found this species in the Dehra Doon feeding upon a tree known to the natives as "Kirkee."

Antheræa perotteti, Guer. Men., is said to occur at Pondicherry.

Antheræa helferi, is found at Darjeeling, the cocoon resembling that of the common Tusseh.

Antheræa frithi, is anotherDarjeeling species.

Antheræa royle, Moore, is common at Simla, Mussoorie, Almorah, and, Capt. Hutton thinks, Darjeeling. It feeds upon the common hill oak, spinning a large but thin cocoon between three or four leaves. The outer coating is very strong, and Captain Hutton does not think it could be reeled; but within this case is the true cocoon, of an oval form and yielding a good silk. The worms are easily reared, and sometimes when treated in the house, give two or three crops.

Attacus atlas, Linn., is the largest of the real silk spinners, is common at 5,500 feet at Mussoorie and in the Dehra Doon; it is found also in some of the deep warm glens of the outer hills. It is also common at Almorah where the larva feeds almost exclusively upon the "Kilmorah" bush or Berberis asiatica; while at Mussoorie it will not touch that plant but feeds exclusively upon the large milky leaves of Falconeria insignis. The worm is perhaps more easily reared than any other of the wild Bombycidæ, producing a very large and well-stuffed cocoon of a grey colour and somewhat difficult to unwind; a strong ley of potash appears to be the best solvent. The species is also abundant in Cachar, Sylhet, and is found also at Akyab, in Arracan as well as in China.

Attacus edwardsi was discovered at Darjeeling, and is much darker in colour than the other, and rather smaller in size, but nothing seems to be known of its food and silk.

Attacus cynthia, abundant at Mussoorie, feeding on various wild plants; common in China where it feeds on Ailanthus glandulosa; found in Assam, Cachar, Saugor. It is commonly reported to be under cultivation in different places, yet such is not the case, the Attacus ricini being in India invariably mistaken for it. Indeed, until a few years ago, when Captain Hutton pointed out the fact, Attacus cynthia was not known to occur in India, the other species passing under that name, as the silkworms did under that of B. mori. Attacus cynthia has been imported into France and England and reared out in the open air on trees of Ailanthus glandulosa; it has likewise succeeded to some extent in Australia, and it is believed they have it also at the Cape of Good Hope. There are difficulties attending the reeling of the silk as there is with all the Attaci, but nevertheless the French have succeeded in turning out some very good silk pieces. In England it is not quite so highly thought of as it once was. In Australia Mr. C. Brady has produced silk from it.

Attacus ricini produces the silk known to the natives as the Arrindy silk; it is easily reared and feeds on the castor oil plant Ricinus communis. The silk is obtained by carding. The chief places of cultivation are Assam, Rungpore, and Dinagepore, in Eastern Bengal, not at Dinapore, as stated in one of Dr. Bennett's Reports. It is also cultivated in smaller quantities in other places. The Mekir to the eastward possess a very fine kind with white silk. Attacus ricini thrives well at Mussoorie, and has been introduced into France, Algeria, Malta, and other places.

Attacus guerini, Moore, is known only from a few specimens of the moth in some museum in England, and Captain Hutton regards it as no more than an ill-fed specimen of A. ricini. He failed to procure it from any part of the country, though he had seen an approach to it in his own trays in ill-fed specimens of the former. This under-feeding, or semi-starvation, was found well exemplified in some very Lilliputian specimens of Actias selene, received from a gentleman who reared it at Serampore, near Calcutta, where he only supplied the worms with food twice a day; the moths are only a quarter of the natural size.

Actias selene, very common in a wild state at Mussoorie, where it feeds on the wild cherry, wild pear, walnut, cedrela paniculata, coriaria nipalensis, and several other forest trees and shrubs. It occurs also at Almorah, Darjeeling, Assam, Cachar, Saugor, and at Serampore near Calcutta. Mr. C. Turnbull failed to reel silk from the cocoons sent down from this, but it has been reeled, though there is not much of it.

Actias mænas, Doubleday, occurs at Darjeeling and is a very large species, but nothing has been recorded of its habits, food, or produce.

Actias leto, is another Darjeeling species, the economy of which has yet to be ascertained.

Saturnia pyretorum, occurs at Darjeeling and Cachar, but nothing more is known of it.

Saturnia grotei, has been found at Darjeeling, and one or two specimens have been captured at Mussoorie. Captain Hutton is inclined to think that the larva feeds on the wild pear tree (Pyrus kytul?)

Saturnia lindia, Moore, occurred in a collection made by the late Captain James Lind Sherwill, and is supposed to be from Darjeeling or its neighbourhood. It is allied to Saturnia grotei.

Saturnia cidosa, Moore, from Captain J. L.

Sherwill's collection also, and from North-eastern India, but we have no information regarding it. From its being closely allied to Saturnia pyretorum, Captain Hutton is inclined to suppose it an inhabitant of Darjeeling or Cachar.

Neoris huttoni, Moore, found at Mussoorie at about 6,500 feet of elevation, feeding on the wild pear tree. The larva are to be found in April. The cocoon is an open net-work, and would produce no silk.

Caligula simla, occurs at Simla, Mussoorie, and in Kumaon, feeding on the walnut, Salix babylonica, wild pear tree, &c., but the cocoon is a mere coarse open net-work through which the pupa is visible, and yields no silk.

Caligula thibeta, occurs at Mussoorie on Andromeda ovalifolia, wild pear, and common quince. It occurs also in Kumaon, but the specific name is a misnomer, the insect never approaching Tibet. The cocoon is a coarse open net-work through which the larva is visible, but there is no available silk.

Loepa katinka, West, a very beautiful yellow moth discovered originally in Assam, occurring also at Mussoorie. The cocoon may yield silk, but there is very little of it.

Loepa sivalica, Hutton, closely allied to the last, and found at Mussoorie at about 5,500 feet and lower, will probably yield a small quantity of silk.

Loepa miranda, Atkinson, found at Darjeeling; a good and handsome species.

Loepa sikkimensis, Atkinson, a very beautiful species found at Darjeeling. It may be known from the others, by the smaller size, and by the wings, being clouded with maroon. Of its economy nothing is known.

Three or four other species of this family occur in Darjeeling and Sylhet, but beyond their existence, nothing is recorded. Those species, which like Actias selene and Antheræa paphia, weave strong compact cocoons perfectly closed at both ends, are furnished on each shoulder with a hard wing spur for the purpose of separating the fibres when the moth is ready to come forth; it may be heard grating against the silk and the point may often be seen protruding. It is common to the genera Actias and Antheræa, and was discovered by Capt. Hutton. In Attacus, Neoris, and Loepa, the upper end of the cocoon is left open, the fibres pointing forward closely arranged, like the fine wires of a mouse-trap. No spine is needed in these genera. In Bombyx and others, although the cocoons are entire, the silk is loosely woven, and the fibres being moistened by an acid from the mouth, are then easily separated by the claws on the forefeet of the moths. This is about the state and extent of our knowledge of the Bombycidæ of India; that there are many other species yet to be discovered, no naturalist will think of denying. Nature is the book through which the Almighty teaches man to look from earth to heaven, and as His works and knowledge are boundless, so has this beautifully illustrated book no end.

Silk husbandry is extensively prosecuted in Italy, France, China, Persia, Siam, and India. Silk occurs in various forms. Cocoons, knibs or husks, are the balls as formed by the worm, about the size of a pigeon's egg, and of a golden yellow colour. Raw silk, the state when simply wound off the cocoons into skeins or hanks, is the thread composed of several fibres united by their natural gum. Waste silk, is that part which is first wound off the cocoons in the operation of reeling, and such cocoons as being eaten through by the worm, cannot be wound off the reel, but are afterwards carded and spun. Silk has long been imported into India from China. The earliest notice, though there is some doubt about the passage, is in the Mahabharat where the Cheena, Hoona, &c., are said to have bought silk, and silk-worms as presents to Yoodhistira.

For the eleven years 1850-51 to 1860-61, the Catalogue of the Exhibition of 1862, gives the following quantities and values of silk goods (exclusive of Chussums) as exported from India:

	Quantities—Pieces.				Values, £ Sterling.			
	Bengal.	Madras.	Bombay.	Total.	Bengal.	Madras.	Bombay.	Total.
1850-1	599,604	3,843	30,577	634,024	332,657	1,909	20,657	355,223
1851-2	439,615	637	38,955	479,207	239,734	392	20,099	260,225
1852-3	?	6,272	?	?	287,173	781	27,241	315,195
1853-4	569,763	1,786	?	?	301,671	861	13,799	316,331
1854-5	479,891	2,221	31,858	513,970	248,577	1,634	13,242	263,453
1855-6	585,969	3,676	27,036	616,683	325,908	2,450	13,677	341,035
1856-7	452,431	1,645	?	?	248,719	1,286	31,445	281,450
1857-8	?	2,119	?	?	103,261	987	53,976	158,224
1858-9	?	2,933	?	?	162,956	2,137	48,015	213,108
1859-1860	286,220	4,519	?	?	152,795	2,161	36,253	191,509
1860-1861	171,847	2,240	37,455	211,542	104,843	1,689	19,255	122,787

The bulk of these exports were se[nt] to the United Kingdom, and France a[nd] Foreign Europe, America, China, Arabian a[nd] Persian Gulfs, Aden, Suez, Straits' Settle[-]ments, and other ports, took the remainder.

Mr. Powell, however, in his Panjab pr[…]

ducts gives the following as the value of the exports of Silk from all India to all parts of the world during the years, as under :—

1850-51	£ 619,318	1856-57	£ 782,139
1851-52	„ 688,640	1857-58	„ 766,673
1852-53	„ 667,546	1858-59	„ 799,252
1853-54	„ 642,475	1859-60	„ 817,853
1854-55	„ 500,116	1860-61	„ 1,036,728
1855-56	„ 707,705		

Mr. Powell in the above figures, seems to have mixed up the exports of Raw Silk and of Silk Goods. The following is a statement of the values of the imports and exports from India of these two products :—

	Imports. Raw Silk.	Silk Goods.	Exports. Raw Silk.	Silk Goods.
1849	£211,351	£123,506	£713,632	£302,322
1850	184,142	112,601	666,094	441,749
1851	240,101	111,554	619,319	355,223
1852	203,518	126,064	688,640	260,225
1853	229,943	110,546	667,545	315,305
1854	291,067	116,955	640,451	326,571
1855	260,768	197,510	500,105	263,453
1856	274,337	138,768	707,706	341,035
1857	120,130	106,333	782,140	281,450
1858	377,990	108,023	766,673	158,224
1859	504,903	147,740	725,655	213,108
1860	307,560	224,116	817,853	191,509
1861	404,870	259,596	1,086,728	134,831
1862	413,999	198,442	686,083	168,806
1863	392,359	342,111	822,892	165,136
1864	385,507	456,781	954,649	115,465
1865	329,315	443,948	1,165,901	106,612

Punjab.—Mr. Powell says the silk trade in the Punjab is stated by Mr. Davis to be nearly £200,000. Raw Silk, he adds, is imported from Kokand, Bokhara, Balkh, Khulm, Akbcha, Shibrgaum, Andko, and Kashmir; from Saidabad, Murshedabad, Rampur-baulia, and Radhanagi, in Bengal, and from China viâ Bombay. No silk has been imported from Khutan, for the last four or five years. The raw silk is sent from Amritsur to all parts of the Punjab for manufacture : raw silk is the staple import by way of Kabul. He describes the silk as secreted in a double filament from two orifices at the head of the worm, communicating with two secreting glands, one on each side ; as they pass out the two filaments are glued together into one by the secretions from a third central gland, of a resinous substance. After boiling in a solution of sajji or carbonate of soda, the silk is washed several times with soap and water, and finally exposed as in Europe to the fumes of sulphur. It loses much weight by this operation, (4 or 5 chittack out of 16,) showing that the coloring substance is separable and ponderable. In Kashmir it is said that paper called reshami kagaz, or haridi kagaz, is made from the refuse and from pierced cocoons unfit for reeling. When silk is reeled, the thread as it is wound from the cocoon being twisted to give it strength, is called singles ; two or more singles twisted together form tram, weaving thread, short or weft.

Central Asia.—The country bordering on the river Oxus and the canals and water-courses from Samarkand and Shahr-i-sabz, is full of mulberry trees, on the leaves of which silkworms are fed. About ten days or a fortnight after the mulberry trees put forth their leaves, the eggs of the silkworms are removed from the place where they had been preserved during the winter, and being wrapped in a cloth, are carried against the naked breast, or still oftener under the arm-pit. Three to five days are quite sufficient for the little insects to be hatched. They are then placed in a vessel and fed with the leaves gathered from the mulberry ; after ten days the worms, according to the expression of the Bukharians, fall into their sleep or trance, they take no nourishment three days running, repeating the same process every ten days, until the time they begin to spin the cocoon. When these are finished, the worm inside is destroyed by exposing the cocoon to the heat of the sun. That done, the Bukharians proceed to reel off the silk threads. The quality of Bukhara silk is much inferior to that of China, and even to the French and Lombard silks, both in colour and softness. The silk annually produced in the Bukhara territory is estimated to be worth 15 lacs. The greatest quantity is exported to India. There are several descriptions of silk. Lab-i-abi, produced on the banks of rivers and canals. Vardanzai, produced in the district of that name to the north-west of Bukhara. Chilla jaidar, produced in the environs of Bukhara, this is the best. A quantity of Kabul and Bukhara silk is also imported into Multan and other places, to meet the demands of the great silk factories. It has been ascertained from the best and most reliable sources that about 300 packages of first, second and third quality raw silk, weighing in all 750 maunds, the price of which averages to Rs. 3,75,000, are imported annually into Multan from Kabul, Bukhara, Khorasan and Herat.

Mulberry Trees.—The white mulberry (Morus alba) is infinitely to be proferred as food for the worms of the Bombyx mori, and this has been introduced from China into Europe as well as into India. Morus indica, the species most common in Bengal, is thought by Dr. Wallich to be only one of its varieties. Morus atro-purpurea is a species introduced into India from China, where it is employed

as food for the silkworm, though Dr. Roxburgh states, that it had not been found to answer for that purpose in Bengal. Two varieties (one, the Doppa foglia) of the Italian white mulberry, received from Saint Helena, were established in the East India Company's botanic garden at Dapooree, in the Bombay Presidency. The then Superintendent, Dr. Lush, forwarded to Calcutta young plants, which, in September 1833, were reported by Dr. Wallich to be in a flourishing condition. Two other species are common in the plains of North-western India, and others have been introduced there from Caubul and Cashmere: one distinct species occurs, moreover, in the Himalaya. Col. Sykes has drawn attention to the great importance of introducing into India the mulberry called Morus multicaulis, a distinct species or variety introduced by M. Perrottet into France, in 1821, from the Philippine Islands, where it had been brought from China. It is now thought by many, both in Italy and France, to be the most valuable sort for cultivation, and has become a favourite variety in America. Besides growing easily, and affording abundance of leaves of the most nourishing kind, it is said, to be able to withstand a considerable degree of cold.

Other trees.—Wild silkworms feed upon different trees, such as the Jujube, Ficus religiosa or Peepul, the Castor oil plant, Terminalia catappa, some of the Laurel tribe, and others, which are found in almost all the forests of India. Besides the common mulberry of China, which differs somewhat from that of Europe, they occasionally, in feeding the worms, have recourse to a wild specimen of the morus tribe, as well as to the leaves of another tree, supposed to be a variety of ash.

Mulberry.—The principal object, in the cultivation of the mulberry for feeding silkworms, is to produce the greatest quantity of young and healthy leaves without fruit. For this reason the trees are not allowed to exceed a certain age and height. They are planted at a convenient distance from each other, on the plan of a quincunx, and are said to be in perfection in about three years. The mulberry-tree for silkworms is chiefly cultivated in Che-keang, which province, together with the only three others that produce fine silk, namely, Keangnan, Hoo-pe, and Sze-chuen, is crossed by the thirtieth parallel of latitude. Che-keang is a highly alluvial country, intersected by numerous rivers and canals, with a climate that corresponds pretty nearly to the same latitude in the United States of America. The soil is manured with mud, which is dug from the rivers, assisted with ashes or dung; and the spaces between the trees are generally filled with millet, pulse, or other articles of food. The time for pruning the young trees, so as to produce fine leafy shoots, is at the commencement of the year. About four eyes are left on every shoot, and care is taken that the branches are properly thinned, with a view to giving plenty of light and air to the leaves. In gathering these, they make use of steps, or a ladder with a prop, as the young trees cannot support a ladder, and would besides be injured in their branches by the use of one. The trees, with their foliage, are carefully watched, and the mischief of insects prevented by the use of various applications, among which are some essential oils. The young trees of course suffer by being stripped of their leaves, which are the lungs of plants, and this is an additional reason for renewing them after a certain time. They endeavour in part to counteract the evil effects, by pruning and lopping the tree, so as to diminish the wood when the leaves have been stripped, and it is probable that a few leaves are left on. It is suprising, however, to observe how soon a tree in those climates will recover its leaves in the summer or autumn, after having been entirely stripped of them by a typhoon, or hurricane. Fresh plants are procured by cuttings or layers, or sometimes from seed. When the trees grow too old for the production of the finest leaves, and show a greater tendency to fruiting, they are either removed altogether, or cut and managed so as to produce fresh and young branches.

Rearing worms.—Mr. Barrow, who observed the management of the trees and silkworms in Chekeang, confirms the usual Chinese accounts, by saying that "the houses in which the worms are reared are placed generally in the centre of each plantation, in order that they may be removed as far as possible from every kind of noise; experience having taught them that a sudden shout, or the bark of a dog, is destructive of the young worms. A whole brood has sometimes perished by a thunder storm." The chambers are so contrived as to admit of the use of artificial heat when necessary. Great care is taken of the sheets of paper on which the multitudes of eggs have been laid by the silkworm-moths; and the hatching of these eggs is either retarded or advanced, by the application of cold or heat according to circumstances, so as to time the simultaneous exit of the young worms exactly to the period when the tender spring leaves of the mulberry are most fit for their nourishment. They proportion the food very exactly to the young worms by weighing the leaves, which in the first instance are cut, but afterwards, as the insects become

larger, are given to them whole. The greatest precautions are observed in regulating the temperature of the apartments, and in keeping them clean, quiet, and free from smells. The worms are fed upon a species of small hurdles of basket-work, strewed with leaves, which are constantly shifted for the sake of cleanliness, the insects readily moving off to a fresh hurdle with new leaves, as the scent attracts them. In proportion to their growth, room is afforded to them by increasing the number of these hurdles, the worms of one being shifted to three, then to six, and so on until they reach their greatest size. When the worms have cast their several skins, reached their greatest size, and assumed a transparent yellowish colour, they are removed into places divided into compartments, preparatory to their spinning. In the course of a week after the commencement of spinning, the silken cocoons are complete, and it now becomes necessary to take them in hand before the pupæ turn into moths, which would immediately bore their way out, and spoil the cocoons. When a certain number, therefore, have been laid aside for the sake of future eggs, the pupæ in the bulk of the cocoons are killed by being placed in jars under layers of salt and leaves, with a complete exclusion of air. They are subsequently placed in moderately warm water which dissolves the glutinous substance that binds the silk together, and the filament is wound off upon reels. This is put up in bundles of a certain size and weight, and either becomes an article of merchandise under the name of raw silk, or is subjected to the loom, and manufactured into various stuffs, for home or for foreign consumption. Notwithstanding the apparent simplicity of their looms, they will imitate exactly the newest and most elegant patterns from England or France. The Chinese particularly excel in the production of damasks and flowered satins. Their silk crape has never yet been perfectly imitated ; and they make a species of washing silk, called Canton ponge, which becomes more soft as it is longer used.

Mr. Fortune who spent a few days in the vicinity of Nan-tsin, the centre of the great silk country of China, gives a description of the cultivation and appearance of the mulberry trees. The soil over all this district is yellow loam, well mixed and enriched by vegetable matter ; just such soil as produces excellent wheat crops in England. The whole of the surface of the country, which at one period has been nearly a dead level, is now cut up and embankments for the cultivation of the mulberry. It appears to grow better upon the surface and sides of these embankments than upon level land. The low lands, which are owing to the formation of these embankments, considerably lower than the original level of the plain, are used for the production of rice and other grains and vegetables. It is therefore on the banks of canals, rice fields, small lakes, and ponds, where the mulberry is generally cultivated, and where it seems most at home. But although large quantities of rice and other crops are grown in the silk districts, yet the country, when viewed from a distance, resembles a vast mulberry garden, and when the trees are in full leaf, it has a very rich appearance. The variety of mulberry cultivated in this district appears to be quite distinct from that which is grown in the southern parts of China and in the silk districts of India. Its leaves are much larger, more glossy and have more firmness and substance than any other variety which has come under my notice. It may be that this circumstance has something to do with the superior quality of the silk produced in the Hoo-chow country, and is worthy of the notice of silk-growers in other parts of the world. This popular variety is not reproduced by seeds and hence all the plantations are formed of grafted trees. Each plant is grafted from a foot or two feet above the ground, and rarely higher. The trees are planted in rows from five to six feet apart, and are allowed to grow from six to ten feet high only, for the convenience of gathering the leaves. In training them they are kept open in the centre ; the general outline is circular, and they are not unlike some of those dwarf apple trees which are common in European gardens. The different methods of gathering the leaves in these districts are curious and instructive and show clearly that the cultivators well understand the laws of vegetable physiology. Leaves are not taken at all from plants in their young state, as this would be injurious to their future productiveness. In other instances a few leaves only are taken from the bushes, while the remainder are allowed to remain upon the shoots until the summer growth is completed. In the latter case the leaves are invariably left at the ends of the shoots. When the bushes have attained their full size, the young shoots with the leaves are clipped close off by the stumps, and shoots and leaves carried home together to the farm-yard to be plucked and prepared for the worms. In the case of young trees, the leaves are generally gathered in by the hand, while the shoots are left to grow on until the autumn. At this period all the plantations are gone over carefully, the older bushes are pruned close in to the stumps, while the shoots of the younger ones are only shortened back a little

or allow them to attain to the desired height. The ground is then manured and well dug over. It remains in this state until the following spring, unless a winter crop of some kind of vegetable is taken off it. This is frequently the case. Even in the spring and summer months it is not unusual to see crops of beans, cabbages, &c., growing under the mulberry trees. During the winter months, the trees are generally bare and leafless. Those persons who are accustomed to live in countries with marked seasons, where the winters are cold, and where the great mass of vegetation is leafless, would not be struck with this circumstance in the silk country of China. But the view one gets in this country in the summer months, after the first clipping of the shoots, is curious, and striking. As far as the eye can reach, in all directions, one sees nothing but bare stumps. It looks as if some pestilential vapour had passed over the plain and withered up the whole of these trees, and the view is rendered still more striking by the beautiful patches of lively green which are observed at this time in the rice fields and on the banks of the canals. This system of clipping close in to the stumps of the old branches gives the trees a curious and deformed appearance. The ends of the branches swell out into a club-like form, are much thicker there than they are lower down. After, says Mr. Fortune, I had completed my inspection of the country near the town of Nan-tsin, I proceeded onwards to the west in the direction of Hoo-chow-foo. A few hours' sail on a wide and beautiful canal brought me within view of the mountain ranges which form the western boundary to the great plain of the Yang-tse-kiang, through which I had been passing for several days. The most striking hill which came first into view was crowned by a seven-storied pagoda. It had a large tree by its side, equally striking in the distance, and which had probably been planted when the pagoda was built. I afterwards ascertained this to be the "maiden hair-tree" (Salisburia adiantifolia), a tree which attains a large size in this part of China, and is extremely ornamental. The greater part of the silks and crapes used in this part of China are manufactured in the adjoining towns of Soochow and Kang chow. Flowered crape, however, a very beautiful production, is made in Hoo-chow. The process of manufacture is thus described by the Rev. Mr. Edkins in the "North China Herald":—"Two men were engaged at a loom in a cottage on the side of a stream. One sat at the end of the loom moving five pedals, and directing the shuttle and all that needed to be done with the threads that lay horizontal on the frame. The other was perched over head to superintend the pattern. This he did by means of vertical threads tied up in bundles, a large number of which, distributed transversely through the threads of the horizontal frame beneath him, were at his disposal. These he raised according to the requirement of the pattern, and thus caused that elevation in the threads on the frame below that constituted the flowered part of the piece." If there was little to notice in these temples with reference to buddhism and its rites there were objects of another kind which soon attracted my attention. The halls and outhouses of the monastery seemed to be converted for the time into a place for feeding silkworms. Millions of these little animals were feeding in round sieves placed one above another in open frameworks made for this purpose. So great was the number of the worms that every sieve, and there must have been many hundreds of them, was crammed quite full. In one large hall I observed the floor completely covered with worms, I shall never forget the peculiar sound which fell upon my ear as I opened the door of this hall. It was early in the morning, the worms had been just fed and were at the time eagerly devouring the fresh leaves of the mulberry. Hundreds of thousands of little mouths were munching the leaves and in the stillness around this sound was very striking and peculiar. The place too seemed so strange; a temple—a place of worship with many huge idols, some from twenty to thirty feet in height looking down upon the scene on the floor. But to a Chinese there is nothing improper in converting a temple into a granary or a silk-worm establishment for a short time if it is required, and I suppose the gods of the place are supposed to look down with approbation on such scenes of peaceful industry. When from the large number of worms it is necessary to feed them on floors of rooms and halls, there is always a layer of dry straw laid down to keep them off the damp ground. This mode of treatment is resorted to when necessary, and not from choice. The sieves of the establishment, used in the framework I have already noticed are greatly preferred. Whether the worms are fed on sieves or on the floor they are invariably cleaned every morning. All the remains of the leaf stalks of the mulberry, the excrement of the animals, and other impurities, are removed before the fresh leaves are given. Much importance is attached to this matter, as it has a tendency to keep the worms in a clean and healthy condition. The Chinese are also very particular as regards the amount of light which they admit during the period the ani-

mals are feeding. I always observed the rooms were kept partially darkened, no bright light was allowed to penetrate. In many instances the owners were most unwilling to open the doors, for fear, as they said, of disturbing them, and they invariably cautioned me against making any unnecessary noise while I was examining them. At this time nearly all the labour in this part of the country was expended on the production of the silkworm. In the fields the natives were seen in great numbers busily engaged in gathering the leaves ; boats on the rivers were fraught with them ; in the country-market-towns they were exposed for sale in great quantities, and everything told that they were the staple article of production. On the other hand, every cottage, farm house, barn and temple, was filled with its thousands of worms which were fed and tended with the greatest care. On my way up from Hoo-chow-foo to Mei-chi, and about the 23rd of June, I observed that many of the worms had ceased to feed and were commencing to spin. The first indication of this change is made apparent to the natives by the bodies of the little animals becoming more clear and almost transparent. When this change takes place, they are picked, one by one, out of the sieves, and placed upon bundles of straw to form their cocoons. These bundles of straw which are each about two feet in length, are bound firmly in the middle, the two ends are cut straight and then spread out like a broom, and into these ends the worms are laid, when they immediately fix themselves and begin to spin. During this process I observed the underside of the frame-work on which the bundles of straw were placed surrounded with cotton cloth to prevent the cold draught from getting to the worms. In some instances small charcoal fires were lighted and placed under the frame inside the cloth, in order to afford further warmth. In some of the cottages the straw covered with spinning worms was laid in the sun under the verandahs in front of the doors. In a few days after the worms are put upon the straw they have disappeared in the cocoons and have ceased to spin. The reeling process now commences and machines for this purpose were seen in almost every cottage. This apparatus may be said to consist of four distinct parts, or rather, I may divide it into these for the purpose of describing it. There is, first, the pan of hot water into which the cocoons are thrown ; second, the little loops or eyes through which the threads pass ; third, a lateral or horizontal movement, in order to throw the silk in a zigzag manner over the wheel ; and lastly the wheel itself, which is square. Two men, or a man and woman, are generally employed at each wheel. The business of one is to attend to the fire and to add fresh cocoons as the others are wound off. The most expert workman drives the machine with his foot and attends to the threads as they pass through the loops over on to the wheel. Eight, ten, and sometimes twelve cocoons are taken up to form one thread, and as one becomes exhausted, another is taken up to supply its place. Three and sometimes four, of such threads are passing over on to the wheel at the same time. The lateral or zigzag movement of the machine throws the threads in that way on the wheel, and I believe this is considered a great improvement upon the Canton method, in which the threads are thrown on in a parallel manner. The water in the pan into which the cocoons are first thrown is never allowed to boil, but it is generally very near the boiling point. I frequently tried it and found it much too hot for my fingers to remain in it. A slow fire of charcoal is also placed under the wheel. As the silk is winding, this fire is intended to dry off the superfluous moisture which the cocoons have imbibed in the water in which they were immersed. During the time I was in the silk country at this time, says Mr. Fortune, I was continually visiting the farm-houses and cottages in which the reeling of silk was going on. As silk is a very valuable production, it is reeled with more than ordinary care, and I observed that in almost all instances a clean, active, and apparently clever workman was entrusted with the care of the reeling process. The old temple at Hoo-shan, which I visited again on my way down, was in a state of great excitement and bustle. The quantity of silk produced here was very large, and all hands were employed ; generally all, rather averse to work of any kind, were obliged to take their places at the wheel or the fire. But as the silk was their own, they seemed, notwithstanding their habitual indolence, to work with hearty goodwill. On the following morning, when I awoke, I found myself quietly at anchor close by the west gate of Hoo-chow-foo, my boatmen having worked all night. I spent the next few days in the country to the northward bordering on the T'aihoo lake, and partly near the town Nan-tsin, being anxious to see the end of the silk season. About the eighth, or from that to the tenth of July, the winding of the cocoons had ceased almost everywhere, and a few days after this there was scarcely a sign of all that life and bustle which is visible everywhere during the time that the silk is in hand. The clash of the winding-machines, which used to be heard in every cottage, farmhouse,

and temple, had now ceased; the furnaces, pans, and wheels, with all the other parts of the apparatus in common use during the winding season, had been cleared away, and a stranger visiting that country now could scarcely have believed that such a busy bustling scene had been acting only a few days before. During my peregrinations in the silk country I made many inquiries amongst the natives as to the price of raw silk in the districts where it is produced. At Meiche the price was said to range from twelve to eighteen dollars for 100 taels of silk. At Hoo-chow and Nantsin, where the silk is of a superior quality, the prices in 1855 were from eighteen to twenty-two dollars for 100 taels.

The Honorable Mr. Morrison tells us that the mulberry is cultivated in all the provinces of China, except the most northerly, and silk is raised wherever the tree grows. The best raw silk, called taysaam, comes from the province of Hookwaug; the tsailee also comes from that province and Cheaking; both kinds are called Nanking raw silk, and are chiefly exported to England. In 1833-34, the price of the best sorts was from £ 300 to £ 350 per pecul, and the annual exportation was between ten and twelve thousand bales; in 1836-37, it was upwards of twenty thousand peculs, much of which was shipped off at $ 500 per pecul, since that period, for some undiscovered reason, the quantity brought to market has fallen off, and although the prices range between $ 400 and $ 450, still the whole amount hardly exceeds 5,000 bales in a twelvemonth. In the new tariff the duty is the same on the raw silk from all the provinces; for it is probable, that as the trade extends at Ningpo and Shanghae, inferior qualities of silk will be sent abroad; indeed, if the exportation of silk and tea does not increase, it is difficult to see with what commodities the Chinese are to buy the large amount of foreign goods that are likely to be brought to the new ports. The Nanking raw silk exported the past year will average $ 450 per pecul, or $ 100 higher than it is set down in the statement. The waste or refuse raw silk goes entirely to India. Silk organzine is "formed of two, three, or more singles (*i. e.*, reeled threads after being twisted), according to the substances required, twisted together in a contrary direction to that of which it is composed are twisted." It is included in the statements of trade under the name of silk thread. Organzine is also called thrown silk, though there may be some difference between the two, as it is said organzine is not made by the Chinese; it is used in weaving piece goods. Silk thread and ribbons go to the United States, and South America. Silk piece goods of all kinds are shipped for the most part to the United States, Mexico and South America; but considerable quantities go also to England chiefly for re-exportation: one-seventh of the total exportation in 1836-7 was in English ships. Instead of the annual export of $400,000 stated in the Table, it should be one million of dollars, and the duties put at $ 30,000. Most of the various descriptions of silk piece goods usually exported are enumerated in the Table; there are a few others, as gauze, crape shawls, levantines, taffeta, but all description of them is here omitted.

The system of growing the mulberry, as a standard tree, has been tried in Bengal, and, with as little success as attended the experiment of the St. Helena variety on the Bombay side of India. The common bush mulberry is very much preferred by the people at Surdah, commercially, Raduagore, and all other parts of Bengal, where silk cultivation prevails. More than one private speculation with standard trees failed at Chittoor and Coonoor, under energetic and intelligent European superintendence.

Hyderabad in the Dekhan.--The chief of the manufactures and the only one for which Warungul is famed is that of Persian carpets which are made of all sizes and of worsted, of cotton, or of silk. Silk cloth, of the width of the curtailed guz, is manufactured and sold for 12 annas a yard, but the quality is very inferior. It is dyed red with lac, green with indigo and turmeric, or yellow with turmeric alone. The tusser cloth manufactured is only half the value of the silk. Cholees, (women's bodices) are manufactured, but not in sufficient quantity to supply the district, as they are imported. The other manufactures in the Circar are tusser cloths at Hoosainpurty—and Chilpore silks at Mutwarrah. The tusser cloth—although the cocoons are the produce of the same insect as those of Bengal—bears no comparison in fineness or durability with the tusser cloth manufactured there. The silks are dearer, and the cottons of the same price as those produced nearer Hyderabad. Raw silk is imported from Madras and manufactured into sarees and women's bodices at Mutwarrah, Warungul, Maytpilly and Aimulwarrah, in Elgundel, at Maiduck and other Kusbahs. This manufacture is entirely for home use, and no great skill or taste is displayed by the weavers, the silk pieces are of a quality inferior to those sold at the same price in the Hyderabad bazaar, and were it not for the transit duties, the manufacture would become extinct. The silk cloths are dyed red with the lac dye and yellow with turmeric; no other dyes are used. Tusser

is made into sarees, punchees, and scarfs, at several towns of the Circar of Warungul. But the chief seat of the tusser manufacture is the town of Mahdapore, on the right bank of the Godavery in the Ramgheer Circar, where the moth that yields it is carefully reared, and from whence raw tusser silk is sent to other parts to be woven into cloth. The insect in its grub state is first fed on the tender leaves of the Careya sphærica, and when more grown, on the leaves of the Pentaptera tomentosa; much watching and attention are bestowed in rearing the animal, subject as it is to destruction from birds, insects, and squirrels. The tusser cloths produced at Mahdapore are, in durability and fineness, very inferior to the cloths of the same kind manufactured in Bengal, they are dyed the same colour, and with the same materials as the silks, of which they are about one-half the price. The tussah worm-breeders are a class quite distinct from the weavers, and are either Telingas of low caste or Gonds; the former reside principally at Chilpore, Mahdapore and Chinnore. At Mahdapore, which may be regarded as the centre and head-quarters of the tussah breeders, there are at least seventy to eighty families employed in rearing the insect and in the manufacture of the cloth, which is prepared principally for the Hyderabad market. The tussah breeder never thinks of keeping up the breed of the insect throughout the year. When the leaf is off the tree about the middle of March, he deems his occupation gone, and he leaves the object of his former excessive care to shift for itself, thinking of nothing but the present ease which may be summed up in a few words, sloth, a bare subsistence, and an occasional debauch in his nectar, palm toddy. But with the rains returns his toil, and some little difficulty is experienced in procuring insects for a fresh campaign. If he can gather a dozen of promising cocoons which his experience tells him are of females, he is quite satisfied. Carefully does he watch the bursting of the cocoon, and much care does he take of its winged inmate, having previously prepared for it a house of teak leaves dried. The male is not tardy in approaching. Impregnation takes place, the male dies, and in four days after laying her eggs, the female also. The eggs are in number about sixty: of these one-half prove abortive, while the others are hatched in ten days. The small insect is fed on the tender leaves of the Careya sphærica, and in six weeks spins its cocoon; the first brood are spared and allowed to burst their cocoons to supply a sufficient quantity of ova for the tussah harvest. The same process is described as again gone through, with this exception, that the young worms are at this time fed on the leaves of the Pentaptera tomentosa, as those of the Careya sphærica are by this period of the season, supposed to have acquired some influence noxious to the insect. It is during the progress of the worm from the egg to the formation of the cocoon that every energy of the tussah breeder is called into action for the preservation of his charge. Every animal, footed, winged and creeping, is said to be the enemy of the tussah grub. Ants destroy them, kites and crows prey on them, snakes devour them, and squirrels are said to make a repast of them. To protect them first from their insect enemies, the tussah breeder ascends the "muddy" tree (Pentaptera tomentosa), the leaves of which are the insect's food, he carefully clears every branch of the different species of ants by which they may be infested, preventing the access of others by surrounding the trunk of the tree at its foot with ashes. The other enemies are kept off by shouting, throwing stones, firing guns, &c. Their life at this time would appear by their own account, to be one of the most unremitting toil, to devote themselves to which they forswear not only every indulgence but every comfort, and it rouses the apathetic peasant of Telingana to eloquence when he recounts what privations he undergoes, what pleasure he derives himself, and what incessant labour he incurs, while watching the rearing of the worm, and the perfecting of its work. The tussah butterfly of the Dekhan, is a species of Saturnia, probably the paphia, described by Dr. Helfer as the most common of the native species. From four to five hundred of the cocoons are sold to the banya and weavers for one rupee; the moth is killed by means of heat. There are three tussah harvests, one at the end of the rains, the other two in the cold season. The winding of the silk is accomplished by boiling the cocoons, separating the floss, of which no use is made; and twisting eight or ten filatures from as many cocoons on the middle of the thigh with the left hand of the workman and to be wound on the instrument; this instrument, the middle bar of the wood, is held lightly in the hand of the workman and made to move in a semi-circle. An ounce and a quarter of silk is the average daily winding of a single workman, his wages are at the common rate of one pice for winding the silk of fifty cocoons, about three pice a day, as he cannot wind more silk than from a hundred and fifty cocoons. The pice, however, are large and go there by eight to the rupee. The only dyes used for the tussah silk, as far at least

as observation or inquiry has gone, are the flowers of the palas, Butea frondosa, and turmeric; by the former the usual familiar colour is produced; by the latter golden yellow is brought out after the threads are for some time immersed in a solution of ashes. The warp threads are stiffened with rice congee. The tussah cloths produced at Madpore are in durability and fineness very inferior to the cloths of the same kind manufactured in Bengal; they are dyed the same colour, and with the same materials as the silks of which they are about one-half the price.

Mysore.—The manufactured silks sent to the Madras Exhibition of 1855, represented in a very partial degree the resources of the country in this useful as well as ornamental branch of industry. The finest were the shawls of Bangalore and the silk carpets of Tanjore and elsewhere. Bangalore shawls were very creditable from the harmony of colours and elegance of design. They have been much improved of late years both in quality of material and in beauty of pattern; white silk pocket handkerchiefs rivalling the China silk in softness and richness are also manufactured at Bangalore. The rearing of silk worms is carried on in all parts of the Mysore country. Still the state of the trade compared with that of the Bengal presidency shows that much is yet to be done, in 1841, 1,175,308 lbs. of raw and waste silk were exported from the East Indies and Ceylon, of which nearly the whole was from Bengal. The exports from the Madras presidency were, in 1853-4, 10,478 lbs. of raw silk and 1,688 pieces of piece goods. In addition to the exports of this material, a great quantity is used in the manufactures of this country. The native cloths owe their beauty in a great degree to the richness of the silk borders. The satins, kinkhabs, &c., of Hyderabad are well adapted to native costume, but hitherto little progress has been made in manufacturing articles for European costume, except in Bangalore. The silk of Tanjore and the lesser but elegant articles such as gimp, fringe, cords and tassels, braid for carriages, &c., are of every variety and of great excellence.

Many of the sarees or women's cloths, made at Benares, Pytun, and Boorhanpoor; in Guzerat; at Narrainpett, and Dhanawarum, in the territory of His Highness the Nizam; at Yeokla in Khandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple and grey; and in silk, black shot with crimson or yellow embroidery, crimson, with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair, as a lady of Britain or France.

At the London Exhibition of 1862, silk pieces, figured and gold embroidered, were sent from Bhawulpore, by H. H. the Nawab. The principal places of silk manufacture however are the cities of Peshawur, Lahore, Umritsur, Mooltan, and the capital of the neighbouring state of Bhawulpore. The silks of the latter place are considered the best, and the next those of Mooltan.

Assam.—As each householder reels, spins, and weaves his own cloth, the holiday attire of the Assamese is usually of silk. In Durrung, athan, of good silk measuring 10 yards, can be purchased for from 5 to 10 rupees, according to the fineness. The cloth is occasionally coloured, but the Assamese silks are usually of the natural colour as wound from the cocoon.

Tussah silk cloth is much used for ladies' and children's dresses, and in most parts in India for native use, being worn by hindoos for certain ceremonies and while bathing: it is an article of export.

Dr. Roxburgh in the 7th vol. of the Linnean Transactions, described the preparation of the tussah silk of Bengal, derived from two different species of Saturnia. One called bughy by the natives of Beerbhoom, appears to be the same as the Madras species (S. paphia), and is stated to feed on the ber tree and on the asana, Pentaptera glabra. The other termed jaroo by the natives of the same province, is the S. cynthia, and is domesticated. The caterpillars are fed on the leaves of the castor oil plant (Ricinus) whence it is called the arundy, or arundi silk worm, but it also eats the leaves of the ber and asana. Colonel Sykes, in the 3rd Vol. of Trans. Roy. As. Socy., London, described the cocoons of S. paphia, found by him in the Dekhan, under the designation of the kaliswar silk worm, which he stated is met with on the ber tree (Pentaptera glabra), teak tree and common mulberry. The Chinese tussah is said to be obtained from Saturnia atlas, which is also to be met with in Southern India. Another species of Saturnia (S. selene); the posterior wings of which are prolonged into a tail-like process is com-

mon in Southern India. The caterpillar may be observed feeding in considerable numbers on the Odina wodier, or Be-sharm tree, in February and March. Its chrysalis is enveloped in a silky covering, so like that of S. paphia that it would probably be found to yield a strong and useful thread. It may be worth while to direct attention to the silk spun by several smaller specimens of Bombyx moths, found on different species of Cassia, Acacia and Phyllanthus. A gregarious caterpillar (a species of Lasiocampus) may be observed clustering in great numbers on the stem of the guava, the jamoon (Syzygium jambolanum,) and probably other trees: the silky covering of these also seems deserving of examination. Lieut.-Colonel F. Cotton sent some of the cocoons gathered by him when exploring the Godavery. The Saturnia genus belongs to the order Lepidoptera and the family Bombycidæ. The antennæ are fringed in the male; the head is small, the wings are very broad and entire; the palpi and trunk are wanting, and some of the largest of the Lepidoptera belong to the genus Saturnia. Saturnia atlas, the giant atlas moth, has wings measuring 7 or 8 inches across. This species also with S. cecropia and S. luna have their wings produced into a tail. The cocoons of S. cynthia and S. mylitta are used in India for the production of silk. Latreille states that these are the wild species of silkworm of China. S. cynthia is the arindi silkworm of India (Roxburgh, 'Linn. Trans.,' Vol. vi.) At the Universal Exposition held in Paris, in 1855, samples of Indian silk were exhibited with the cocoons of the different species of the Bombycidæ from the Bombyx mori "pat." Saturnia mylitta, (tussah); Saturnia assamensis, "monga;" Attacus cynthia, eri or eriah.

The tussah silk moth of Ceylon, Antheræa mylitta, *Drury*, feeds on the country almond (Terminalia catappa) and the Palma christi or castor-oil plant.

China.—The best silk of China is obtained from cocoons of worms fed, not on the oak, but on the Tsin-tso-tsze.

Japan.—The account of the Yama-mai or oak silkworm in Mr. Adam's third report upon the silk culture of Japan is of less interest than his first report of 1870. The parasite "uji" (maggot), as the Japanese call it, preys upon the silkworm, and in some years kills from 30 to 84 per cent. of the worms, and threatens completely to ruin the industry, neither M. Guerin-Meneville, nor the Entomologists, nor the Moniteur des Soies have been able to arrive at the natural history of this insect. The state of mind of the Japanese peasant upon the subject is rebuked in a despairing despatch from Date, ex-prince of Uwajima and Minister of the Home Department. He says, "Is it not painful to attribute a plague like that of the uji solely to Providence because we have not yet ascertained its causes?" The theory regarding the uji to which Mr. Adams gave currency in his first report was that during the spring a fly having deposited its eggs on the mulberry leaf, they were introduced with the food into the silkworm's intestines. The better opinion, however, seems to be, as stated in the second report and confirmed in the third, that the fly pierces the silkworm and deposits its egg underneath the skin, where it is hatched into the uji or larva, which, feeding upon the body of the silkworm during its changes, gradually increases until it is nearly as large as the chrysalis itself, and in the end destroys its way out of the cocoon, which thereupon becomes useless. The uji then shrinks considerably in the course of four or five days into a small chrysalis of its own, which on dissection discloses the embryo of a fly, although it has not been sufficiently observed to ascertain the time of the fly's natural issue. The birth of the fly is, however, perhaps correctly supposed to occur about the time of the hatching of the first crop of silkworms in the following spring, when it deposits its eggs, and the existence of the next annual generation begins. This supposition is chiefly grounded on the fact that the second crop of the worms, the summer hatching is comparatively free from the uji. The ignorant Japanese, unfortunately, do not destroy the uji issue from the cocoons, but merely throw them away; and the efforts of the Japanese Government to circulate information on the subject have hitherto been unavailing. One notification warns the population to "remember the saying, 'Fear posterity,' and that it is impossible to affirm that the extreme limit of progress has been attained." 320,000lbs. weight of silkworms' eggs were exported from Japan to France and Italy in 1869.

Gheelan.—The raw silk of Gheelan is the most important Persian article of export. In 1844 the quantity of silk produced in Gheelan weighed more than one million pounds, and was worth £450,000.

Burmah.—Eastward of the little Lake of Rangoon, lies a suburb which has received the name of "Thay-bue-choung" or the white sand creek, from which nearly all the sand is obtained, for house-building in town. In the neighbourhood of the creek, there is quite a settlement grown up, of Cathays and Muneepoorians, who have been attracted from the Bur-

mese capital to Rangoon. Many years ago, in the wars which were waged between the kings of Burmah and the rajahs of Assam, victory generally crowned the arms of the rulers of Ava. In those wars, the Cathays and Munneepoorians, whose territories lie on the borders of Assam, suffered greatly. Large numbers of them of both sexes were taken prisoners, and led into a condition of captivity at the Burmese capital. These people early turned their attention to different branches of industry, and among them was that of weaving silks for the use of the royal family of the kingdom. The king, queen and all members of the royal household dress invariably in silk garments. The putsoes worn by men is silk and the taming worn by women is also silk. Silk fabrics formed therefore, a branch of home industry, in which Burmese kings and queens and princes and nobles and ministers and officers and priests all alike felt an interest. Hundreds of these Munneepoorian and Cathay captives were put to weaving. All the ingenuity, skill, and tact of which the people are capable, were developed in the prosecution of the art of weaving, the art of dyeing and the blending, and arrangement of colours. The humbler classes among the Burmese are passionately fond of gay and flashy colours, while those about the palace prefer garments which are rich and chaste, to mere gaudy splendour. These Cathay weavers understand ornamental work, and when they can obtain silver and gold thread, such as tassels and fringes as made of in England, they are able to work them up, to blend them up with silk, so as to make a very handsome pattern of an ornamented putsoe or tamine. About a hundred of the Cathay and Munneepoorian families gradually moved down the river, and took up their abode under British protection. Silk twist from the Straits and China found its way into the hands of these weavers and they use it to good purpose. All their weaving is done with the hand loom. They have only a simple loom and a spinning wheel, with which to accomplish the whole process of manufacturing these fabrics. The silk is imported in hanks. It has then to undergo a process of winding and cleaning and spinning and doubling, of throwing and reeling. If the colour of the silk is to be changed, it must then be dyed, washed, dried and wound on bobbins, a delicate series of manipulations through which it must pass before it can be woven. The patterns are a mere matter of personal taste and they can be woven after any fashion or design. The price of silk varies, but the weaver generally doubles it as the value of his work. An ornamented piece of Burmese silk is sold at from two to three rupees per cubit. Ten cubits make an ordinary putsoe, and six a taming. The silk fabrics of Burmah look coarse, compared with European manufactured articles, but they are very strong and durable.

Oxus valley.—Silk is produced in considerable abundance in the valley of the Oxus, which seems particularly suited to its production. The best specimens are brought from Koubadian and Hazrat Imam, on the north and south banks of the river Oxus.

Bengal.—Dr. Royle, writing on the silk culture in India, mentions that the silkworms which yielded the investments of silk, were 1st, The large annual worm reared once in the year, and yielding its produce from only the middle of March till May. 2d, The Desseey, or indigenous silkworm of Bengal, of which the cocoons are obtained throughout the year ; that is, there are four or five collections annually ; of these, the worm of the cold weather, or November breeds, and that of the dry weather, or March and April breeds, are superior to the others, from the more nourishing nature of the leaves at those seasons. 3d, The China silkworms introduced into Bengal, which are next in estimation to the annual and country breeds; of these, both the yellow and white cocoons are abundant in the Radnagore district. The Nistry tribe of worms, is said to include three distinct kinds, the madrassie, soonamooky and cramee, and these yield a portion of what was formerly the E. I. Company's investment of silk ; secondly, the tusseh silkworms, of which the mooga, teerah, and bonbunda, are described as different kinds ; the cocoons of these are collected in September, and are called the Rain-weather sorts ; but there are others of the dry weather months which are denominated dabba, and buggoy. Tarroy is an inferior sort collected in December. The tusseh or tussar silkworm, is very extensively diffused, being reared in all the western forests from Ramghur to Midnapore. Dr. Roxburgh mentions it as a native of Bengal, Behar, and Assam, and that it is the same as the bughy insect of other districts. The jaroo is also described as a variety, by Dr. Buchanan Hamilton, and as occurring in the districts of Bhagulpore and Dinajepore ; by Col. Sykes it was found in the Bombay, and by Dr. W. Geddes in the Madras presidency. Mr. Hugon, describes six species of silkworm as being found in the central part of the Assam, province. Of these, the mulberry silkworm Bombyx mori ; the tusseh silkworm Saturnia (Phalæna) paphia, and the Eria, or Arindy silkworm, Saturnia (Phalæna) cynthia, were previously well-known ; but the others have

been described by himself and by Dr. Helfer. The Mooga silkworm (Saturnia assamensis, *Helfer*). The Joree silkworm (Bombyx religiosa, *Helfer*), is a new species discovered by Capt. Jenkins on the Peepul tree (Ficus religiosa). This is said to yield a silk certainly equal to that of the mulberry silkworm. Saturnia sylhetica, *Helfer*, is a native of the Kassia mountains, and of Silhet and Dacca. It also yields silk, as do two other species, the wild silkworm of the Central Provinces, and another, which produces its cocoon upon the mangoe tree. This the people of Malda gather, and mix with Arindy silk cocoons in spinning The wild silkworms do not yield the kind of silk most valued in commerce ; the culture of some in the forests, and the collection of all, affords employment to considerable numbers of the people in the parts of districts least productive of useful occupation. Silk from the Eria, or Arindy worm Saturnia (Phalæna) cynthia is the daily wear of the poor in Assam, and is used by every class in winter. It is remarkable for its very great durability. The Bombyx huttoui spins in all weathers, whereas the common silkworm is apt to be thrown off work by a passing cloud. A new process is announced of manufacturing silk directly from the bark of the mulberry tree. The inventor's name is Signor Lotteri.

Silk Goods of China, go mostly to the United States, and raw silk to England, the supply is not equal to the demand, and only about ten thousand bales are now exported, while upwards of twenty thousand were sent off, mostly to England, in 1836, some of which rate as high as $ 500 a picul. The refuse raw silk goes to India. The exportation to the United States for making silk thread is trifling. Silk goods are shipped to the United States, Mexico and South America, and elsewhere, to the annual value of about a million of dollars ; they consist chiefly of pongees, handkerchiefs, crape shawls, scarfs, sarsenet, senshaws, levantines and satins ; ribbons, sewing thread, and organzine or thrown silk, are not much shipped.—*E. I. Papers* ; *Friend of India* ; *Williams' Middle Kingdom* ; *Pall Mall Gazette* ; *Sir J. Sheil, in Markham's Embassy, p.* 93 ; *Rangoon Times, January* 1863 ; *Dr. Royle, Arts and Manufactures of India, p.* 497 ; *The Hon'ble Mr. Morrison's Compendious Description* ; *Mr. J. Geoghegan, Silk in India, Calcutta,* 1872 ; *Capt. Hutton quoted in do., do.* ; *Dr. Horsfield and Mr. Moore's Lepidopterous Insects, Vol.* ii. ; *Harris' Nat. Hist. of the Bible* ; *Chinese Repository* ii., *Faulkner's Commercial Dictionary* ; *Mysore Exhibition Juries Reports* ; *Proceedings of the Agri-Horticultural Society* ; *Bengal Chamber of Commerce, Calcutta, 25th April* 1846 ; *Annals of Indian Administration* ; *Surg. C. J. Smith, in letter dated Bangalore,* 11*th August* 1849 ; *Madras Lit. Soc. Journ., No.* 35, 1849, *p.* 27 ; *No.* 38 *of* 1850, *p.* 224 ; *On the Mulberry Trees of China, Davies Chinese Chapter,* xviii, *p.* 30, *Ed. of* 1851 ; *Fortune, A Residence amongst the Chinese, pp.* 343, 372 ; *J. B. Waring's Master-pieces of Industrial Art* ; *Jury Reports, Madras Exhibition of* 1855 ; *Major Cuth. Davidson, Assistant Resident Hyderabad in Catalogue Madras Exhibition* ; *Tennent's Sketches of the Nat. Hist. of Ceylon, p.* 427 ; *Dr. Walker in Madras Journal of Literature and Science* ; *Rapport du Jury mixte International, p.* 54 ; *Eng. Cyc.* ; *Forbes Watson's Tables* ; *Yule, Cathay, Vol.* i, *pp.* 48, 46 ; *Huc, Chinese Empire, Vol.* i, *p.* 349 ; *Powell's Hand-Book, Econ. Prod. of the Punjab, pp.* 167-68 ; *Calcutta Catalogue, Lond. Exhibition of* 1862 ; *Mr. J. Rhode's MSS.* ; *Dr. J. Forbes Royle on the Arts and Manufactures of India. pp.* 210, 231-2 ; *Dr. J. F. Royle on the Productive Resources of India* ; *Annals of Indian Administration* ; *Statistical Abstract, British India,* 1840 *to* 1865.

SILKARI, HIND. French chalk or steatite.

SILK CARPETS are manufactured in several parts of South India. At the Madras Exhibition of 1855, some very handsome specimens were contributed from Tanjore and Hyderabad, and His Highness the rajah of Tanjore exhibited a very large silk carpet intended as a present for Her Majesty Queen Victoria. The colours were brilliant, the pile close and velvety, and the pattern harmonious. —*M. E. J. R.*

SILK COTTONS. The products of several plants, the Bombax, Eriodendron, the Ochroma lagopus, the feathery silk-like material in the pods of the Calotropis gigantea, and the Cryptostegia are so named. There are two genera of trees, known under these names Cotton tree or Silk cotton tree ; the red and white cotton trees, common in many parts of India. They belong to the natural family, Byttneriaceæ. The red cotton tree and silk cotton tree, Bombax malabaricum, and white cotton tree, Eriodendron anfractuosum. The species of Bombax, B. ceiba, B. malabaricum which are remarkable for their gigantic stature and their splendid inflorescence, on account of their capsules, which, on bursting, display a flocculent substance, often mistaken by travellers for cotton, and the tree is hence called Cotton tree. But as this substance

is more silky than cotton, it has been distinguished by the name of Silk cotton. It differs also in not spinning like cotton. Some difficulty, therefore, is experienced in making use of this very abundant cotton-like produce ; but Mr. Williams, of Jubbulpore, succeeded in spinning and weaving some of it so as to form a very good coverlet. It might be easily made use of for stuffing pillows, muffs, or coverlets, for wadding, or for conversion into half-stuff for paper-makers, perhaps for making gun-cotton. In the Trans. of the Agri-Hortic. Soc., iii, p. 274, there is a report from the Society of Arts on two pieces of cloth made from the Simool or silk cotton tree ; and it is observed that, from the shortness of the staple of the down, and its elasticity, it could not be spun by cotton-spinning machinery. At the Madras Exhibition of 1855, small samples of the silk cotton from the Bombax, Ochroma lagopus, Calotropis and Cryptostegia were exhibited, but they appeared to have been put to no other use than stuffing pillows ; they might be employed for the manufacture of paper, and the silky down of the Cryptostegia being very strong might be applied to some textile manufactures. A trial has been given to the cotton of Calotropis gigantea, and Cryptostegia, as a material for cloth and cord, but their principal use hitherto has been for stuffing pillows : they might be employed as a material for making paper. Some difficulty is experienced in making use of the very abundant floss or cotton-like produce of the Bombax and Erudendron trees ; but it has been spun into cloth, and it might be employed for stuffing pillows, muffs, or coverlets for wadding, or for conversion into half stuff for paper-makers : perhaps for gun cotton. From the shortness of the staple of the down, and its elasticity, it could not be spun by cotton-spinning machinery. The silk cotton of the Bombax pentandrumis used in England for stuffing the pads of trusses. The seed pods of various genera of plants supply a material which from its appearance, is called 'silk cotton.' It is deficient in strength and difficult to spin, on account of the smoothness of the individual fibres. Some specimens of cloth manufactured from an admixture of cotton and the floss of the Ak (Calotropis hamiltonii) were shown, the Mudar (Calotropis giganten), and the Ak (C. hamiltonii) produce this floss in great abundance. One or other of these grow luxuriantly in all parts of British India and should the material, prove of commercial value, it could be finished at a cheap rate in large quantities. Attempts in Britain to work this material by means of machinery have hitherto, practically, failed. But Messrs. Thresher and Glenny reported their ability to turn it to account, if obtainable here in clean, good condition at 35*l.* per ton.

The charge of the down is merely that of the labour employed in collecting it, and the charge incurred in packing. It may be collected at about 1 R. 8 A. (3*s.*) per maund (82 lbs.) The plant is to be found in the greatest abundance everywhere, growing most luxuriantly in those dry sandy tracts where nothing else will flourish. The down ought to be collected in May and June, and its collection is spread at least over two months.—*Dr. Mason's Tenasserim* ; *Dr. Forbes Royle, Fibres* ; *Madras Exhibition, Juries Report.*

SILKEH, AR. Cassia lignea.

SILK WORM.

Puttoo poochie,	TAM.	Puttoo poorughoo,	TEL.
Reshm ke keere,	DUK.		

These are the names of the common sort, but there is frequently met with in the southern parts of India, a large species of caterpillar, of a dirty, brownish, yellow colour, which produces a very coarse kind of silk, or rather thread, and has, on this account, got from the weavers the name of "Nar puttoo pootchie," it is nearly three times as big as the common silk worm and its body is marked, not with seven, but eleven rings The introduction of the silkworm into the Roman empire, from Procopius De Bello Gothico.

According to Pusanias, the Greeks called the silkworm, Ser. The Tibetans call it Darkyi-srin, from Srin or Srin-bu, a beetle.

Procopius says about A. D. 500-565, certain monks arrived from the (country of the) Indians, and learning that the emperor Justinian had it much at heart that the Romans should no longer buy silk from the Persians, they came to the king and promised that they would so manage about silk that the Romans should not have to purchase the article either from the Persians or from any other nation ; for they had lived, they said, a long time in a country where there were many nations of the Indians, and which goes by the name of Serinda. Theophanes of Byzantium, writing at the end of sixth century says

"Now in the reign of Justinian a certain Persian exhibited in Byzantium the mode in which (silk) worms are hatched, a thing which the Romans had never known before. This Persian on coming away from the country of the Seres had taken away with him the eggs of these worms (concealed) in a walking stick, and succeeded in bringing them safely to Byzantium.

Diseases of the silkworm.—MM. Decaisne, Peligot, and de Quatrefages, were appointed members of a committee to investigate the

cause of the diseases of the silkworm and seek a remedy for it. These gentlemen, having visited various parts of France, found the mulberry leaves everywhere in excellent condition, so that the opinion which attributes the disease to bad food was deemed untenable. Of all the diseases to which the silkworm is subject, that most frequently met with is known by the name of pattes noires or poivre in France; M. de Quatrefages proposed to call it the maladie de la tache, from the spots which appear on the worm when attacked with it. These spots are often invisible to the naked eye, and can only be perceived by the aid of a magnifying glass; and this circumstance explains why the malady escaped the observation of silk-growers in the majority of cases until five or six days after the worm had cast its fourth skin. The spots exist in all the tissues and organs of the worm, and in its subsequent stages of a chrysalis and moth. In the latter the spots destroy the antennæ, the legs, or a portion of the wings. In the beginning the spot appears under the form of a yellowish matter pervading the whole system; this matter gradually becomes darker, and is then concentrated into a number of tubercles, which are the spots in question. That such a diseased state should exercise an influence on the quality of the eggs is not surprising. An infected silkworm may spin its cocoon when the disease is not too far gone, but the insect generally dies, and the body, instead of putrefying, becomes dry and brittle. M. de Quatrefages tried several methods of cure; first, the hygienic process, which consists in rearing the worms in open sheds instead of close rooms. The leaves of the wild mulberry, not stripped from the branches, he found very efficacious. He strongly recommends silk-growers to rear small lots of worms apart from the others, solely for the purpose of propagating the species. From his experiments, it appears that the silkworm does not refuse to eat the leaves of the mulberry sprinkled with Peruvian bark, gentian, valerian, mustard, &c., and the two latter powders especially would seem to produce good effects. But scraped sugar appears for the present to be preferable to all other remedies. The worms eat the leaves sprinkled with sugar with extraordinary relish, and experiments with this substance were accordingly repeated on a larger scale in the establishment of M. Augliviel, in the department of the Gard, where one of the silk sheds, fitted up for 27 trays, was reduced by disease to four. The worms of these were transferred to another shed and divided into four lots; the first was fed in the common way, the second with moistened leaves, the third with sugared leaves, and the fourth was subjected to a rigorous abstention of food for 75 hours, and then fed chiefly with sugared leaves. At the end of 24 hours several worms of the latter lot began to spin, and made several small and imperfect cocoons on the tray; the other worms began to shrivel up and diminish in size, but on receiving the sugared leaves they speedily rallied, and many of them spun their cocoons. The worms fed with moistened leaves fared very badly, and very few of them spun cocoons. Those fed in the common way presented nothing remarkable, and yielded a certain quantity of cocoons; but those fed with sugared leaves thrived well and spun their cocoons sooner than the others. The quantities of silk yielded by these four lots were respectively:—1st lot, 210 grammes; 2nd lot, nought; 3rd lot, 392 grammes, and of a superior quality; 4th lot, 152 grammes. Now, when it is considered that such a result was obtained from the use of sugar on worms the state of which was hopeless, it may reasonably be concluded that its effect will be much more satisfactory in less desperate cases. At all events, one great fact has been put beyond a doubt—viz., that medicine may be administered to silkworms in the same way as it is administered to cattle and poultry.—*Ainslie's Mat. Med., p.* 296; *F. W.*; *Yule Cathay, Vol.* i, *pp.* 159, 160; *Cat. Ex. p.* 62; *Home News.*

SILK WORM GUT or Silk gut, a hard, white, transparent thread, about a foot in length, made in Italy and China, from the intestines of the silkworm, and used for angling. A number of the finest silkworms are selected when they are about to spin: they are killed by being immersed in strong vinegar, in which they are left for 12 hours closely covered up: should the weather be cool they may be left in the vinegar 2 or 3 hours longer. When removed therefrom, and pulled asunder, two transparent yellow green cords will be observed: this is the silkworm gut: the other portion of the entrails are of a dark-green colour. If the gut be soft, or break by stretching, that is an indication that the worm has been taken out of the vinegar too soon. When the gut is fit for drawing out, one end is to be dipped into the vinegar, and the other end to be gently stretched to the required length, and it must be kept extended on a thin piece of board by inserting its extremities into slits in the end of the wood, or fastening them to pins, and in this state it is placed in the sun to dry.—*Tomlinson.*

SILLAGO, a genus of fishes, of the family Trichinidæ and group Trichinina, of which

the following species are known to occur in the S. and E. of Asia.

Sillago sihama, *Forsk.*, Red Sea, Indian Seas.
„ japonica, *Schleg.*, Moluccas, Japan.
„ maculata, *Q. & G.*, Australia, Archipelago.
„ punctata, *C. & V.*, Australian Seas.
„ ciliata, *C. & V.*, „ „
„ macrolepis, *Bleek.*, Batavia, Bali.
„ chondropus, *Bleek.*, Moluccas.
„ domina, *C. & V.*, Bay of Bengal, Archipelago, syn. of Uroscopus cognatus.
„ malabarica, *Bloch.*, *Schneid.* Syn. of Sciæna malabarica, *Bl.*, *Schin. Pl.*, *Russell*, cxiii, *Soring.*
„ malabarica, *Cuv.*, *R. A.*, ii.
„ actua, *C.* & *V.*, iii, 400.
„ actua, *Bleek.*, *Verh.*, *Batav.* Gen. xxii, 26, 61-4. "Ikan Ubi" of the Malays of Pinang.

SILLARUS also Meih-sila, GUZ., HIND., PERS., also Miati-lubni and Meih-katar, ARAB. Liquidambar altingia, Liquid storax, Rose maloes.

SILOAM, an artificial pool on the south side of Jerusalem, about 24 feet deep.

SILONG. The chain of islands of the Malay Archipelago, is inhabited or frequented by the Silong. Their language is peculiar but undescribed. They are a mild, peaceful and honest race, and little given to crime. They believe that nats or spirits dwell in the sea, land, air, trees and stones, but they do not invoke or sacrifice to them nor are they symbolised. Their number does not exceed 1,000. They are nomadic fishermen living in their boats or beneath trees on the beaches till the monsoon becomes severe, when they construct slight huts. They subsist entirely on turtle, fish and shell-fish. They are timid, reserved and difficult of approach. All these characteristics they possess in common with most of the Orang Laut (Sea men) who frequent the creeks, islands, and sôlitary shores of both sides of the Malay Peninsula and the Johore Archipelago, and they are probably a portion of the same race. In a small Silong vocabulary Mr. O'Riley notices its strong Siamese affinities. But it has relations to other Ultra-Indian and even to Chinese languages which show that it is not a mere off-set of the Siamese, but probably a sister language.—*The Silong tribe of the Mergui Archipelago, by J. R. Logan in Journal of the Indian Archipelago, No.* vii, *July* 1850, *p.* 411 ; *Dr. Helfer, Journal of the Bengal Asiatic Society,* 1839, *p.* 986. See India.

SILPHIUM. Ancient authors mention this plant and its juice, it is the Silphion of the Greeks. Two kinds of this substance are described ; one, from Cyrene, was probably yielded by Thapsia silphium, a native of North Africa, and the other was most likely assafœtida, which has been employed medicinally by Asiatics from very early times, though it has been known by this name in comparatively modern times. Silphium was however remarkable for other properties, and hence has attracted the attention of modern travellers who have recently visited the countries where the Silphium is described as growing by the ancients. The army of Alexander, in crossing the mountain range which Arrian calls Caucasus (iii, 28, 10), and which is the same range that he afterwards mentions under the name of Paropamisus (v. 5, 3), met with the Silphium. Arrian says, on the authority of Aristobulus, "In this part of the Caucasus nothing grows except pines and Silphium, but the country was populous and fed many sheep and cattle, for the sheep are very fond of the Silphium. If a sheep should perceive the Silphium from a distance, it runs to it, and feeds on the flower, and digs up the root and eats that also. For this reason, in Cyrene, they drive the sheep as far as possible from the spots where the Silphium grows, and some even fence in such places to prevent the sheep from entering them if they should approach ; for the Silphium is worth a good deal to the Cyrenæans." Burnes, in crossing the Hindu Koosh, and seeing both the men and cattle eating the young parts of the assafœtida plant, supposed that it must be the Silphium of Arrian. But as this author describes the country where the Silphium grows as abounding in cattle, Dr. Royle had concluded that the Prangos of Mr. Moorcroft was the Silphium alluded to, and which is much fed on by sheep and cattle in the present day in Tibet, Mr. Vigne, when travelling in these regions, came to the same conclusion. It is probable therefore that both plants, being umbelliferous, and employed for the same purposes in nearly the same regions, may have contributed to form the accounts which are so brief in ancient authors. *Eng. Cyc.* ; *Hogg's Vegetable Kingdom*, pp. 381, 383 ; *Royle's Ill. Him. Botany.*

SIL-SAFED, HIND. A species of amaranth, having a fine white seed, grows on the hills and plains of the Panjab.

SIL-SIYAH, HIND. A glossy black and very small grain, the seed of Celosia cristata.

SILSILLA, AR., HIND., PERS. The descent of a family ; pedigree ; any continuation.

SILSUPARI, HIND. Quercus incana.

SILURIDÆ, a family of fishes of the order Physostomi.

SILURUS, a genus of the Siluridæ, of which the following are species of the South-east of Asia.

S. asotus, *Linn.*, China, Japan.
„ affghana, *Gthr.*, Affghanistan.
„ cochin-chinensis, *C. & V.*, Cochin-China.
„ malabaricus, *C. & V.*, Malabar.

Parts of the sounds of Silurus glanis and barbel are boiled, but as the glue does not entirely dissolve, the liquid is strained to separate filaments from the gelatine. Besides these the cartilaginous and tendinous part of several fishes are boiled down to form fish-glue.

SILURUS MILITARIS, *Linn.*, syn. of Arius militaris, *Linn.*

SILURUS BOALIS, the Boalee fish of the Ganges. See Cotton manufactures.

SILVER.

Fasseh,	AR.	Perak ; salaka,	MALAY.
N'gway,	BURM.	Riaki,	MALEAL.
Yin, Peh-kin,	CHIN.	Sim, Nokra,	PERS.
Solv,	DAN.	Srebro,	POL.
Zilver,	DUT.	Prata,	PORT.
Argent,	FR.	Serebro,	RUS.
Silber,	GER.	Sveta, Rajata,	SANS
Nagdi ; chandi,	GUZ.	Rupya,	„
Keseph,	HEB.	Peddi,	SINGH.
Rupa,	HIND.	Plata,	SP.
Argento,	IT.	Silfver,	SW.
Salaka,	JAVANESE.	Vellie,	TAM.
Argentum,	LAT.	Vendie,	TEL.

Silver is one of the most anciently known of the metals, is found native and also combined with sulphur in considerable quantities, also as a chloride, and alloyed with other metals, especially lead, gold, autimony, arsenic, copper. It is separated from its ores by the process of amalgamation. The Arabs are thought to have been the first to employ it in medicine. In its metallic state it is inert, but being little liable to alteration, or to be affected by re-agents, it is much employed for surgical instruments and for vessels for chemical purposes. A rich ore of galena or sulphuret of lead at Jungumrazpillay in the vicinity of Cuddapah, is rich in silver, and is worked by the natives on this account, but all the lead is wasted and the silver is obtained by a tedious, clumsy, and expensive process. Mr. H. L. Pattinson's new process for separating the metals by careful, slow-cooling and crystalization, is applicable to this ore. The Kurnool ore contains upwards of 1 per cent. of silver, or 374 ounces in the ton, the quantity of lead and silver together being only 45 per cent. which was occasioned by there being a considerable quantity of gangue disseminated through the portion examined. Another specimen from Kurnool was found to contain 175 oz. 3 dwts. in the ton. At least some portions are very rich in the precious metal, and this accords with the minute researches of Malagah and Durochet who found that when sulphide of silver is associated with the sulphides of other metals, it is always unequally distributed. It would be quite impossible to calculate, with any approach to accuracy, from the examination of any given specimen, what would be the average yield of silver in a silver lead mine, until it is actually worked for the separation of that metal. Considering however that nearly one-half of the silver now in circulation in Great Britain is recovered from silver lead ores similar to the above, and seeing that it is found to be advantageous to separate the precious metal where it exists to the extent of only 6 ounces in the ton, it becomes evident that these ores must be of great value provided they can be found in sufficient quantity. The Kurnool galena occurs abundantly in all probability ; therefore it would prove to be highly remunerative to work this mine, both for the lead and silver contained in the ores. Silver has been got, in trifling quantities, in Upper India. Mr. W. Mainwaring found it also in the Madura district in a native sulphuret of zinc (blende). Captain Arthur was the first who discovered this metal in Mysore, both in its native state (in thin plates adhering to some specimens of gold crystallized in minute cubes) and as a muriate in an ore containing sulphur and oxide of iron. At the Madras Exhibition of 1857, a rich ore of argentiferous galena was exhibited from Martaban by Dr. Brandis, granular or in minute crystals, with silver passing through it in thready veins. This ore, assayed by Dr. Scott, contains about 80 per cent. of silver lead. The quantity of silver was found to vary in the portion examined from 70 to 300 ounces in the ton of ore. It is impossible therefore to say what its commercial value may be, unless an average sample were obtained, but if the ore exists in any quantity and of the same quality as that examined, it is a most valuable one, and would be well worth working by Pattenson's mode for separating the silver, as the process proves remunerative where only 7 ounces of silver can be obtained from a ton of metal. This is probably the ore referred to by the Rev. Francis Mason, A.M., in his publication on the natural productions of Burmah, where, he says, the limestone of the Provinces probably contains a large quantity of lead : in the valley of the Salwen there is a rich vein of argentiferous galena, which is reported to appear on the surface. A specimen which Dr. Morton sent to England for analysis, was said to be a very valuable mineral, and destined to make a fortune for some one. Professor Mitchell in the certificate that he furnished Dr. Morton of the analysis, says, it contains lead, sulphur, silver, gold, (traces) lime, magnesia, iron, silica and carbonic acid. It is a sulphuret of lead or galena. The quantity of lead and silver appears to be considerable, but there was not sufficient of the mineral to estimate either." The ore is seen in the limestone precisely as

galena is found in the limestone of the Mississippi, one of the richest known deposits of lead in the world. In a small hand-specimen from Martaban the amount of silver was found to vary in different portions of it, the percentage of lead being about 75. In the first trial, the silver was found to amount to about 70 ounces to the ton of the ore ; but in the second to not less than 300 ounces in the ton, or a little less than 1 per cent. Mr. O'Riley had a specimen of an ore of silver, antimony, copper, and sulphur brought him, which produced thirty-five per cent. of silver ; and the Tavoy gold, it would appear, contains nearly ten per cent. of the same metal.

Silver is brought from Yunnan near the borders of Cochin-China and the mines in that region must be both extensive and easily worked to afford such large quantities as have been exported. In China, silver is obtained from Lien-chau ; Shau-chau-fu ; Chau-chau-fu ; Shau-king-fu ; and Kau-chau-fu (Kwang-tung) ; also from the island of Hainan, from Kwei-lin-fu ; Liu-chau-fu ; King-yuen-fu ; and Sin-chau-fu in Kwang-si ; from Wu-ting-chau, in Yunnan ; from Chang-teh-fu and Honan-fu in Honan ; from Si-ngan-fu in Shensi and from Kung-chang-fu in Kansuh. Silver is associated with lead in various places. Much silver was brought formerly from Tonquin in Anam in exchange for zinc, and silver occurs in Corea, and is brought from Cambodia. Gold is found in many parts of the Japanese empire, sometimes it is obtained from its own ore, sometimes from the washings of the earth or sand and sometimes it is mixed with copper. The quantity in the country is undoubtedly great. An old Spanish writer of the seventeenth century tells us that in his day the palace of the emperor at Yeddo, as well as many houses of the nobility were literally covered with plates of gold. In the beginning of the Dutch trade the annual export was £840,000 sterling, and in the course of sixty years the amount sent out of the kingdom through the Dutch alone was from twenty-five to fifty millions sterling. Silver mines are quite as numerous as those of gold. In one year the Portuguese, while they had the trade, exported in silver £587,500 sterling. Copper abounds throughout the whole Japanese group, and some of it is said to be not surpassed by any in the world. The natives refine it and cast into cylinders about a foot long and an inch thick. The coarser kinds they cast into round lumps or cakes. Quicksilver is said to be abundant, but this, so far as we know, has never been an article of export. Lead also is found to be plentiful but like quicksilver it has not been sent out of the kingdom. Tin has also been discovered in small quantities, and of a quality so fine and white that it almost equals silver, but of the extent of this mineral little is known. Iron is found in three of the provinces, and probably exists in others, of which they make steel unsurpassed in excellency. "They have no want of coals in Japan," says Kœmpfer, "they being dug up in great quantities in the province of Sikuse and in most of the northern provinces." Dr. Siebold also speaks of coal as being in common use throughout the country, and on visiting one of the mines he saw enough to convince him that it was skilfully worked. For domestic purposes they convert the coal into coke. Viewed in the light of commercial intercourse between the two hemispheres, the coal is worth more than all the metallic deposits we have enumerated. In a region so volcanic, sulphur is, as might be expected, an abundant mineral. In some places it lies in broad deep beds, and may be dug up and removed with as much ease as sand. A considerable revenue is derived by the government from sulphur. On the island of Banca there are silver-mines, but the sultan had great objection to their being worked : there are silver mines too in the kingdom of Av. We also know this valuable metal to be a product of Siam, from which country it is occasionally brought to India as well as from Manilla and Batavia. Crawfurd however says that no veins of this metal have hitherto been discovered in any of the islands of the Malay or Philippine Archipelagos, many of which contain such abundant stores of iron, gold, tin and antimony. A small quantity of it, however, appears to be contained in all the gold of these countries. In Malay, the name for silver is perak, and in Javanese salaka. Both are native words of which the origin has not been traced. Silver was well known to the ancients: it is first mentioned in Gen. xx, 16 and afterwards frequently : in Abraham's time it was common, and according to Genesis xxiii, 9 and 15, traffic was carried on with it. It is the whitest of all the metals, and capable of receiving a lustre which is scarcely inferior to that of polished steel. In its polished state it reflects more light and heat than any other metal, so that it has a very low radiating power for heat, and hence a silver vessel retains the heat of the liquid contained in it longer than a vessel of any other metal. The preference given to a silver pot for making tea is founded on correct observation : a black earthen-ware vessel is such a powerful radiator of heat, that a hot liquid contained in it rapidly declines in temperature, and if used for making tea, the temperature of the boiling water soon falls below the point required fo

making the infusion. Silver ranks next to gold in ductility and malleability. Its density is 10·47: it is harder than gold and softer than copper, and, when pure, it is so soft as to be cut with a knife; the addition of a small quantity of copper increases its hardness; it fuses at a full-red heat, corresponding to 1,873° Fahr. Exposed to the heat of a blast furnace, silver throws off metallic vapours, and when fused between the charcoal electrodes of a powerful voltaic battery it is readily volatilized. There is a large demand for silver not only for the purposes of coinage, but also for services of plate, for which it is admirably adapted, inasmuch as it is not attacked in the slightest degree by any of the substances used for food. The large demand for the metal thus occasioned is met by its comparative abundance in the native state or alloyed with various other metals; it is also found mineralized by the non-metallic elements, and also in combination with certain acids. It is also obtained in large quantities from lead ores, as noticed under Galena. One of the richest and most abundant ores of Chili is the chloride, where it is often accompanied by native silver. A large proportion of the silver of commerce is extracted from ores which are too poor to allow of their being smelted or fused, even supposing fuel were abundant in the neighbourhood of the mines, which is not the case. Recourse is therefore had to the process of amalgamation founded on the ready solubility of silver and many other metals in metallic mercury. The Saxon process as adopted at Freyberg differs somewhat from the American process. The following was the

Value of Gold and Silver imported from and exported to Foreign countries at Ports in British India in each year from 1834–35 to 1868–69.

YEARS.	IMPORTS. Gold—Silver.		Total.	EXPORTS. Gold—Silver.		Total.
1834-35	£1,976,570		£1,976,570	£200,960		£200,960
1835-36	2,209,589		2,209,589	113,873		113,873
1836-37	2,036,057		2,036,057	263,933		263,933
1837-38	2,640,031		2,640,031	340,228		340,228
1838-39	3,010,890		3,010,890	347,856		347,856
Annual average.....	2,374,627		2,374,627	253,370		253,370
1839-40	1,945,263		1,945,263	470,273		470,273
1840-41	1,786,253		1,786,253	366,485		366,485
1841-42	2,189,312		2,189,312	515,064		515,064
1842-43	3,662,468		3,662,468	415,796		415,796
1843-44	4,870,403		4,870,403	1,045,814		1,045,814
Annual average.....	2,890,740		2,890,740	562,686		562,686
1844-45	4,212,441		4,212,441	1,106,839		1,106,839
1845-46	2,694,174		2,694,174	815,986		815,986
1846-47	852,839	2,087,082	2,939,921	5,890	708,833	714,723
1847-48	1,048,778	922,185	1,970,963	9,662	1,416,376	1,426,038
1848-49	1,401,748	2,798,628	4,200,376	52,830	2,484,724	2,537,554
Annual average.....	......	......	3,203,575	......	......	1,320,228
1849-50	1,159,548	2,235,792	3,395,340	42,555	962,185	1,004,740
1850-51	1,155,310	2,656,498	3,811,808	2,016	539,273	541,289
1851-52	1,338,778	3,713,280	5,052,058	71,165	847,923	919,088
1852-53	1,341,106	5,490,227	6,831,333	1,68,805	885,203	1,054,008
1853-54	1,078,708	3,770,643	4,849,351	17,265	1,464,899	1,482,164
Annual average.....	1,214,690	3,573,288	4,787,978	60,361	939,897	1,000,258
1854-55	882,721	1,145,137	2,027,858	1,51,431	1,115,537	1,266,968
1855-56	2,508,353	8,792,793	11,301,146	2,108	598,418	600,526
1856-57	2,176,002	12,237,695	14,413,697	84,788	1,164,448	1,249,236
1857-58	2,830,084	12,985,332	15,815,416	47,011	766,384	813,395
1858-59	4,437,339	8,379,692	12,817,031	10,886	651,350	662,236
Annual average.....	2,566,900	8,708,130	11,275,030	59,245	859,227	918,472
1859-60	4,288,037	12,068,926	16,356,963	3,803	921,363	925,166
1860-61	4,242,441	6,434,636	10,677,077	9,872	1,106,627	1,116,499
1861-62	5,190,432	9,761,545	14,951,977	6,007	675,089	681,096
1862-63	6,881,566	13,627,401	20,508,967	33,410	1,077,244	1,110,654
1863-64	8,925,412	14,037,169	22,962,581	27,106	1,240,450	1,267,556
Annual average.....	5,905,578	11,185,935	17,091,513	16,040	1,004,154	1,020,194
1864-65	9,875,032	11,488,320	21,363,352	35,068	1,409,522	1,444,590
1865-66	6,372,894	20,184,407	26,557,301	648,418	1,515,734	2,164,152
1866-67 11 months)	4,581,472	8,655,432	13,236,904	739,143	1,692,360	2,431,503
1867-68	4,775,924	6,999,450	11,775,374	166,457	1,405,489	1,571,946
1868-69	5,176,976	9,978,978	15,155,954	17,624	1,377,956	1,395,580
Annual average.....	6,156,460	11,461,317	17,617,777	321,342	1,480,212	1,801,554

The great range in the quantities imported of gold and silver, from two millions in 1854-55 to 26½ millions in 1865-66, indicates that the import is chiefly regulated by the requirements of commerce, but it is generally believed that a considerable amount is being absorbed in India by the manufacture of silver and gold ornaments. From the earliest historic times gold coins have been in use in India. The touch of silver in France (where, as in India, it is the legal standard of value) is ·900. In Britain it is ·925. Silver is found in Siam combined with copper, antimony, lead and arsenic. Silver and gold are both mentioned in Scripture. Joshua vi, 18, 19, says, "And ye in any-wise keep yourselves from the accursed thing. But all the silver and gold, and vessels of brass and iron, are consecrated unto the Lord." It is on this principle that the brahminical hindoos act: they will receive from any caste, however degraded, gold, silver, &c., but to receive from soodras food, garments, &c., would be considered as a great degradation. The silver-mines of Japan are described as being quite as numerous as the gold-mines, and their produce as excellent in quality. In one year we find the Portuguese exporting 2,350 chests of this fine silver, valued, in round numbers, at £587,500 sterling. To the east of Japan lie two islands, called, par excellence, the "gold and silver islands."—*McCulloch's Commer. Dict., p.* 1037 ; *Royle, Mat. Med.* ; *Smith's Chinese Mat. Med.* ; *Madras Ex. Juries' Reports of* 1857 ; *Dr. Mason's Tenasserim* ; *Williams' Middle Kingdom, p.* 144 ; *Ward's Hindoos* ; *Harris' Nat. Hist. of the Bible* ; *American Expedition to Japan, p.* 76 ; *Ainslie's Mat. Ind., Crawfurd's Dict., p.* 395 ; *Annals, Indian Administration* ; *Tomlinson* ; *Eng. Cyc.*

SILVER COINAGE. In India, silver is the legally constituted medium of exchange in all money transactions throughout the British Indian possessions. Gold coin was till about A. D. 1835 a legal tender, at a fixed value of sixteen rupees for the gold mohur of Calcutta, and fifteen rupees for that of Madras and Bombay: but it was not demandable in payment and was left to find its current value in the market. By a notification of the government of India on the 22nd December 1852, it was declared that on and after the 1st of January 1853, no gold coin should be received on account of payments due, or in any way to be made to the British government of India. The motive and object of the order was to escape from the consequences of the condition of the gold coin of India, and the erroneous principles, adopted for its manufacture, at a time when the gold of California and Australia, began to affect the market. The first considerable increase in the import of gold at Calcutta was in the year 1848-49, and a large portion of it was sent to the mint, in that and the following years, for conversion into the low standard lion-device pieces, brought out by Act XVII of 1835. The sending of gold to the mint of this period, was in reality, a mere sale of the metal to government for silver, at the par rate of 15 to 1, which then began to prevail as the market rate. The mint certificates, obtained for gold delivered were immediately paid in at that par, in satisfaction of government dues, or were negotiated at the banks, where silver was always claimed upon them under the option then given of receiving the amount in rupees at the par in question. And thus the gold which had been coined at the mint remained as a dead balance in the government treasury, owing to its not being issuable at the par of 15 to 1, in the condition of base standard coin to which it had been manufactured. Besides the accumulation produced through gold deliveries at the mint of Calcutta, low standard coin, previously issued, began also to be paid into the treasury, at the established par rate in ordinary transactions, under the Proclamation of 1841, so that out of a total amount of lion-device gold mohurs, not exceeding in value seventy lacs of rupees, which was the value of the coinage up to that date, more than fifty lacs were, in 1852, in deposit in the government treasury, as a dead unserviceable balance.

In the eight years 1846–47 to 1853–54 the total quantities of silver bullion minted at the three presidencies, was Co.'s Rs. 20,02,27,653

1856-47	C.'s Rs.	1,78,29,573	1850-51	C.'s Rs.	2,27,20,336
7-48	„	62,15,878	1-52	„	3,73,55,808
8-49	„	93,86,998	2-53	„	5,45,13,630
9-50	„	1,93,79,343	3-54	„	3,28,26,087

At the Bengal Mint, total Rs. 10,68,53,021
„ Madras „ „ „ 1,36,78,352
„ Bombay „ „ „ 7,96,96,280

The currency in India has been increasing. The census for 1873 shows for British India 186,143,859 ; for feudatory India 55,250,000 ; for all India 241,393,859.

The rupee is the unit or standard measure of value throughout India, and by the Regulation, a perfect assimilation in weight and fineness has been effected in this unit of currency of the three presidencies, so that the rupee of Upper India, of Madras, and Bombay are now identical in value. The great variety of coinage which formerly existed, the Arcot or Madras rupee, the Furrukhabad rupee, the Bombay rupee, the Moorshedabad or Sicca rupee, has thus ceased, and it is only in independent native states, that other local coins are current.

The following table exhibits the scheme of the British Indian monetary system :

	Gold mohur	Rupee.	Anna	Paisa.	Pai.
Calcutta.........	1	16	256	1024	3072
Madras & Bombay	1	15	240	960	2880
		1	16	64	192
		...	1	4	12
		...	...	1	3

Copper coin is only a legal tender at the established rate of sixty-four paisa to the rupee, on payments falling short of a rupee.

Small shells called Cowrie or Kauri, are also made use of for fractional payments and are reckoned as follows :

4 Kauri make 1 Ganda.
20 Ganda „ 1 Pan.
5 Pan „ 1 Anna,

but their value is subject to considerable fluctuation.

Silver pieces, of eight annas, four annas, and two annas, are struck of equal proportionate weight with the rupee : and copper coins of half anna, quarter anna, and one-twelfth anna complete the coined currency.

The numerous mints, the great debasement of their coinage and the complications resulting therefrom, led the Government of India, on the 10th September 1824, to resolve on the abolition of several mints and to induce native sovereigns to equalise their rupees with those of other mints. At that time, none of the coins forming the circulation of Hindustan, bore any other name than that of Shah Alum.

The British mints in India are open to the reception of gold and silver bullion for coinage on private account, and the following is the course of proceeding in the Calcutta mint. After examination by the processes of cutting and burning, to ascertain that there is no fraudulent admixture, the proprietor takes a receipt from the Mint Master, for the weight of his bullion. A specimen is then taken for assay, and after that operation the mint receipt is exchanged at the Assay Office, for a certificate of the standard value of the bullion in gold or silver money. This certificate is convertible into cash at the treasury as soon as the new coin may be transmitted thither from the mint. A deduction is made from the assay produce of bullion, to cover the expenses of coinage, which vary at the different mints as follows :—

	On Gold Bullion.	On Silver Bullion.
At the Calcutta mint	2 per cent.	2 per cent.
„ Madras „	3 „	2 „
„ Bombay „	2½ „	2 „

On the re-coinage of rupees struck at the mints of the Bengal presidency, a charge of 1 per cent. only is levied.

The following notes on the names of the coins and the schemes of the coinage of Eastern and Southern Asia may be interesting :—

Ashrafi, Moorshedabad gold mohr, has a weight of 190·895 grains troy.

Adhela, from adha, Hind., half, signifies the half of a paisa.

The Burmese have no coined money, but, like the Chinese, make their payments in the precious metals by weight. Like the latter nation, also, they make use of decimal divisions in estimating the value or purity of gold and silver, and their systems of weight and measure follow the same convenient scale. Major Burney, Resident at Ava, gave the following particulars :—

Vis, Tikal, and Moo are the general terms used in the transactions of commerce and accounts : their sub-divisions and multiples are,

1 pe or be.
2= 1 moo.
2½ = 1 mat.
5 = 2 = 1 hkwe.
10 = 4 = 2 = 1 kyat or tikal.
1000 =400 =200 =100= 1 peiktha or vissom.

100 tikals are precisely equal to 140 tolas.

The expressions employed by the Burmese goldsmiths in declaring the quality of bullion require a knowlege of the Burmese numerals, and a few other words :

Numerals.		Metals.	Assay terms.
1. Ta.	6. Khyouk.	Shew, gold.	Det. better, or above.
2. Nheet.	7. Khwon.	Shwenee. Red or pure gold.	Mee, differing or—
3. Thoun.	8. Sheet.	Nguee, silver.	Meedet, better, in assay.
4. Le.	9. Ko.	Ge or khle, lead or alloy.	Meeshyouk, worse ditto.
5. Nga.	10. Tshay.	Nee, copper. Byoo tin.	Ma, adulterated.

The usual weight of the small lumps of silver current in the place of coin is from twenty to thirty tikals (thirty or forty tolas) : they bear a variety of names from their quality and appearance, the figures given by the action of the fire upon a thick brown coating of glaze (of the oxydes of lead and antimony) answering, in some degree, the purpose of a dye impression.

'*Ban*' signifies 'pure' or 'touch,' and is the purest obtainable of the Burmese process of refinage. The word Ban is synonymous with the 'Bani' of the 'Ayin-i-Akbari :' Banwari is the Indian name of the touch-needles used in roughly valuing the precious metals.

Kharoobat, 'shelly' or 'spiral circled,' is applied to a silver cake, with marks upon its surface, produced by the crystallization of the lead scoria in the process of refinement :

it is supposed to denote a particular fineness, which, by Burmese law, ought to be ten-ninths yowetnee in value, *i. e.*, nine tikals of kharoobat pass for ten of yowetnee silver; or it should contain nineteen and a quarter ban and three-quarter copper.

Yowet-nee, red-leafed flowers or star, silver, is so named from the starry appearance of the melted litharge on its surface. Yowet is a corruption of rowek, 'leaf,' and the word is sometimes written by Europeans rowanee, rouni, rougahnee, &c. Yowetnee is the Government standard of Ava, and contains by law eighty-five ban and fifteen alloy per cent. Taking it at nine-tenths of purity of kharoobat, which last is 94·6 touch, its quality will be 85·2 fine: which closely accord with the legal value. The average of 60,000 tolas of yowetnee in an Ava remittance turned out two dwts. worse (90·8) but there was a loss of more than one per cent. in melting, from the exterior scoria.

Dain, the most common form of Ava bullion met with in circulation, is so called from an assessment, levied during the king's reign, upon villages and horses: dain signifying 'a stage,' or distance of two miles. These cakes also weigh from twenty to thirty tikals each. Their prescribed legal quality is ten per cent. better than yowetnee, which puts this species of silver on a par with kharoobat. In practice, however, the quality varies from one to ten per cent. better (five better to thirteen and a half worse) than Calcutta standard. The average of fifty-two lakhs of dain turned out three pennyweights better.

An adulterated dain silver, stated by Major Burney to be similar in quality to yowetnee, but in reality much worse (forty-two and a half pennyweights worse) was, about A. D. 1830, introduced and extensively circulated: it was made by admixture of lead, and was called Madain.

The following will serve as examples of the mode of valuing bullion:

Dain, ko-moo-det, is Dain nine per cent. better. Nga-moo-det, five per cent. better. Yowet-nee, standard, (eighty-five touch.)

Kyat-ge, or *ta-tshay-ge*, one tikal or tenth of alloy (meaning one-tenth weight of alloy added to standard.)

Kyouk-tshay nga-kyat-ge, six tens, five tikal alloy (meaning sixty per cent. of alloy added). Gyan, half yowetnee (and half alloy.)

Gold.—The purity of gold is expressed by moss or 'tenths' only; ten moss, 'tshay moo,' (one hundred touch) being esteemed pure gold.

'*King's gold*,' or standard, is called Ka-moo-ta pe-le-yowe (nine moss, one pe, four seeds), or nine and three-quarter moss fine.

'*Merchant's gold*' is Ko-moo-ta-be, nine and a half moss fine. Gold muhrs are called eight and a half moss fine by the Ava assayers.

Bactria.—In the reign of Antiochus II, the third of the Seleucidæ, Theodotus, the Governor of Bactria, revolted and established an independent monarchy, his capital was the modern Balkh, and his extensive kingdom included parts of Cabul, Khorasan and Bokhara, by aid of their coins, the names of nine of their princes have been brought down to us. Coins have been discovered at Surapura and Mathura, between Agra and Etawah, and others in the Punjab. Indeed both Grecian and Persian coins are met with frequently in India. General Ventura and Sir Alexander Burnes collected many Greek coins in Ancient Bactria and the Punjab. Major Tod discovered one of Apollodotus and one of Menander at Mathura. From the coins, there is reason to believe that the Greek princes were succeeded by buddhist rulers.

Cash, HIND. A small coin current in Southern India till the earlier part of the 19th century. Twenty cash being equal in value to four falous. Kas, may be a corruption of the Sanscrit word Karsha: which is mentioned in Colebrooke's Essay on Indian Weights, as the same with the word pan. A Karsha, or eighty raktika (rati) of copper is called a Pana or Karsha-pana. It is now the eightieth part of a pan, but the simple word is all that can be identified as having survived the changes of system.

According to the old Madras system, accounts were kept in star pagodas, fanams and kas,

8 kas = 1 fanam.

336 „ = 42 (silver) fanams = 1 pagoda.

The Company reckoned twelve fanams to the rupee and three and a half rupees to the pagoda. But the bazaar exchange fluctuated between thirty-five and forty-five silver fanams per pagoda: fanams are also coined in a base gold. Copper 1, 5, 10, and 20 kas pieces were coined in England, by contract, for Madras, so early as 1797. The 20 kas, was also called "dodo" and falus.

The star pagoda weighed 52·56 grains and is nineteen one-fifth carats fine. It is, therefore, intrinsically worth 7 shillings, 5¼ sterling, but it is commonly valued at 8 shillings. Many varieties of the pagoda used to circulate on the Coromandel coast, but since 1833 they have been only obtainable when sought for.

In 1811, a coinage from Spanish dollars took place, consisting of double rupees, rupees, halves and quarters; and pieces one, two, three and five fanams, the rupee weighed

1867 grains. A silver coinage of half and quarter pagodas, of dollar fineness, also then took place; the half pagoda weighed 326·73 grains troy, and was equal to 1¾ Arcot rupees. By a Proclamation of 7th January 1818, the silver rupee of one hundred and eighty grains, was constituted the standard coin, and all accounts and public engagements were ordered to be converted at the exchange of three hundred and fifty rupees per hundred pagodas. The proportion between the old and new currency then became 3½ rupees per pagoda, and in copper (75) seventy-five kas old currency = 14 paisa new currency.

Chinese currency.—Sycee silver, in Chinese Wan yin, is the only approach to a silver currency among the Chinese. In it, the Government taxes and duties, and the salaries of officers, are paid; and it is also current among merchants in general. The term Sycee is derived from two Chinese words, Se-sze, 'fine floss silk,' which expression is synonymous with the signification of the term Wan. This silver is formed into ingots, (by the Chinese called 'shoes') and by the natives of India, khuri, or 'hoofs,' which are stamped with the mark of the office that issues them, and the date of their issue. The ingots are of various weights, but most commonly of ten taels each. Sycee silver is divided into several classes, according to its fineness and freedom from alloy: the kinds most current at Canton are the five following:—

(*a*) *Kwan-heang*, 'the Hoppo's duties,' or the silver which is forwarded to the imperial treasury at Peking. This is ninety-seven to ninety-nine touch. On all the imperial duties, a certain percentage is levied for the purpose of turning them into Sycee of this high standard, and of conveying them to Peking without any loss in the full amount. The Hoppo, however, in all probability increases the percentage far above what is requisite, that he may be enabled to retain the remainder for himself and his dependents.

(*b*) *Fan-koo or Fan-foo*, the treasurer's receipts, or that in which the land-tax is paid. This is also of a high standard, but inferior to that of the hoppo's duties, and being intended for use in the province, not for conveyance to Peking, no percentage is levied on the taxes for it.

(*c*) *Yuen-paou or Une-po*, literally 'chief in value.' This kind is usually imported from Soochow, in large pieces of 50 taels each. It does not appear to belong to any particular government tax.

(*d*) *Yen or Eem-heang*, 'salt duties.' It is difficult to account for these being of so low a standard, the salt trade being entirely a government monopoly. This class is superior only to

(*e*) *Mut-tae or Wuh-tae*, the name of which, signifying 'uncleansed or unpurified,' designates it as the worst of all. It is seldom used except for the purpose of plating, or rather washing, baser metals.

The tael of Sycee in the East India Company's accounts was reckoned at 6*s.* 8*d.* sterling. When assayed in London, this metal is frequently found to contain a small admixture of gold. Mercantile account sales give the following average out-turn of China bullion remittances to London, Calcutta and Bombay; that

100 taels of Sycee yield:
- £316 at 5*s.* an oz. including 1½ per cent. for gold.
- 3,078 Sicca rupees, or with charges 3,062 rupees, at Calcutta.
- 3335 Bombay Rupees, or with charges 3,302 rupees, at Bombay.

Copper coins of India.—Throughout Central India until the middle of the 19th century, and even to its close in the Nizam's territories, much perplexity existed in the varieties of paisa, and in the greater range of their value, as in the coins of the more precious metals; so that every town and village almost had its separate currency, and its established nirkh, or, rate of exchange, with the rupee, to the great inconvenience of the traveller and of the poorer classes. In weight they varied from 280 grains (the Jaipuri, &c.,) to 34 grains (the Maiwari): the former passing at about 35, the latter at 378, paisa for a rupee. From the small advantage of melting up copper money, it happens that much of the circulation in this metal is of very great antiquity; and not only many ancient hindoo coins are met with, but Bactrian and Roman copper coins are also frequently procurable at fairs and in the neighbourhood of old towns in Upper India.

The paisa was in some cases adopted as the unit for determining the larger weights of the bazaars, as the Gorukhpur paisa, of which 530 were held equal to a passeri (five seers) at Ghazipur, and generally through the Benares province, 2,881 'chalans' of Fatehgurh in like manner were assumed as the weight of a man in that district. The Delhi paisa, coined till 1818, was twelve masha or one tola in weight.

Most of the native paisa contained more copper in proportion to their value than the E. I. Company's coin, which was, however, originally one tola in weight, and was gradually reduced to one hundred grains: the Sagar mint was for several years employed in converting the native copper money into Benares or trisuli paisa of one hundred grains weight, and sixty-four to the rupee. At

Bombay, the old paisa were bought up by government, for the purpose of removing them entirely from circulation, and substituting the new coin. The Bengal government also adopted a measure to withdraw the trisuli paisa from circulation, in consequence of their becoming much depreciated in public estimation from a large admixture of spurious coin, and other causes; the Calcutta mint being ordered to grant sixty-four new paisa for seventy-two trisuli, for an amount not under twenty rupees in value brought for exchange.

The Cowrie shell, Cypræa moneta, has greatly fallen in value, in consequence of the facilities of commerce. In 1740, a rupee exchanged for 2,400 cowries: in 1756 for 2,500; and recently in Calcutta, so many as 6,500 cowries could be obtained for a rupee. In Madras, from 1850, cowries had ceased to be used in money, but in Hyderabad of the Dekhan, in 1856, 2,688 cowries were to be had for a rupee. Cowrie, in Persian, is simply khur-mohra, literally 'jack-ass or mule-shell,' because mules are ornamented in that country with trappings of shells, as a Gosain's bullock and riding horses are in India. In Arabic, it is known by Wuda, which Ibn-Batuta says were carried in large quantities from the Maldive islands to Bengal, where it was used as a coin, and therefore no doubt can be entertained that the Cypræa moneta was meant. It is employed throughout all Southern Asia, as an armlet, in sickness, and to avert the evil eye, provided the neck-shell is split or broken. Among European nations these shells, on account of the fancied resemblance of their shape to that of the back of a little pig, are known by the names of Porceli, Porcellain, Porcellanen and Porcelaine, whence we have Porcellain, the glaze or varnish on the China-ware being similar to that of the cowrie. If sound be taken, our English phrases, 'not a cowrie and not a cash' would seem derived from these two minute Indian monies.

Dam.—A copper coin of India, now obsolete. In Akbar's time, forty dams of copper were equivalent in account to one rupee, and the dam of copper is itself defined at five tanks, or 1 tola, 8 masha and 7 rati in weight, which at 186 grains per tola is equal to 323·5625 grains.

There seems to have been 9·29 chitals in each dam, and in the Shir Shahi rupee 371·8 chitals, instead of the old 320 divisional coins of that name and value, which went to the lighter silver piece of former days. In the Ayeen-i-Akbaree, and in most revenue accounts, the dam is considered the 40th part of a rupee: but to the common people it is known as the 50th of a tuka; 25, therefore, go to a pysa, and 12½ to an adhela.

Denar, a Persian gold coin, from the Latin denarius.

Dirham, an Arabo-Persian silver coin from the latin drachma.

Dilli-All, or Dhili wal.—In A. H. 614, the ordinary coin of the country about Delhi. The original currency, it is supposed, corresponded with the billon money of Prithvi raja and others, which was imitatively adopted by the mahomedans in the early days of their occupation of Hindustan.

Dumree, or Damree is commonly known as a nominal coin, equal to 3⅛ or 3¼ dams; or between 2 and 3 Gundas: so that a Dumree varies from 8 to 12 cowries according to the good-will and pleasure of the money-changers.

Fals, an ancient Arabic copper coin, named from the Roman follis, the modern falous of the Persian gulf.

Ganda, HIND., is four pice. See Cash.

Indian system of Coinage and Currency. The silver rupee was introduced according to Abul Fazl, by Shir Shah, who usurped the throne of Delhi from Hamayun in the year 1542. Previous to his time, the Arabic dirham (silver drachma), the gold dinar (denarius auri,) and the copper falus (follis), formed the currency of the Moghul dominions. Shir Shah's rupee had on one side, the mahomedan creed: on the other the emperor's name and the date in Persian, both encircled in an annular Hindi inscription. Since the same coin was revised and made more pure in Akbar's reign, we may assume the original weight of the rupee from Abul Fazl's statement, to have been eleven and a quarter mashas. Akbar's square rupee, called from its inscription, the Jelali, was of the same weight and value. This coin was called Char-yari, from the names of the four friends and immediate successors of Mahomed, Abubakr, Omar, Osman, and Ali, being inscribed on the margin. This rupee is supposed by the vulgar, to have talismanic power.

Masha. Concerning the weight of the masha of the mahomedans, some difficulty prevails, as this unit now varies in different parts of India. Mr. Colebrook makes it seventeen grains and three-eighths nearly: but the average of several gold and silver jelali of Akbar's reign, found in good preservation, gives 15·5 grains, which also agrees better with the actual masha of many parts of Hindustan. By this calculation the rupee originally weighed 174·4 grains troy, and was of pure silver or such as was esteemed to be pure. The same standard was adopted by the emperor Akbar, and according

ly we find coins of Akbar's reign dug up in various places weighing from 170 to 175 grains. Cabinet specimens of Jahangir, Shah Jahan and Aurungzib, have also an average weight of one hundred and seventy-five grains pure, and the same prevails with little variation up to the time of Mahomed Shah, in the coins of opposite extremities of the empire ; or struck in the subahs of Surat Ahmedabad, Delhi and Bengal, as in the Akbari, Jahangiri, Shah Jahani, Delhi Sonat : Delhi Sonat Alimgir : Old Surat rupee : Murshidabad, Persian rupee of 1745 : Old Dacca Mahomed Shahi, Ahmad Shahi and Shah Alam of 1772. The Moghul emperors thus maintained a great uniformity in the currency of their vast empire, and they were very tenacious of their privilege of coining. On the breaking up of the empire in the reigns succeeding Mahomed Shah, numerous mints were established by ministers and by the viceroys of the principal subahs, who were assuming independence, and the coin was gradually debased as the confusion and exigencies of the time increased. The Mahratti and other hindoo states also established mints of their own, retaining, for form sake, however, the emperor's name and superscription, as a titular avowal of Delhi supremacy. As the British dominion spread, these differences gave rise to the difference in the currencies of the British provinces, and by a happy chance brought those of Madras, Bombay, Farrukhabad to a close approximation. Regulation XXXV of 1793, was the first of those of the E. I. Company which treats of mint matters. At that time, the differences in the values of the currencies were very great, but the dates of the coinage on each coin facilitated the work of the sirrafs or money-changers in applying the batta to which the known debasement of each coin entitled it. In 1793, the E. I. Company resolved to remedy the inconveniences which had thus arisen, by declaring that all rupees coined for the future should bear the impression of the 19th year of Shah Alum, and thus by its adoption at that early period, it happened that the Sicca rupee was the only one of the Company's coins which retained the full value of the original Delhi rupee. About the same time, the Surat rupee of the Moghul emperor, weighing 178·314 grains, was adopted as the currency of the Bombay presidency. It contained 172·4 pure, and was thus nearly equal to the Delhi rupee. From depreciations made in the Surat coin, by the nawab, the coinage at Bombay ceased for 20 years, but in 1800, the Surat rupee was ordered to be struck at Bombay, and from that date it became fixed at 179 grains weight, 164·74 pure, and the muhr was equalised in weight thereto. Lastly in 1829, under orders from the Home government, the currency of the Western Presidency was equalled with that of Madras by the adoption of the one hundred and eighty grain rupee and muhr. The Arcot rupee, in 1788, still retained 170 grains of pure silver, and subsequently when coined at the mint of Fort St. George, it had a weight of 176·4 grains or 166·477 grains pure, until the new system was introduced in 1818, and the Madras one hundred and eighty grain rupee was established.

The former inscriptions upon the E. I. Company's gold and silver coins were in Persian as follow :—

Obverse of the Sicca rupee struck at the Calcutta mint.

"Hami-i-deen-i-Mahomed, Sayah-i-Fazll Ool-lah Sikkah zad bar haft Kishwur Shah Alam badshah. Defender of the mahomedan faith, reflection of divine excellence, the king Shah Alam has struck this coin to be current throughout the seven climes."

Reverse. "Struck at Murshidabad in the year 19 of his fortunate reign."

On the rupee of the Western Provinces, coined at the mints formerly of Farrukhabad and Benares, and at the Sagar mint, the obverse had the same inscription, but on the reverse the date and place of coinage was different.

"Struck at Farruckhabad in the year 45 of his prosperous reign."

The Madras rupee had a dotted rim on the face, and an indented cord milling : that coined in Calcutta had an upright milled edge : it has the symbol of a rose on the obverse. The inscriptions are as follow :—

"The auspicious coin of the warrior king, Aziz ood Deen Mahomed, Alamgir, (the father of Shah Alum)."

"Struck at Arcot in the 20th year of his auspicious reign."

The Bombay coin had a plain edge and the following legend :

"The auspicious coin of the warrior king Shah Alum, 1215."

"Struck at Surat in the 46th year of his propitious reign."

As before explained, the Bombay, the Madras, and the Farrukhabad or Sonat rupee had fortuitously happened to be of nearly the same intrinsic value,

Arcot rupee pure contents. 165 grains.
Bombay rupee . . . . . . 164·7 „
Farrukhabad rupee . . . . 165·2 „

The alteration of the standard of purity in 1818, did not affect the proportion of pure metal, and when the Sagar mint was established in 1825, it was ordered to coin the new Furrukhabad rupee of 180 grains weight the

same as the standard of Madras, or containing 165 grains pure.

The inscriptions on the last of the Company's, afterwards adopted as Her Majesty queen Victoria's silver, rupee are as follow :—

Obverse—Victoria Queen.

Reverse—East India Company, 1840. One Rupee ; Ek-Roopiah.

It is milled upright on the edge.

The Rupee of Queen Victoria, after annexing India to the crown has

Obverse, Victoria Queen, with crowned bust.

Reverse, One rupee. India 1862.

The *anna* is the sixteenth part of a rupee ; there is no anna piece, in British India, but as the last coin of the E. I. Company and the first of Queen Victoria have a quarter anna and a half anna and a one-twelfth anna or one pai coin. That of the E. I. Company had

Obverse, a shield supported by a lion and a unicorn, rampant, surrounded with a lion rampant, and the words Auspicio regis et Senatus Angliæ.

Reverse, of half anna, of the East India Company, half anna. Do. Pai.

Reverse of quarter anna, East India Company, One quarter anna, Ek-Pae.

The *Pai* or one-twelfth anna, has

Obverse, Victoria Queen.

Reverse, One-twelfth anna, India, 1862.

Masha, A weight in India varying from 14·687 to 18·5 grains troy : the average being 15½ grains. The rupee of Akbar which was based upon that of Shir Shah weighed eleven and a half masha.

Muhr or mohur, from muhr, HIND, a seal, is a gold coin of value fifteen or sixteen rupees.

Nepal coins—Nepal was conquered by the Goorkhas in the Newar year 888, corresponding with A.D. 1768. Prior to this epoch, the valley of Kathmandu was divided into three sovereignties, Patan, Bhatgaon and Kathmandu, each governed by a rajah. Hence, on the Newar coins, three series of rajahs' names are found, those of Bhatgaon being generally distinguished by a shell ; those of Patan by a tirsool, and those of Kathmandu by a sword.

The old coins of the Mal or Newar rajahs, are much valued for their purity, and are worn by the women, strung to necklaces or armlets, as tokens in memory of their ancestors.

All money current north of the valley of Nepal, as far as the boundaries of Chinese Tartary, was formerly coined by one or more of the Nepal rajahs, this was a source of considerable profit to them, the Bhooteahs giving them weight for weight in silver and gold dust : but Ranjeet Mal, the last reigning rajah of Bhatgaon, sent them such base coins as to occasion a decrease of nearly one-half of their intrinsic value, which was no sooner discovered by the Bhooteahs than a desertion of the mint took place, and there has been no more Bhot coinage made in Nepal. The Bhooteahs who now visit Nepal for trade, profit by this spurious coin, which they take in exchange for their goods at five ganda per muhr, and they pass off in their own country as of full value or ten gandas. As the Bhooteahs had no other currency they were compelled to cut them into halves, quarters, and eighths. They are the only coin current in Lassa.

The Nepalese procure all their silver from China, in the form of stamped lumps, as they are current in Lassa : for the Tibetans generally follow the Chinese custom in their money transactions, of paying and receiving by weight, and the merchants carry scales with them for the purpose. Since the Goorkha conquest the Vikrama era has superseded that of Newar for ordinary purposes, and the Saka, commonly used in Hindustan, has been introduced upon the Nepalese coins.

Pagoda—A Portuguese appellation of a gold coin, the Hoon, derived from the pyramidal temple depicted on one side of the coin. The proper hindoo name is Varaha "wild boar," and doubtless originated in a device of the Boar incarnation or Avatar of Vishnu upon the ancient coinage of the Carnatic, for the same figure appears as the signet of the rajahs of that country, in some old copper grants of lands in the Mackenzie collection. The hindoo name probably varied according to the image of the coin : thus we find the Rama tanka having the device of Rama and his attendants ; and the Matsya Hun of Vijyanuggur with four fish on the obverse. Other pagodas have Vishnu, Jaganath, Vencateswar, &c., on them : those with three Swami or figures are of the best gold, and are valued 10. per cent. higher than the common pagoda. Hun is the common term used by the mahomedan writers, and indeed generally by the natives, for the pagoda. It signifies "gold" in the old Carnatic language.

The Hun was subdivided into fanams and kas. Fanam or more properly panam is identical with the word pan, known in Bengal as one of the divisions of the hindoo metrical system, now applied chiefly to a certain measure of kauris and copper money. The old fanam was of gold only, and was the one-sixteenth of a hun. In the Lilavati we find

16 para = 1 dharan ; 16 dharan = 1 nishk, where the dharan (or dharam) seems to ac-

cord with the hun, which is identical in weight with the Greek drachma. The Ikkeri pagoda contains sixteen fanams: that of Varari and Anandrui, fourteen, and the Kalyan pagoda twenty-eight. The division adopted by the British was forty-two.

Pai, HIND. A small copper coin in Indian currency, the third part of a pice and twelfth part of an anna.

Pice, *Paisa*, HIND. A copper coin, the one-fourth part of an anna.

Panna. The standard of Panna under the Peishwa, was called the Ankusi rupee from Ankus the instrument used by the mahout to guide the elephant: probably a symbol marked on the coin.

The Parthian or Arsakian Monarchy was erected by Arsaces, who filled the office of satrap in Bactria, in the year 256 B. C. Vaillant wrote a history of this powerful dynasty and endeavoured to classify the coins of the twenty-nine Arsacidæ kings. It was subsequently absorbed in the Persian empire in the reign of Alexander Severus, A. D. 226. Their coins have often been found in Southern Asia, the greater number having the Greek word Arsakoy, with different epithets.

Persian ancient Coins.—According to Marsden, it was not until the kalifat of Abdool-Malik, in the year of the Hijra 76, (A.D. 695) that a distinct coinage was instituted with a view of superseding the currency of Greek or Byzantine, and Persian, gold and silver.

Pool—Pehlvi, or Phool, Parsi. Obolus et res quævis obolo similis ut squama piscis simil., (faloos) Borhani Katiu, inde. Be Poolee: Abd-ool-Malik, n. c. Pecuniæ defectus. Abul Fazl says that the Pool of olden, days was equal to four tolas, Ferishta again gives 1 or 1¾ tolas.

Rati—Colonel Anderson considers the rati may be assumed as high as 1·93 grains, and the masha at 15·44 grains.

Rupee, Rupiya, HIND. A silver coin current in India, value about two shillings: it derives its name from the Sanscrit.

Sanat, ARAB, year, generally used in coinage.

Sikka, HIND. A coining die, applied to a coin formerly current in India.

Tibet.—Mr. Cosmo de Koros states that the English rupee circulates freely through Western Tibet. The common Chinese brass money, with a square hole in the centre, is likewise current in Lassa, as generally through the whole of the Chinese empire.

Tola, HIND. A weight in India, equal to 180 grains troy, the weight of the present rupee.

The following statement shows the weight, firmness and sterling value of the coins formerly struck, reckoning the value of gold at £3 17*s*. 10½*d*. per standard oz., and silver at 5*s*. 2*d*.

COINS.	Grains, pure.	Grains, alloy.	Grains, gross weight.	Value. £	s.	d.	
Gold mohur	187·651	17·059	204·710	1	13	2½	22·25
Sicca Rupee	175·923	15·993	191·916	0	2	0½	6·25
Furruckabad do...	165·215	15·019	180·234	0	1	11½	8·25

SILVER AND GOLD FILIGREE-WORK The native silver-smiths of Cuttack have long been noted for the fineness, neatness, and lightness of their filigree work. This kind of work is executed, for the most part, under supervision, by mere boys, whose nimbler fingers and keener eyesight are supposed to enable them to bring out and put together the minute patterns with more distinctness and accuracy than their elders can; comparative cheapnes is, perhaps, another reason for their employment. The ruling rates for this filigree work are from two to two and a half rupees, that is to say, taking the first rate, two rupees or four shillings is charged for every rupee weight of finished silver work, namely, one rupee for workmanship, and one rupee as the price of the silver. The filigree work in gold of Delhi and other places, is famed. Next to muslins, and embroidered fabrics, filigree work is that for which Dacca is most celebrated, but the art is also practised in great perfection at Cuttack, and in Sumatra and China. The articles usually made at Dacca are ladies' ornaments, such as bracelets, ear-rings, brooches, chains, necklaces, &c., and attar-dans and small boxes for natives. A specimen on a large scale could be made, such as a vase for flowers, a stand for writing materials. The design best adapted for displaying the delicate work of filigree is that of a leaf. It should be drawn on stout paper, and of the exact size of the article intended to be made. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of a forceps for inter-twisting it. The drawing of silver and gold (*i. e.*, silver covered with gold) wire, used as thread in embroidery is extensively carried on in several places. Benares is celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as "goolabatoon" for the embroidery of muslins and silks; "goshoo" for caps and covering the handles of chowries; "sulmah" for turbans, slippers, and hookah snakes; and boolun for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Au-

rungzebe a quantity of this article was made yearly for the Court at Delhi. A hundred sticks covered with it, and plain gold, and silver "badla" to the amount of £2,000 in value, appear, among items composing the Mulboos Khas Nuzr, or present of royal clothing, which was annually sent to the emperor. The Trichinopoly filigree work is as light and elegant as that of Malta or Genoa. Among the manifold and various manufactures of China, the gold and silver tinsel cloths of Pekin stand deservedly in high estimation : their chief value arises from the peculiar property which they possess of never tarnishing or becoming discoloured. The gold and silver filigree work of the Chinese equals any ever produced by ancient Venetian masters, and their chasing in silver is unrivalled.

It is desirable that there should not be any alloy whatever in the gold or gilt silver thread used. This alone will preserve it from tarnish, and as gold thread enters very largely into the patterns of most native cloths, and it would be impossible to make any of high value acceptable without it. In the gold thread manufacture, a small bar, $\frac{1}{4}$ inch diameter, and about 6 inches long, of the purest silver is trebly or quadruply gilt by the highest touch gold, there is no alloy whatever used in the highest kinds, but the value of the thread depends upon the number of times the silver has been gilt with pure gold. The gilt bar is beaten out to a thick wire, with carefully polished flat hammers on a polished anvil, and afterwards drawn through a succession of holes in a plate, until the requisite fineness is obtained which is hardly more, probably than a fine hair. The wire is wound round upon reels, and is flattened by a delicate and peculiar manual operation as follows :—Three reels of wire are placed upright on the further side of a steel plate perforated, through which the wire is drawn, the workman draws these wires towards him over a highly polished steel anvil placed on a small stool, and as they pass, strikes them sharply with a somewhat heavy hammer, the face of which is also perfectly flat and highly polished. The operation is very rapid, and must require great skill so as to ensure uniform flatness and perfection in the wire thus prepared for use. To make it into thread it is twisted upon silk thread of various degrees of fineness, as required, by a simple process as follows : The thread passes over a ring or hook a few feet above the operator, and is wound upon a spindle with a long shank which hangs near the ground. A rapid twist is given to it by the workman, by rolling it sharply on his thigh, and as it spins, the gold thread is directed carefully along, so as to cover the whole exactly as high as the man can reach. The spindle is then stopped, the covered thread wound upon it, and the operation resumed. It is doubtful perhaps, whether any mechanical means would ensure such perfection as is attained by these simple manual processes, or whether they could ever be imitated by artizans unused to them.

The manufactures of Narrainpet and Dharwar, besides being consumed locally, and in the adjoining districts, are exported in by far the greater quantity to Nagpoor, Gwalior, and Indore, Bombay and Poonah, Southern Mahratta country, Hyderabad, Baroda, &c., and it is also asserted, that they find their way to the marts of Hindoostan, where they are much valued for their texture and durability. The following estimate has been given as approaching nearly to the truth. Agents from the several places mentioned reside at Narrainpett, and forward their consignments usually in the cold weather. Total from 3,86,000 to 4,58,000.

To Nagpoor annually, value	Rs. 8 to 10,000
„ Gwalior, Indore, Rajpootana, &c.	„ $1\frac{1}{4}$ to $1\frac{1}{2}$ lacs
„ Bombay and Poona	„ 1 lac to 1,25,000
„ Southern Mahratta country, Sattara, &c.	„ 75,000 to 1 lac.
„ Hyderabad	„ 10 to 15,000
„ Baroda	50,000
„ Shorapoor, &c.	8,000

Cotton and silk sarees and roomals are the most material of the manufactures of the districts adjoining Shorapoor. Those of Gudwall, which are principally silk, were formerly more extensive and, have been supplanted by the sarees and dooputtas of Pyetun and Boorhanpoor, which are largely used and are of much superior quality. The principal trade at Gudwall is at the annual fair held in February, when purchasers, chiefly from the southward, attend and transact business.

Gulburgah cloths are sent to Sholapoor and Poonah, as also to Hyderabad and other markets in the Dekhan ; but the trade and manufacture have decreased considerably in late years.

Muktul manufactures.—The weavers at Muktul are comparatively few, and no great value of manufacture is attained. Shorapoor consumes a considerable amount of Muktul manufacture, and the cloths are also exported to the Southern Mahratta country, &c. The dyes of the Muktul sarees are considered more permanent than those of Narrainpett, and as the texture of the cloths is improving in quality, it is probable that the manufactures may increase.

Amurchinta Manufactures are principally turbans, selahs, or scarfs, dotees, roomals, &c. &c., and are held in much estimation for the fineness of the fabric and its durability. These manufactures are exported to Sholapoor,

Poonah and the Southern Mahratta country, and much of the finer plain selahs and turbans to Hyderabad.

The thread or yarns from which the manufactures of Narrainpett, Dharwar, Muktul, Amurchinta and Gudwal are woven, is spun in the districts adjoining in which Shorapoor is included. The spinners are uniformly dhers, a class of the lower caste, but who are unrivalled in this branch of industry. They purchase the cotton in the seed, which is the produce of Shorapoor and the country around, and it is cleaned entirely by the hand, as the use of a churka or other cleaning implement they allege breaks or injures the fibre. The spinning wheel has a large circumference, and is in some instances worked by a treadle, and the spinning is carried on in a close room from whence wind is carefully excluded. Up to A. D. 1851 no English yarn had found its way into the country except of low quality—what was used, was principally red, orange, and green which is employed in place of silk for the borders of the lower priced sarees, dhotees, and roomals. It is considered too hard and too much twisted, to be used in the manufacture of whole pieces.

Wages of Weavers.—The expenses of weaving, as far as can be ascertained from the manufacturers, are already detailed in the memorandum of cloths, and the weavers would appear to have very fair amount of remuneration, if the prices of labour of other descriptions prevalent in the country is taken into consideration. The wages, average from 8 to 12 rupees per month, and independent of this, the weaver had a considerable profit in the excess of material, silk, cotton and gold thread which it is customary to afford him for the manufacture of each article.

Sarees of Dharwar are superior in point of texture, sarees, perfectly plain, and with narrow silk borders, are made to the order, some rajas in Central India and Hindoostan to the value of 60 and 80 rupees.

The perfection of the cotton manufactures of Narrainpett, Dharwar and Muktul as well in regard to colour as texture, is attributed by the native weavers to the quality of the water, in regard to which they are most particular, and to the clays and earths obtainable near those places in which the thread is washed after its long oil process. The water is represented as hard and unfit for culinary purposes or washing, yet without salt, and which, in washing the thread, and brushing it as stretched on the loom, contracts the fibre and renders it clean and smooth in working.

There can be no doubt of the permanency of the colours, and that all the madder reds and browns improve with washing. In imitating these manufactures therefore, it should be a point of essential importance to use none but permanent colours, as any others subjected to the rough treatment of Indian washermen, would speedily fade or change, and would be useless and unsaleable however fine, in comparison with native manufacturers.

The silk dyes, are perhaps less permanent than the cotton, but still they are sufficiently fast to last many years, and bear frequent washing. In the finer kinds of silk manufacture, none but China silk is employed ; as the value decreases, it is mixed with Mysore silk, and the lowest description of silk sarees are made from Mysore silk alone. These, as those of Gudwall, and Gulburgah, are at once known by their rough texture and great weight in comparison of the finer kinds of Narrainpett cloths.

Cotton-printing of Sholapore.—There is a branch of cotton-printing carried on at Sholapoor. The patterns of various kinds are printed upon coarse cloth, and are used for floor coverings, bed coverlets, &c. &c., the latter by the poorer classes. The colours are very permanent, and will bear any amount of washing, but are confined to mudder reds, and browns, black, dull greens and yellows.

The other manufactures of the country are of an ordinary description, dhotees or men's cloths, sarees, roomals for the head, and handkerchiefs, the coarser descriptions of muslins, turbans and selahs, and both for local use and exportation to the Southern Mahratta country, Poonah, Bombay, &c. They do not differ materially from ordinary manufactures in other parts of India, and could only be valuable in reference to price, texture and dye. —*Colonel Meadows Taylor*, 30*th September* 1850, *p.* 290 *of Madras Ex. Jur. Report* ; *Sirr's China and the Chinese, Vol.* i, *pp.* 384, 386. See Dacca.

SILVER FIR, Abies smithiana, also Abies picea. Abies : coniferæ ; Fir : the Deciduous, silver fir is Abies brunoniana, *Sieb.*

SILVER FLOWER, Dendrobium formosum.

SILVER-FISH. The bodies of the genus Chanda are more or less diaphonous. The name Chand is from the hindi word chandi, silver.

SILVER-LEAVED CONVOLVULUS, Convolvulus argentaceus.

SILVERY GIBBON, see Simiadæ.

SIM, Pers. Silver.

SIM, Hind. Jasminum officinale.

SIMA, Tel. Foreign, not indigenous ; hence,

Simai-atti pallam, Tam. Figs.

Sima avisi or Metta tamara, Tel. Cassia alata, *L.*

Sima chinduga, or Sima chinta, Inga dul-

cis, *Willd.*, *W. & A.*, 829; *W. Ic.*, 198; *R.* ii, 556; *Cor.*, 99.

Sima chitra mulam, Pedilanthus tithymaloides, *Poit.*

Sima chunambu, Tam. Chalk.

Sima ippa chettu, Tel. Achras sapota, *Willd.* Diospyros sapota.

Simaipusini kai, Tam. Cucurbita ovifera, *Linn.*

Sima karpuram, Meriandra bengalensis, *Benth.*

Sima mirapa, or Golakonda mirapa, Capsicum frutescens, *L.*

Sima sunnam, Tel. Chalk.

SIMA, or Simba, the ceremony, after religious rites, of pointing out a boundary.

SIMA, Tel. Capsicum frutescens, *Linn.*

SIM-AB, Pers. Literally silver-water, mercury.

SIMA-BARA, see Japan.

SIMAGH, Ar. Gum. Simagh-arabi, gum-arabic.

SIMAI GUDDA, Tel. Chintz.

SIMAK, Hind. Sida cordifolia.

SIMAO MANIS, Malay. Citrus aurantium, *Linn.*

SIMARUBACEÆ, *Rich.* The Quassia tribe of plants comprising 3 genera, 6 species, viz., 1 Quassia amara, 2 Samadera, 1 Nima.

SIMAN, Hind.? A tree of Chota Nagpore, with hard, grey timber.—*Cal. Cat. Ex.*, 1862.

SIMANG, the capital of the Bor Abor.

SIMANG and BILA. In the northern portion of the Malayan peninsula, within the territories of the Malay provinces of Oveda, Perak, Pahang and Tringanu, is a Negro race known to the Malays under the names of Simang and Bila. The complexion of these is black, or sooty, the hair woolly, the features approaching to the African, and the stature dwarfish. An adult Simang male, said to be of the mean height of this people, was found to be only 4 feet 9 inches high. Some of the Simang, or Bila, have fixed habitations, and practise a rude agriculture, but the majority lead an erratic life, gathering the rude products of the forest to exchange with the Malays for the necessaries of life, or subsisting by the chase. The Simang and Bila appear to have several tongues, and that of the Simang though containing Malay and Javanese words is considered by Mr. Crawfurd to be an original tongue. The Simang like the Philippine negroes are of diminutive stature. The average height of the Simang is said to be under five feet.

In the remoter portions of Asianesia, some of the black tribes possess all the traits of the Guinea negro, but the Simang and Mincopi of the Andamans appear, like the greater number of the Asianesian negro tribes, to have been partially modified by mixture with other races. This is certainly the case with the Simang, some of whom are Australo-Tamulian in appearance, while others differ little save in their frizzled or spiral hair and dark complexion, from some of the adjacent Binua. The average height of the adults of a party of Simang Bukit on the Ijan, a feeder of the Krian was four feet eight inches, the highest four feet ten inches. Head small, ridged, that is, rising above the forehead in an obtuse wedge-shape, the back rounded and markedly narrower than the zygomatic or middle zone; the face generally narrower and smaller than the Malay; eye-brows very prominent, standing out from the forehead and projecting over the ocular furrow which extends across the face, the root of the nose sinking into it and forming a deep angle with the base of the superciliary ridge. The nose short and somewhat sharp at the point, and often turned up, but the alæ spreading; eyes fine, middle-sized and straight: iris large piercing, conjunctive membrane yellow, the upper eye-lashes, owing to the deep ocular depression or prominent ridges are compressed or folded, the roots of the hair being hidden. The cheek-bones generally broad, but in some cases not remarkably prominent, save with reference to the narrow forehead. Mouth large or wide but lips not thick or projecting; the lower part of the face oval or round but not square. The deep depression at the eyes and sinking in at the root of the nose give a very remarkable character to the head compared with the Malay. The projecting brow is in a vertical line with the nose, mouth and chin, and the upper jaw is not projecting or prognathous. The person is slender, the belly, protuberant, owing to their animal life in the jungle and precarious food. This induces them to cram themselves whenever they can and the skin of the abdomen thus becomes flaccid and expansible like that of an ape. The skin generally is fine and soft, although often disfigured by scurf, and the colour is a dark-brown, but in some cases lighter and approaching to the Malay. The more exposed hordes are black. The Simang of Tringanu are not of such a jet-black glossy colour as the Kidah tribe. An individual who, many years ago, was brought to Pinang, and who has hitherto represented the race in European ethnology, probably belonged to such a horde. His lips were thick, and Mr. Anderson says he exactly resembled two natives of the Andamans, who were brought to Pinang in 1819. Mr. Anderson adds that a Semang of Tringanu, who lived in Pinang was 'not of such a jet black glossy appearance' as the Semang from

Kidah whom he saw, and the two Andamani. The hair is spiral not woolly and grows thickly on the head in tufts. They have thick mustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian, nor Negro of the Guinea type. It is Papua-Tamulian; the expression of the face is mild, simple and stupid. The voice is soft, low, nasal and hollow or cerebral; a line of tattooing extends from the forehead to the cheek-bones. The right ear is pierced, the orifice being large. The hair is cropped save a ring or fringe round the forehead. The Simang are found in all the rivers of Pera and are classed as the Simang Paya who frequent the low and marshy alluvium between the sea and the hills; the Simang Bukit who wander in the forests of the hills, and the Sakai who are confined to the mountains of the interior. There are said to be thousands of the Simang in the interior of Patani, Tringanu, Kidah and Pera, wherever the country is covered with forest and there are few or no Malays. Simang tribes of Kidah and Pera have a language mainly dissyllabic like other Asianesian ones. Simang, is a Malay word and is applied by the mahomedans of Kedah, Perak, Tringanu and Salangore, to the pagan tribes of the interior, though the Semang Paya reside on the plains or borders of the morasses, the Semang Bukit, are the occupants of hills, the Semang Bakow reside in the neigbourhood of the sea, in the creeks and districts where the mangrove grows, frequenting the sea-shore, and occasionally taking up their quarters in the mangrove jungles. The Semang Bila are those who have been somewhat reclaimed from their savage habits, and have had intercourse with the Malays. According to Mr. Earl, the Semang are a mere remnant of tribes which, according to native tradition, occupied a considerable portion of the interior of the peninsula at a comparatively recent period. At the present time the race is only known to exist on the mountain Jerei, in the Kedah territory, a little to the north of Penang; in the neighbourhood of the mountain range which lies immediately opposite to the latter settlement; and in the uplands of Tringanu, on the east coast of the peninsula; but it seems probable that scattered remnants are to be found in several other spots, which have not yet been visited by Europeans. The Sakai and Allas tribes of Perak, which have hitherto been classed with the Semang, or woolly-haired race of the neighbourhood of Pinang, have curly but not woolly hair; and although they retain the Papuan custom of boring the septum of the nose, and also mark their skins with cicatrices they cannot be considered as Papuans; indeed their language and leading characteristics show them to be wild tribes of the Malayan race. The Semang, however, who are identical in every particular with the Pangan of the interior of Tringanu, are Papuans in all their purity, with woolly and tufted hair in every respect similar to other unmixed tribes of the race. Of the origin of the Semang the Malays possess no tradition. Certain it is, however, that the tribes of them which inhabited various parts on both sides of the peninsula were much more numerous, before many of the present Malayan colonies were founded by emigrants from Sumatra.

They are at present most numerous in the interior of Jan, a small river to the north of the Mirbow, near the lofty mountain Jerei, in the Kedah territory. There are small parties also in the mountains, inland of Juru and Krian, opposite Pinang. Their huts or temporary dwellings, (for they have no fixed habitations, but rove about like the beasts of the forest), consist of two posts stuck into the ground, with a small cross-piece, and a few leaves or branches of trees laid over to secure them from the weather. Some of them, indeed, in the thicker parts of the forest, where the elephants, tigers, and other wild animals are most abundant, make their temporary dwellings upon the cliffs and branches of large trees. The Semang subsist on the birds and beasts of the forest, and roots. They eat the elephant, rhinoceros, monkeys, and rats, and with the exception of the scanty supplies they obtain from the Malays, they have no rice or salt. They are very expert with the sumpit, a blow-pipe for projecting small darts, and poison the darts with ipoh poison, procured from the juice of various trees. They handle the bow and the spear with wonderful dexterity and destroy the largest and most powerful animals by ingenious contrivances. It is seldom they suffer by beasts of prey, as they are extremely sharp-sighted, and as agile in ascending the trees as the monkeys. Their mode of destroying elephants, in order to procure the ivory, or their flesh, is most ingenious. They lie in wait in small parties of two or three, when they have perceived any elephants ascend a hill, and as they descend again, which they usually do at a slow pace, plucking the branches as they move along, while the hind legs are lifted up, the Semang, cautiously approaching behind, drives a sharp-pointed bamboo, or a piece of neebong which has been previously well-hardened in the fire, and touched with poison, into the sole of the elephant's foot with all his force, which effectually lames the animal, and most commonly causes him to fall, when

the whole party rush upon him with spears and sharp-pointed sticks, and soon despatch him. The rhinoceros they obtain with even less difficulty. This animal, which is of solitary habits, is found frequently in marshy places, with its whole body immersed in the mud, and part of the head only visible. The Malays call the animal "Badak Tapa" or the recluse rhinoceros. Towards the close of the rainy season, they are said to bury themselves in this manner in different places, and upon the dry weather setting in, and from the powerful effects of a vertical sun, the mud becomes hard and crusted, and the rhinoceros cannot effect its escape without considerable difficulty and exertion. The wild buffaloes of North Australia are often found in a similar predicament, and are sometimes shot by the hunters before they can extricate themselves. The Semang prepare themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which being kept well supplied by the Semang with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of. The projecting horn on the snout is carefully preserved, being supposed to be possessed of medicinal properties, and highly prized by the Malays to whom they barter it for their tobacco, &c. The adjacent Binua also tattoo. The practice is Indian among the Konds, the higher Abor tribes, &c., also ultra-Indian and Asianesian. Although the right ear is pierced, the orifice being large, they do not pierce the septum of the nose like one of the adjacent Binua tribes of Perak, and many of the Asianesian Papuas. The hair is cropped save a ring or fringe round the forehead.

The Semang Bila occupy the southern part of the Malay peninsula, along with the Semang, in the provinces of Quedah, Perak, Pahang and Triugauu.

The people of Kidah more often approximate to the eastern Negro type than in southern Malaya, and Mr. Logan was particularly struck with the repeated occurrence of the deep nasal depression of the Semangs, the Australians and Papuans. Small heads, with all the features as it were contracted or compressed, were common.—*Mr. Logan in Jour. Ind. Arch., Vol.* iv, *p.* 427 ; *Mr. Earl's Indian Archipelago.* See India.

SIMBAL, Hind. Bombax heptaphyllum.

SIMBALU, Beng., Hind. Vitex trifolia.

SIMBUL, an umbellifer, resembling the "jira," or cummin seed, it has an edible bulbous root said to be much relished by bears.—*Cleghorn's Punjab Report, p.* 100.

SIMEON SETH, at the command of Alexis Comnenis, made a Greek translation of the fables of Bedpai.

SIMIADÆ, or monkeys, a family of the mammalia of the order Primates : viz.,

Order. Primates.

Fam. Simiadæ, Monkeys.

Quadrumana,	Catarrhinæ, *Geoffrey.*
Heopitheci, *van Hæven.*	

Sub-fam. Simianæ, *Apes.*

Troglodytes niger, Chimpanzee, Africa.

Troglodytes gorilla, Gorilla, Africa.

Simia satyrus, Orang-utan of Borneo.

Simia morio, Orang-utan of Sumatra.

Simanga syndactyla, *Raffles*, Sumatra.

Sub-fam. Hylobatinæ, Gibbons of Indo-Chinese countries and Malayana.

Hylobates hoolook, Hoolook of Assam, Cachar, Khassia, and Sylhet.

Hylobates lar, Gibbon of Tenasserim.

Hylobates agilis, Gibbon of Malay peninsula: others from the Malay Islands.

Sub-family, Monkeys.

Gen. Presbytis illiger.

Semnopithecus, *F. Cuvier.*

Hanuman,	Hind.	Langur,	Hind.

Presbytis entellus.

Simia,	*Dufresn.*	P. anchises,	*Ell.*
Langur,	Hind.	Makur,	Mahr.
Hanuman,	,,	Musya,	Can.
Wanur,	Mahr.	Bengal Langur,	Eng.

Common in Bengal and Central India.

Presbytis schistaceus, *Hodgs., Horsf.*

Himalayan Langur,	Eng.	Langur,	Hind.
Kubup,	Bhot.	Kemba Suhu,	Lepch.

Occurs throughout the Himalaya.

Presbytis priamus, *Ell., Bly., Horsf.*

Madras Langur,	Eng.	Gandangi,	Tel.

Inhabits the eastern side of the peninsula and the north of Ceylon.

Presbytis johnii, *Jerdon.*

Simia johnii,	*Fisher.*	Semnopithecus cucullatus,	*Is. Geof.*
Semnopithecus Dusmierii,	*Schinz.*	Semnopithecus hypoleucos,	*Blyth, Horsf.*
Semnopithecus johnii var.	*Martin.*		

The Malabar Langur, of Tranvancore, Cochin, Malabar and South Canara.

Presbytis jubatus, *Jerdon.*

Semnopithecus johnii, *Wagner, Blyth, Martin.*

The Neilgherry Langur, of Neilgherries, Anamallay, Pulney and Wynaad, not below 2,500 and 3,000 feet.

Presbytis pileatus, *Blyth*, Sylhet, Cachar, Chittagong.

Presbytis barbei, *Blyth*, interior of Tipperah Hills.

Presbytis obscurus, *Reid*, Mergui.

Presbytis phayrei, *Blyth*, Arrakan.

Presbytis albo-cinereus, Malayan Peninsula.

Presbytis cephalopterus, *Blyth*, Ceylon.

Presbytis ursinus, *Blyth*, Ceylon.

Sub-fam. Papioninæ, Baboons.

The true baboons of Africa and monkey-like baboons of India.

Inuus silenus, *Jerdon*. Lion-monkey.

Simia leonina, *Linn, Shaw*.		Silenus veter, *Gray, Bly., Hors.*	
Nil-bandar,	BENG.	Nolla-manthi,	MAL.
Siahbandar,	HIND.		

Western Ghauts, Cochin, Travancore.

Inuus rhesus, *Jerdon*.

Inuus erythræus,	*Schreb.*	Pithex oinops,	*Hodg., Hors., Bl.*
Morkot,	BENG.	Marcut-banur,	LEP.
Piyu,	BHOT.	Banur,	"
Bengal monkey,	ENG.	Suhu,	"
Bandar,	HIND.		

Inhabits nearly all India.

Inuus pelops, *Jerdon*.

Macacus assamensis, *McLelland, Horsf., Blyth.*
Inuus Sikkamensis, *Jerd.*? | Macacus sikamensis, *Hodg.*?

The Hill monkey, high up on the Mussoorie Hills.

Inuus nemestrinus, *Jerdon*, Tenasserim and Malayana.

Inuus leoninus, *Blyth*, Arrakan.

Inuus arctoides, *Is. Geoffroy*, Arrakan.

Gen. Macacus radiatus, *Jerdon*.

Simia sinica, *Linn., Ell., Blyth, Horsf.*

Munga,	CAN.	Wanur,	MAHR. of Sykes.
Madras Monkey,	ENG.	Kerda,	MAHR. of Ghauts.
Bandar,	HIND.	Koti,	TEL.
Makadu,	MAHR.	Vella Munthi,	TAM.

All over Southern India.

Macacus pileatus, *Shaw*, of Ceylon.

Macacus carbonarius, *F. Cuvier*, of Burmah.

Macacus cynomolgos, *Linn.*, of Burmah.—*Jerdon*; *Blyth Cat.*; *Horsfield*.

SIMI AGATI, TAM. Cassia alata, *Linn.*

SIMIAN, HIND. Vermicelli.

SIMI ATTI-PALLAM, TAM. Figs.

SIMI, BOHTIA, SOKPA. Cat. Felis catus.

SIMI CHUNAMBU, TAM. Chalk.

SIMI ELUPEI MARAM, TAM. Achras sapota, *Willd.*, Diospyros sapota.

SIMI KAVI-KALLU, TAM. Bole armenian.

SIMILOR, also Tambac, FR. Pinchbeck.

SIMI TAKALI PALLAM, TAM. Solanum lycopersicum.

SIMJANG, HIND. A tree of Chota Nagpore. Soft, yellow wood.—*Cal. Cat. Ex.*, 1862.

SIMLA, in lat. 31° 6′ 2″ N., long. 77° 9′ 4″ E., (taken at the church), is a hill station and sanitarium, 40 miles distant from the southern foot of the Himalaya. The entrance to the church is 7,156 feet above the sea. The height of Simla, taken trigonometrically, is exactly 7,206½ feet above the level of the sea, measuring from the magnetic observatory. The mountain called Jacko, said to have been so named from the myriads of monkeys found all over it, is much higher, and houses are built not only on the slopes of the hill, but to the very summit. The name is the hindi Shyea Malay, or blue house, from a house of blue slate. Simla was taken from the Jun rajah in 1815, and given to the Patiala rajah, but again obtained from him as a sanitarium. Simla has 1,000 Europeans and 14,000 natives in the season.

The range on which the Simla station has been formed bears wild thyme, wild strawberries, various oaks, pines, the deodar and all the forms of Europe. The hill dogs are covered with black wool which forms an article of traffic, they are large and ferocious to strangers but are useful as sheep-dogs, and are provided with an iron collar to secure the dog from a leopard's teeth. Simla district and town in the Western Himalaya, is in the district of Rohilcund. Simla is on the main (Cis-Sutlej) chain, and has an elevation of 7,000 to 8,000 feet; a little further north at Nagkunda it rises to 9,300 and to 10,700 at the Peak of Hattu. The Chor mountain, one of the most remarkable isolated peaks in the Himalaya is 12,100 feet. It is situated on a branch of the main Cis-Sutlej chain and is only thirty miles from the plains: the bed of the Sutlej is everywhere very low, being at Belaspur 1,500 and at Rampur 3,300 feet. The plains at the foot of the Simla hills attain 1,000 feet elevation and the outer ranges are lower than those of Gurhwal and Kumaon. Rupar, close to the Sutlej amongst the outer hills, is under 1,000 feet. Subathu, a little further in, is 4,200 and Kassowlee 6,500 feet. From Kashmir, eastwards, all the easily accessible portions of the Himalaya are occupied by Arian hindoo as far as the eastern border of Kumaon and the Kali river separating Kumaon from Nepaul—the Tibetans being here confined to the valleys about and beyond the snow. People of Tibetan blood have migrated into Nepaul, throughout its whole length, and have formed mixed tribes, whose appearance and language is more Tibetan than Indian, but whose religion and manners are hindoo. East of Nepal, in Sikkim and Bhootan, the hindoo element almost disappears, and the Tibetans are altogether dominant. From Simla, for several hundred miles to the east all the passes through the snowy range are occupied by the Bhoti. They have a monopoly of the trade across the Himalaya, are carriers, loading the goods on the backs of sheep. Koli is the name given to the lower class of cultivators in the Simla hills. The Kanait are an agricultural race in the Simla hills and east of the Sutlej, holding most of the land in the Simla hills. They are inferior in position to Rajputs, more perhaps of the level of the Kurmi and Lodhi, but they are often educated, and are generally ministers to the Rajput chiefs. Their women are very nice-looking, and all the tribe who are not (in the upper hills) in

contact with Tartars are quite Arian, though not very large. In certain places there is a partial and local practice of polyandry among them, but it is not the general custom of the tribe. The hillmen of Simla are offspring of the dark Kaet races and Rajputs who have, for eight centuries been flying to the mountains to escape mahomedan invasions. They are filthy in their persons: they have clear almost Anglo-Saxon complexion, many have goitres and they hate mahomedans. Their chiefs, as the Dati and Kat ranas, are of Rajput origin, and they have a municipal system with Shamilik or commons and a lombardar or mukhia, *i. e.*, chief. Polyandry prevails among the hillmen beyond Kotghur, but it is on the decline, polygamy often taking its place. In the winter the men almost hybernate spending months in eating and sleeping.

The trees furnishing the supply at Simla, are chiefly

Quercus incana,	Pinus excelsa,
Rhododendron arboreum,	and
Andromeda ovalifolia,	Cedrus deodara.

The fruit of the 'trimal,' or Ficus macrophylla, is sold in the bazaar at Simla. Besides an extensive bazaar or collection of shops, which may now almost be designated a small native town, Simla contains nearly 400 houses, scattered along the crest of different mountain ranges. Its situation is a most favourable one, on the main range of mountains south of the Sutlej river, at a point where a massive peak rises to a height of 8,100 feet, and on the nearest part of the ridge to the plains of India, which is sufficiently elevated, well-wooded, and situated favourably with regard to water. The greater part of the station is built on the main range, partly surrounding the peak of Jako, and partly on the ridge running north from it, at an elevation of about 7,000 feet, as far as a smaller culminating point of the range, which is by the inhabitants named Prospect Point. At this point the main range turns sharply to the west, and the station is continued for nearly a mile on a spur which runs towards the north, passing through the station of Jutog. From the scattered position of the houses, the extent of Simla is much more considerable than the bare statement of the number of houses might lead one to suppose. The northern ridge extends almost four miles, and the circuit of Jako by the principal road, which is from 500 to 1,000 feet below the summit, measures five miles.

Pinus excelsa is very common tree at Simla, particularly on the southern face of Mount Jako, which is the highest part of the ridge. Abies smithiana is rare, a few trees only occurring in a shady ravine facing the west; while the deodar is common on the southern and western slopes of Jako, above 7,000 feet; and again in shady groves at the bottom of the valleys on both sides of the ridge, as low as 5,000 feet. This beautiful tree, the cedar of the Indian mountains, seems limited to the western half of the Himalayan range, extending from the most part westerly of Nepaul, as far as the mountains of Affghanistan. It was first described by Roxburgh from specimens sent to him from Kumaon, at a time when the western Himalaya was almost inaccessible to Europeans, under the name by which it is known to the inhabitants of that province, as in Kashmir. It is, however, singularly enough, not known by that name in the Simla hills, where it is called Kelu, another conifer, Cupressus torulosa, a rare tree in the district, having usurped the name, as well as the sacred character, of deodar.

The view from the peak of Jako is one of the most agreeable and diversified, in any part of the Himalaya; although, from the rather too level top of the mountain, and the intrusion of the forest almost to the very summit, the whole panorama cannot be embraced at once. Immediately under the eye are the numerous spurs and ridges covered with scattered houses, and the deep ravine which terminates the steep slopes below the station; towards the plains, the whole valley of the Gambar is seen, with the stations of Sabathu and Kussowlee, the church and esplanade of the former appearing low down almost within a stone's throw, while the brilliant white of the houses of Kussowlee, more nearly level with the eye, sparkle in the sunbeams. The ridge of Kussowlee in one place excludes the view of the plains, but to the right they may be seen stretching away in the distance, and only recognizable at last by the track of the Sutlej river, which from the very remarkable curve close to its exit from the mountains, may be traced as far as vision can extend, a distance of 116 miles. To the north a valley stretches from Simla as far as the Sutlej river, distant about fifteen miles, so direct that the greater part of it is seen, though the river itself is concealed. East of north a long partially wooded ridge, about four miles distant at its nearest point, running parallel to the valley just mentioned, excludes the view of the nearer part of the Sutlej valley; but the lofty ranges north of that river, covered with dense forest, and backed by masses of brilliant snow, close in the view in that direction. Due east lies the Mahasu ridge, covered on the Simla slopes with a dense forest of deodar; and to the south, across the valley of the Giri, towards which numerous

rugged ridges run, is the mountain called the Chor, the highest peak of the range which separates the Giri from the Tons, the crest of which is upwards of 12,000 feet in height. Pinus longifolia is common at the western or lower extremity of the Simla station, and prevails, to the exclusion of any other tree on the dry sunny spurs which run towards the south, at elevations from 7,000 to 5,000 feet. This species is, of all the Indian pines, (except its near ally P. khasyana), that which is capable of enduring the most heat, and at the same time the greatest variation in amount of moisture; as it is found at elevations of not more than 1,000 feet above the level of the sea, equally in the hot humid valleys of Sikkim, where it enjoys a perpetual vapour-bath, and on the dry sandstone hills of the upper Punjab, on which rain hardly ever falls. It is only, however, at low elevations, where the mean temperature is high, that it is capable of supporting a great amount of humidity.—*Cal. Review, No.* xci, *Nov.* 1867; *Dr. Thomson's Travels in Western Himalaya and Tibet, pp.* 16-19, 22-24; *Adventures of a Lady in Tartary, Mrs. Harvey, Vol.* i, *p.* 386; *Hooker and Thompson, Flora Indica, p.* 202; *Ann. Ind. Adm., Vol.* xii, *pp.* 63, 78; *Campbell, pp.* 88, 147-8, 168.

SIMLI, HIND. Zizyphus flexuosa.

SIMLOTUN, a river near Raepoor in the Sabathoo district.

SIMLU, HIND. Berberis aristata.

SIMOA-MANIS, MALAY. Orange.

SIMODA, see Japan.

SIMONG, see Himalaya.

SIMOOM, a hurtful hot wind which prevails in the hot season on the Dasht or plain of Battekottee between Hazar-nao and Jellalabad, though its mountains on both sides are covered with perpetual snow. It is said to be generally fatal to all men, horses and cattle who encounter it. It is as malignant in its effects in the night as in the day. Besides earthquakes, Arabia is subject to sudden and most violent storms; one kind of which is the well-known simoom, samiel, or samm; the khamsin of Egypt, and the harmattan of the coast of Guinea. It is described as being hot and pestiferous, sweeping over the country with such speed and fearful violence that according to some statements, men and animals are often overwhelmed by clouds of moving sand; in fact, it is said, persons who have the misfortune to be travelling during one of these storms might be stifled in a moment; unless they throw themselves close to the burning sand and cover their faces with their cloths. Mr. Werry, Consul-General for Syria in 1838, had however a meeting of the chief Arghyle, and of the Aenizeh sheikhs who accompanied the last caravan of 2,000 camels from Baghdad, and though some of them had traversed the desert, in all directions, for 30 years past, they never heard of a caravan, nor even of a single animal or man, being buried alive in the sand raised by a whirlwind. They stated, that, generally speaking, the surface soil in the countries which they traversed, would not admit of being raised in columns sufficiently dense to inflict such a calamity, and that whatever may have occurred in the African desert, nothing of the kind, to their knowledge, has taken place in Arabia. The simoom, however, they added, is hot and suffocating, and has frequently caused the death of persons who have been unable to shelter themselves from its deleterious influence. They asserted also that earthquakes are experienced in the country. Ferrier says this terrible hot blast inflicts upon animals the same tortures as on the human race, it is called Sirocco in the south of Europe, Khamsin in Egypt, and Saum and Simoom in Arabia and Persia, and is the Sharkia or East wind of Scripture; in Egypt, Damascus, Arabia, and Baghdad, it blows by sudden squalls, the approach of which is indicated by a certain perturbed state of the atmosphere. But M. Ferrier here alludes to the ordinary hot blast of the deserts, and not the real saum or simoom. The latter seems a poisonous current of air, probably electric, of rare occurrence, and causing instant death, and peculiar to the deserts of Arabia. It has no injurious effect on vegetation, perhaps because it does not come in contact with it, as it rarely approaches within one or two feet of the ground. The camel, instinctively being aware of its approach, kneels down, and lays its head close to the ground, thus escaping its deadly effects. Rain is unusual and uncertain in Sindh, as it does not come within the influence of the south-west or north-west monsoons, though equinoctial storms and gales are generally experienced. Where the hot winds or simum blow, they often become above Sehwun, dangerous in their effects. The natives, aware of their power, avoid travelling at this season.—*Euphrates and Tigris, Col. Chesney, Vol.* i, *pp.* 578, 579; *Expedition, Vol.* iv; *Ferrier's Journ., p.* 272; *Postan's Personal Observations, pp.* 14, 15.

SIMRANG, HIND., of Kanawar, Rhododendron campanulatum, Alpine rhododendron.

SIMUKH, HIND. A wild grain of Dera Ghazi Khan, a species of Amaranth.

SIMUL, BENG., HIND. Bombax malabaricum.

SIMY ILUPI MARAM, Tam. Achras sapota.

SIN, Hind. Withania coagulans.

SIN, or Aba-sin, a name of the river Indus. Sin is a Scythic word for river (now unused) so applied by the hindoos. According to native carpenters the Indus or Aba-sin timber is the best, being more resinous. The next is the Swat timber, which is very good and free from knots. The Kabul river wood often appears to be immature.—*Cleghorn's Panjab Report, p.* 216.

SIN, Chin. The gods. Among existing religions of China, the Sin-tu (Sin, the gods, and Tu faith) and the buddhist are the most extended. The Sin-tu embraces a cosmogony, hero-worship, the Ten-sio-dai-siu the Sin goddess, being the principal object of worship. The religion has a trace of buddhism. See Japan.

SINA-BAJ, Pers., Pusht. A variety of the cold musk melon of Candahar and Cabul.

SINADIKA, Sans. Boerhaavia diandria.

SINA NAGA, Tam. Eugenia jambolana, *Lam., Roxb.*

SINAI, a mountain in Arabia, celebrated, amongst the followers of the Hebrew, christian and mahomedan religions, as that near which the Israelites encamped in their road from Egypt to Palestine. It was from Sinai that Moses proclaimed the Ten Commandments. The Arabs indicate Jabl Tur as the site.

SINAPIS, Mustard.

Kabbr,	Ar.	Sarson; Rae; Bunga-Sarson; Tooria,	Hind.
Sanchi-sarson,	Beng.	Sarshuf,	Pers.
Rae; Ban-rae; Bul-rae,	„	Rajika; Sarshapa,	Sans.
Shwet-rae; Sada-rae,	„	Tuverica,	„
Jooni-rae,	„	Surai-bij,	Sindh.
Mustard species,	Eng.	Gan-aba; Rata-aba,	Singh.
Napu,	Greek.	Kadaghoo,	Tam
Khardal,	Heb.	Avaloo,	Tel.

The Sinapis genus of plants, belongs to the natural order Cruciferæ. There are 40 or 50 species, all of them known as mustard plants. S. alba and S. nigra, the white and black mustard are best known in Europe. Five or six species are cultivated in all parts of India, for the sake of the valuable oil they yield, those most frequently seen are S. glauca, toria, racemosa, ramosa, dichotoma and juncea. —*M. E. J. R.*

SINAPIS ALBA.

Peh-lui; Hu-lui,	Chin.	Sarshapa,	Sans.
White mustard,	Eng.	Kadughu,	Tam.
Safed rai,	Hind.	Avalu; sursava,	Tel.

The word mustard is from the Latin mustum ardens. In China, the white mustard crop is sown in the autumn and the herbage is picked in the winter and spring for a pot-herb. A mustard seed was the buddhist unit of long measure. Sinapis alba, or white mustard, is a native of Great Britain and most countries in the south of Europe. It is frequently cultivated, and when young is eaten as a salad. The seeds of the S. alba yield by expression 36 per cent. of a bright yellow, pleasant tasted, edible oil, having a strong smell, and slight taste of mustard. The seeds of S. nigra yield only 28 per cent. of an oil in all respects similar to the above. The average price of mustard seed in eighteen large stations, in all parts of the Madras presidency, for the quarter ending 31st October 1854, was Rs. 1-2-8 per maund of 25 lbs., the maximum being Rs. 1-11-6 at Cannanore, and the minimum As. 15-5 at Nagpore. In Vizagapatam it costs Rs. 208 per Sicca garce. The oil is not exported from Madras, but the seeds have been shipped as follows:

1847-48...	Cwt.	5,828	1850-51...	Cwt.	9,909
1848-49...	„	6,767	1851-52...	„	3,636
1849-50...	„	9,435	1852-53...	„	16,075

The mustard plant is officinal on account of its seeds, or rather of the flour of the seeds, or mustard. Dr. Pereira was informed that the best flour of mustard is prepared by crushing the seeds of both black and white mustard between rollers, and then pounding them in mortars, when they are twice sifted to yield pure flour of mustard. Two bushels of black, and three of white seed yield, when ground, 145 pounds of flour; which, to diminish the pungency and improve the colour, is mixed with 56 pounds of wheat flour and two pounds of turmeric; and the acrimony is restored without the pungency, by the addition of a pound of (capsicum) chilly pods, and half a pound of ginger. Common mustard consists of the flour of the seeds of the black mustard, though generally mixed with that procured from the seeds of the white mustard, or Sinapis alba, and deprived of fixed oil by expression. Both species have been long used in medicine, being the *ναπυ* of Hippocrates, and the Sinapi of the Romans.

The Oil.

Mustard oil,	Eng.	Kadaghoo yennai,	Tam.
Rai ka tel,	Guz., Hind.	Avaloo and Sursava noona,	Tel.
Sarshapa-tailum,	Sans.		

This valuable oil is used in most parts of India in cookery, and is considered superior to all other oils for anointing the body, which it is supposed to invigorate. In medicine, it is sometimes given internally, but is more frequently applied as a rubefacient.—*Eng. Cyc.*; *M. E. J. R*; *Royle.* See Mustard.

SINAPIS BRASSICA.

Kurm kulla,	Hind.	Badshahee rai,	Hind.

Cultivated in the Saharunpore garden.

SINAPIS DICHOTOMA.

Tha-ba-mee,	Burm.	Suhota,	Hind.
Moung-ngyeen,	„	Sighta,	„
Toreea,	Hind.	Kali surson,	„

Cultivated in British India. Much prized for its oil.—*McClelland.*

SINAPIS JUNCEA.

Bunga surson,	Tsz'e-kai,	CHIN.

SINAPIS ERYSIMOIDES.

Raee,	Mukura raee,

SINAPIS GLAUCA.

Mustard,	ENG.	Raee,	PUNJ.

This is found in the Sutlej valley between Rampur and Sungnam at elevations up to 11,000 feet, and is much cultivated. Several species of Sinapis are grown in the N. W. Himalaya as salads and condiments.—*Cleghorn's Punjab Report, p.* 68.

SINAPIS RAMOSA, *Roxb.*

Rai,	BENG., HIND.	Kudagu,	TAM.
Indian mustard,	ENG.	Avalu,	TEL.
Kaduga,	MALEAL.		

The seeds are much used as a condiment.

SINAPIS RAJIKA.

SINAPIS RAGOSA.

Bhotea raee,	Badshahee raee,

SINAPIS CHINENSIS. *Linn.*

Sinapis sinensis.

Khirdull,	AR.	Sasavi,	MALAY.
Moung ngyin,	BURM.	Tukhm-i-sipidan,	PERS.
Raina,	DUK.	Rajaca,	SANS.
Tarantula mustard,	ENG.	Kadughu,	TAM.
Rai,	GUZ.	Avalu,	TEL.
Sarshuf rai,	HIND.		

—*Ainslie's Mat. Med., p.* 264.

SINAPIS TRILOCULARIS, Mustard.

Rai, DUK.

SINATROCES, see Greeks of Asia.

SIN-BAW-KARAWA, BURM. Cubebs.

SINBOME-DZA-LI, BURM. Cassia alata, *Linn., W. & A., W. Ic.*

SIND, a river of Gopalpore in Gwalior, near Rutwah.

SIND, HIND. Daphne oleoides.

SIND, a province of British India in the lower course of the Indus river, which runs through it. The name of this province is also written Scinde, and Sind'h, and seems to be derived from Sin, a Scythic name for a river, from which also have come the terms Hind and Ind for India—the letters *s* and *h* on the Western parts of British India being transmutable. To the Western Arabs, all eastwards of the Persian Gulf was known as Hind; but they distinguished the two regions on and beyond the Indus river by the terms Hind-o-Sind. The name of Sind is of great antiquity, and is mentioned both by Pliny and Arrian, the one writes it Sindus and the other Sind. We learn from the Nubian geographers that the Arabians called it Mekran. India, however, is supposed to have obtained its name from the Indus, the Sin, Sinda or Hinda or Hapta Hinda, the Aba-Sin of the Arabs, the great river met in the route from Europe and from Western and Central Asia. It is true that so far back as the reign of Darius Hystaspes, B. C. 521, the early writers placed Indians on both sides of the Indus and made India extend westward to Kandahar (Gandhara), embracing perhaps the fourteen Iranian provinces or nations, enumerated on the Nakshi-Rustum as lying between Sogdiana and the Panjab and subject to Darius. But eastward of the Indus, the country was always India, and this name seems to have been chiefly used in the south of Asia for it first occurs in the Bible, in the book of Esther (i, 1; iii, 9) as the limit of the territories of king Ahasuerus in the east, as Ethiopia was on the west, and the names are similarly connected by Herodotus (vii, 9). The term 'Hoddu' used by the Hebrews is an abbreviation of Honadu which is identical with the names of the river Indus, for, to the present day, all along the course of that river, the letters S and H are interchanged, and, in the Vendidad, the Panjab is described as the 'Hapta-Hindu' and the native form 'Sindus' is noticed by Pliny (vi, 23.) The India of the book of Esther is not the peninsula of Hindustan, but the country surrounding the Indus—the Panjab, and perhaps Sind—the India which Herodotus describes (iii, 98) as forming part of the Persian empire under Darius, and the India which at a later period was conquered by Alexander the Great. The name occurs in the inscriptions of Persepolis and Naksh-i-Rustum, but not in those of Behistun. The Sind territory has been repeatedly overrun by conquerors, by Alexander of Greece, by hindoo dynasties, by the Arabs of the Caliphate, by the Moghul of Turkistan, by the Mogul rulers of India, by the Baluch and by the Affghans, by whom it was arranged in various political divisions. The British in India, usually distinguish but two parts, Upper or Northern Sind and Lower or Southern Sind, which the people of the country term Siro and Lar. Each of these divisions has its particular climate, soil and productions, and is otherwise distinctly marked by physical peculiarities. Northern, or Upper Sind, comprises all that tract from Sehwun upwards to the Bhawulpur territories; and Southern or Lower Sind, that from Sehwun, including the delta of the river to the sea. Each has its capital. But, the hindoo races occupying the valley of the Indus, arranged it into three portions, viz., Siro or Upper Sind, the capital of which was Alor; Vichalo or Middle Sind, with Brahminabad for its capital and Lar or Lower Sind, of which Patala was the chief town. In the second century of the christian era, Minnagar, the capital of the Min was the capital of Lower Sind. In the seventh century, Sind was divided into four principalities, viz., Upper, Middle and Lower Sind, and Cutch.

The river Indus flows through the three

parts, and at some comparatively recent time, it has changed its bed, but the old bed still exists under the name of Nara, and its course has been surveyed from the ruins of Alor to the Run of Cutch. From Alor to Jakrao, a distance of 100 miles, its direction is nearly due south. It there divides into several channels, each bearing a separate name. The most easterly channel, which retains the name of Nara, runs to the south-east by Kipra and Umrkot, near which it turns to the south-west by Wanga Bazar and Romaka Bazar, and is there lost in the great Run of Cutch.

The territory of Sind, as, until A. D. 1845, possessed by the Biluch chiefs of Talpur, lies between the 23d and 29th degrees of north latitude, and 67th to 70th degrees of east longitude, having the river Indus nearly in its centre, and comprising all the portion of its valley between the Bhawulpore territories to the north, the ocean to the south, east and west to the desert tracts which intervene between it and the province of Cutch, and the mountains separating it from the higher country of Beloochistan. Northern Sindh, which extends from Sehwun to Subzulkot, is an uninterrupted level, through which in serpentine course flows the river Indus. There are few countries more devoid of natural beauty than Sind. Pyramids seem only wanting to render its scenery Egyptian, and viewed from any eminence, the neighbourhood of Kurrachee is by no means prepossessing. Northwards as far as the eye can reach, is one vast plain of sand, studded with scrubs, or heaps of shingle. Westward, in the distance, are seen the desolate and sun-burnt mountains of Beloochistan. During December, and the two succeeding months, the cold at night is often severe, being frequently 32° Fahrenheit at day-break, while at noon it often mounts to 75° or 86° in the shade. In the time of Alexander the only places mentioned are Sindomana and a city of Brahmans named Harmatelia, by Deodorus and Sindomamana seems to be the modern Sehwan. The mahomedans built a city which they called Mansura close to Bahmanwa. In the middle ages, the great cities were Sadusan, Brahmana, or Bahmanwa, and Nirunkot, the modern Hyderabad. At the present day the principal towns of Middle Sind are Sehwan, Nala, Hyderabad, and Umarkot. McMurdo says, Sehwan is undoubtedly a place of vast antiquity : perhaps more so than either Alor or Bahmana. The present name is said to be a contraction of Sewistan, which was called after its inhabitants, the Sewis, or Sabis. The Sindo of the Greek and the Sadu of the early mahomedans, point to the Sanscrit name of the country, Sindhu, or to that of its inhabitants, Sindhava or Saindhu, as it is usually pronounced. Their stronghold, or capital, would therefore have been called Saindhava-sthana or Saindhu-sthan, which by the elision of the nasal, becomes the Sadustan of the Arab geographers.

The district of Lar or Lower Sind, the ancient Pitasila, is the delta of the Indus, from Hyderabad to the sea. Ptolemy has preserved the names of several places, as Barbara, Sousikana, Bonis, and Kolaka, of which the first is most probably the same as the Barbarike emporium of the 'Periplus,' and perhaps also the same as the Barce of Justin. In the time of the author of the 'Periplus,' the capital of Lower Sindh was Minnagara, which the foreign merchants reached by ascending the river from Barbarike. In the middle of the seventh century, Hwen Thsang mentions only Pitasila, or Patala. About the commencement of the christian era, the Rai dynasty ruled from Kashmir and Kanouj to Makra and the port of Dabal on the shores of the sea of Oman, and from Surat to Kandahar and the Solaiman range. The commencement of this dynasty has not been ascertained, but in the time of rai Dwaij the capital was Alor. He was a powerful chief who contracted alliances with the rulers of India. He was succeeded by his son rai Siharas I. Rai Sihasi was the celebrated son of rai Siharas, and the next was Siharas II, who reigned 42 years, and was killed in battle. He was a contemporary of Nousherwan. After Saharas II, a brahman dynasty succeeded. The reign of the Rai seems to have extended to 137 years and to A. D. 479.

Several places on the Indus are named after the Chach dynasty, viz., Chachpur, Chachar, Chachgaon, Chachi. Chach was a brahmin who usurped the kingdom of the Rai dynasty of Sind. He was a contemporary of the Shahram, or Shahrear, and he is supposed to have invented the game of chess. He seems to have reigned about A. H. 2, and to have been succeeded by his brother.

Sind was subject to perpetual incursions from the Ghori, Khilji and Taghaluk dynasties of Delhi and the Punjab as well as the still more ruinous devastations of the Moguls.

In the middle ages Debal was the chief seaport of Sind, hence called Debal Sindi. It was the emporium of the Indus, and seems to have been situated on the western bank of the Baghan river, below the junction of the southern branch of the Ghara or Sagara branch, five miles to the north of Lari Bandar. Lari Bandar has been deserted and the present part of the western half of the Delta is Dharaja, a few miles east of Lari Bandar. Dewal, or Debal, means a temple and several

Sind terms, had it as a prefix, as Debal Thatta, Debal Kangra. Debal Sindi seems to have been the port at which Zabeida of the Arabian Nights landed from Bussorah and found all the people turned into stone. In the reign of Walid (A. D. 705 to 715), Sind was invaded, and that caliph is said to have rendered all India to the Ganges tributary to him.

Al-Mansoor, when only the lieutenant of the caliph Abbas, held the government of Sind and of India, and made the island of Bekher on the Indus, and the adjacent Arore, the ancient capital, his residence, naming it Mansoora; and it was during his government that Bappa Rawul abandoned Cheetore for Iran. The celebrated Haroon-ur-Rashid, contemporary of Charlemagne, in apportioning his immense empire amongst his sons, gave to the second, Al-Mamoon, Khorassan, Zabulisthan, Cabulisthan, Sind, and Hindusthan. Al-Mamoon, on the death of Haroon, deposed his brother, and became caliph in A. H. 198 or A. D. 813, and ruled to 833, the exact period of the reign of Khoman, prince of Cheetore. The domestic history of the Rajputs brings the enemy assailant of Cheetore from Zabulisthan; and as the leader's name is given as 'Mahmood Khorasan Put,' there can be little doubt that it is an error arising from ignorance of the copyist, and should be Mamoon. Within twenty years after this event, the sword of conquest and conversion was withdrawn from India, and Sind was the only province left to Motawakal, (A. D. 850), the grandson of Haroon, for a century after whom the throne of Baghdad, like that of ancient Rome, was sold by her prætorians to the highest bidder.

From this time we find no mention whatever by mahomedans, of Hindusthan, or even of Sind, until Soobaktagin, governor of Khorassan, hoisted the standard of independent sovereignty at Ghazni. In A. H. 365 (A. D. 975) he carried his arms across the Indus, forcing the inhabitants to abandon the religion of their ancestors, and to read the Koran from the altars of Bal and Krishna. Towards the close of this century he made his last invasion, accompanied by his son, the celebrated Mahmood, destined to be the scourge of the hindoo race, who early imbibed the paternal lesson inculcating the extirpation of infidels. Twelve several visitations did Mahmood make with his Tartar hordes, sweeping India of her riches, destroying her temples and architectural remains, and leaving the country plunged in poverty and ignorance. From the effect of these incursions she never recovered; for though she had a respite of a century between Mahmood and the final conquest, it was too short to repair what it had cost ages to rear: the temples of Somnath, of Cheetore, and Girnar are but types of the magnificence of past times. The memorial of Sacti Komar proves him to have been the contemporary of Soobaktagin, and to one of his son Mahmood's visitations is attributed the destruction of the city of the Sun (Aitpoor), Sacti Koomar's capital. The first recorded attack on the Mori prince of Cheetore, which brought Bappa into notice, was either by Yezid or Mahomed bin Kasim from Sind. Though in the histories of the caliphs we can only expect to find recorded those expeditions which were successful.

The Arghun, a Sind dynasty who held a brief sway from A. D. 1521 to 1554-5, a period of 34 years, during which Shuja Beg and his son Mirza Shah Hussain reigned. Arghun Khan Tarkhan, was grandson of Hulaku, grandson of Chengiz Khan.

The Kullorah and Talpoori are tribes of celebrity in Sind, the first furnished a late, and the other the last dynasty of rulers; and though the one has deduced its origin from the Abbasides of Persia, and the other has advanced pretensions to descent from the prophet, both were alike Beluchees, who are said to be essentially Jit or Gete in origin. The Talpoori have their name from the town (poora) of palms (tal or tar) and are said to amount to one-fourth of the population of Lohri or Little Sind, which misnomer they affixed to the dominion of Hyderabad. There are none of the Talpuri in the t'hul.

The Rajput dynasty who ruled in Sind are said to have been conquered about A. D. 711, by mahomedans from Arabia. About A. D. 1025, the country was annexed to the Ghaznivi empire by Mahmud, and after various changes of rulers it was incorporated into the Delhi empire by Akbar in 1591, from which it was again dissevered in 1740 by Nadir Shah, who exacted from it a tribute of above twenty lakhs of rupees. After the assassination of Nadir Shah, Sind became subject to the Dourani emperors of Candahar. Previous to the invasion of Nadir Shah, the Kalora, a religious sect, had risen to power in Sind, and the chief of the tribe, Noor Mahomed had been recognised as governor of the province. It was during the rule of his brother Gholam Shah that the connection of the British government with Sind, commenced by the establishment of factories at Tatta and Shah-bunder in 1758. In that year Gholam Shah granted an order for the establishment of the factories and for certain immunities to trade. This order was renewed in 1761. During the rule of Sirfaraz Khan, the eldest son of Gholam Shah, however, the trade was so much interfered with that in 1775 the British government found

it necessary to withdraw their factories. The violence and tyranny of Sirfaraz Khan and his successors, who from jealousy put to death three of the chiefs of the Talpoor tribe, led to the overthrow of the Kalora dynasty. The Talpoor are a Beluch tribe, whose chiefs had long held the first place in the service of the rulers of Sind. To avenge the death of their chiefs the Talpoor tribe rose, and, headed by Mir Futteh Ali Khan Talpoor in A. D. 1786, expelled the Kalora ruler Abd-ool-Nubbi. The measures which Futteh Ali Kkan took to establish his authority alarmed his relatives, Mir Sohrab and Mir Thara, who fled, seized on Kheirpore and Shah-bunder, and renounced the authority of their kinsman. Mir Futteh Ali Khan was never again able to extend his authority over the whole province, which henceforth remained divided into three separate principalities, viz., Hyderabad or Lower Sindh under Futteh Ali Khan, Kheirpore or Upper Sindh under Mir Sohrab, and Meerpore under Mir Thara. In Hyderabad, Futteh Ali divided his power with his three brothers, Gholam Ali, Kurm Ali and Murad Ali, and from their real or apparent unanimity, the brothers received the appellation of the Char Yar or four friends.

In 1799, the commercial intercourse between the British government and Sind was revived, and Futteh Ali Khan issued an order granting certain privileges in favour of British trade.

Sind fell to the Indian government, from the mahomedan Talpur dynasty, after the battles of Meeanee, on the 17th February 1843, and of Hyderabad, on the 24th March 1843, both fought by Sir Charles Napier, and this gave the course of the Indus up to Multan.

In August 1842, Sir C. Napier was appointed to the military command in Sindh and Beloochistan, and invested with authority over all civil and political officers in these territories. On the 14th February 1843 the ameers, except Nusseer Khan of Kheirpore, signed the Treaty, leaving Mir Roostum's rights to future investigation. Next day the residence of Major Outram was attacked by 8,000 of the troops of the ameers. After a most gallant defence the escort made their way to the main army. The battles of Meanee and Dubba subjected the whole of Sind to the British government, with the exception of the possessions of Ali Murad, who was established as chief of Kheirpore in the territories which belonged to Mir Roostum, both by inheritance and in right of the turban, as well as in the lands of which he himself stood rightfully possessed at the time of the conquest.

All the territory of Sind, with the exception of a portion continued to Ali Murad, was confiscated by the British government. But a fraud was clearly established by a commission, which met in 1850, and Ali Murad was degraded from the rank of rais of Kheirpore, and deprived of all his territories, except those which he inherited under his father's will. The revenue of his possessions in A. D. 1860, was estimated at 3,50,000 Rs. with power to try for capital offences any persons except British subjects. After the conquest, the deposed ameers were removed from Sind and pensions were granted them by the British government. Their descendants continue to receive liberal pensions.

The Desert of Sind lies between the frontier of Rajputanah and the valley of the Indus, and from Dawudputra on the north to Buliari on the Runn, 220 miles long and 80 broad or 17,600 square miles. It is one entire t'hul, with few villages and a few shepherds ; 50 miles without water, the wells 70 to 500 feet deep, and the sand-hills, little mountains. It was through this tract that Hamayun sought refuge to the Dhat country and its capital, then Oomerkote, where Akbar was born. Arore, there, is a ruined town. Oomerkote was wrested from the Soda race by the Rahtor tribe of Marwar, and since then the chiefs of the expelled clan have dwelt in Chore, 15 miles N. E. of Oomerkote. At one time, every third year brought famine. The Soda women of this desert tract of Dhatta are proverbially handsome. In this desert and in the valley of the Indus, are the Soda, Catti and Mallani, descendants of the Sogdi, Cat'hi and Malli, of Gete and Yuti, many of whom call themselves Baluch, or keep the ancient name of Numri, whilst the Zj'hut or Jut, retain their primitive appellation. Also remains of the Johya and Dahya who with the Gete, Jut or Hun, hold places amongst the 36 royal races of ancient India. The Baraha and Lohana tribes are there, the Sahrai, the great robber of the desert, the Bhatti, Rahtor, Joda, Chohan, Mallani, Kaorwa, Joshya, Sooltano, Lohana, Arorah, Khoomra, Sindil, Maisuri, Vishnavi, Jakhur, Shiag, Ashiag and Pooniah.

The origin of the mahomedan Kallora and Sahrai is doubtful, but the following professors of mahomedanism are "Nyad" or proselytes from Rajput or other hindoo tribes:-viz., Zj'hut ; Rajur ; Oomra ; Soomra ; Mair or Mer : Mor or Mohor ; Baluch ; Lumria or Looka ; Sumaicha ; Mangulia ; Baggreah ; Dahya ; Johya ; Kairooee ; Jangurea : Oondur ; Berowee ; Bawuri ; Tawuri ; Chrendea ; Khossa ; Sudani ; Lohana. These converts are ferocious and intolerant.

The *Soda* is scattered over the desert, some are mahomedans, the *Sumaicha* is a mahomedan proselyte from the Soda.

Kaoorwa, a peaceable nomade race, chiefly in the t'hul of Dhat, rear cattle.

Dhote or Dhatti, like the Kaoorwa, a pastoral race of Dhat, their cows give 8 or 10 seers of milk daily.

Lokana, numerous in Dhat and Talpoora, they are scribes and shop-keepers.

Arorah, a thrifty race, tradesmen and farmers.

Bhattiah, formerly martial, now traders and like the Arorah, and both these have commercial agencies all over India.

Brahman, Bishnuvi, cultivators and graziers, numerous in Dhat, some in Chore, in Oomerkote, Dharnas and Mitti.

Reburri, a race who in Hindustan profess mahomedanism and rear camels, here are a tribe who rear camels, or with the Bhatti, steal them.

Jakhur, Shiag'h and Pooniah, harmless, industrious, in the desert and the valley, are denominations of the Jit race, but most of these sections have become mahomedans and call themselves Zj'hut.

Sahrai, is the most numerous of the mahomedan tribes of the desert, of which he is the terror. The *Khossa* is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless.

Sumaicha, converts to mahomedanism, from the Soda race, some are pastoral, some are plunderers. They are dirty, and never shave.

Rajur, a convert from the Bhatti, cultivators, shepherds and thieves and evil-livers.

Oomra and Soomra, are converts from the Puar or Pramara race, have mixed largely with mahomedans.

The Munchar Lake in Sind, was described by Professor Orlebar, Postans and Knight.

Mr. Campbell says the Sindi people and language are almost confined to Lower Sind, and there the Sindi has much Arabic mixed with it. The Sindi people are well grown and robust, with dark skins, immoral and idle, and given to hunting, fishing and pastoral pursuits quite as much as to cultivation, and the delta and country of the lower Indus, seem to be ill and insufficiently cultivated (p. 141). Mr. Campbell supposes a mixture of Arabic, Persian and Kol blood. The tribes in Sind are so mixed up one with another that excepting that just on the borders no part of the country can be marked off as occupied by any particular tribe; even on the borders, there is much intermixture. The great Murri tribe of Balooch, for instance, has a large, and the strongest, part of the clan in the hills to the north, and outside of the Sind border; but there are a great many of the Murri located in different parts of Sind even down to 100 miles south of Hyderabad. The following list of the tribes and races in Sind was prepared by General Mereweather, and it is believed to be very accurate :—

Kurrachee Collectorate.

Syuds.—Shirazee, Shakroor, Alahi, Mashedi, Maiindranee, Areefee, Rezuri, Bokhari, Ameerkhanee, Lukalivi, Mootalivi, Istrabadee, Khabrotee.

The Syuds originally descended from these tribes. Their forefathers came to Sind from different places on the Asiatic Continent.

Kooreshee.—Alvi, descended from Huzrut Ali from Iran.

Abasee derived from Abas from Irak.		
Seedeekee	do.	Ababukur Seedeek.
Pharookee	do.	Ameer Oomur.
Oosmani	do.	Ameer Oosman.

Belooch.—Rhind, Juttoee, Chandia, Noohanee, Khosa, Chang, Lusharee, Kupree, Julbanee, Goonganee, Nizamanee, Almanee, Gopang, Moongwanee, Dluwanee, Sunjranee, Jumallee, Jurwar, Kolachee, Pitabee, Mugsee, Murree, Khowad, Daruck, Lugharee, Muhesur, Talpoor and Boogdee.

The Rhind tribe is the head of all the Belooch from Beloochistan, and from them the several tribes named have descended. The Talpoors, however, became rulers in Sind, while the Rhinds remained dependents. The Belooch generally are said to have come originally from Aleppo in Syria. They have all the characteristics of Arabs, sharp, well-defined features, and well knit limbs. All these divisions merely denote families or descendants of men of renown whose names the families bear.

Kurrumatee.—Pubranee mahomedans, Beeghad, Gubole, Bayee, Kachree, Kumba, Moogra, Ahmedanee, Ruzeeda, Soopad, Murwa, Ladia, Muheree, Sahtia, Alloora, Jingianee, Morsur, Beeramanee, Khirturee, Thuanee, Rajwanee, Soteeanee, Parwaree, Cheeranee, Gocha, Rahwanee, Gorewanee, Shereekhanee, Mindiar, Goramanee, Kulree, Mochir, Sholanee, Boonbanee, Dewanee, Jumallee, Said, Durayaee, Toremanee.

These have descended from the Belooch tribe, but have been sub-divided into the several tribes named.

Assundee, descendants of a tribe from Mooltan.			
Mogul,	do.	do.	from Persia.
Tooruk, or Turks,	do.	do.	from Khorasan.
Affghan,	do.	do.	do.

Arglionees came to Sind during the reign of the Summa, whom they overthrew. They succeeded the Summa, as rulers of Sind about the year 927 Hijree, and continued so until their defeat by the Turkhanee, in Hijree 962. The Turkhanee came to Sind, about the same time. They succeeded the Arghanee, as rulers of Sind about the year 962 Hijree, and were in power until Hijree 1021.

Miscellaneous.

Foreign tribes.—Tukzi, Tumeenee (Thainr), Alt-Mogelra (now known as Moria) Powanhar, Jubeeseea, Alootba, Binwalla, Soofean, Koral, Bayar, Soopeea.

Descendants of Harroon.—Mukranee, Loodee (now known as Loodea) Hubsha, Sidee, Jungeeanee.

Summa.— Buda, Shora, Suhta, Ageel, Ottur, Amra, Hajana, Rathore, Puria, Janspuwar, Nalica, Charshoo, Sind Summa, Chugra, Buttee, Koraja, Notiar, Oodhar, Oodha, Lookba, Muhur, Sootia, Potor, Lound, Oonur, Babria, Doongua, Gooba, Phool, Lukkha, Munapya, Munabiya, Kaka, Tukhra, Pullee, Rand-

Abra. Gan-
nore. Bhata,
Mangria,
Nilipotra,
akha. Pari-
Bhai. Da-
anan. Ma-
tan. Maiak,
Sukhra,
Larria. Vis-
aarria. Sira-
Lanahin,
Shora,
Sugna,

Chebrana,
Sooree,

shop-
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in the Me-
descend-

Sindee, and

aves pur-
from foreign

are different
they follow.

Some

Mackee and
tribes, and

Dubgur,
Chakee,
Solungee,
Basnee,
Boora,
Marwaee,
Huiya, Raj-
Cam-
Naich,
Jora, Lis-
Bhangur, Watia,
Naneal,
Nagraj, Jok-

Bawanjahi,
Pokarna, Kitri,
Tilung,
kuma, Poor
Mital,

Amil, Pun-
Khalsa and

Sonar, Bagoee, Sochee,
Jakhiree, Jeysul-

Brahmans, descended from
Sahra, Punjabee, Khoo-

descended from Denee.

Hindoo ascetics.

Sunnasee, Beragee, Jogee, Jungum, Oodasee, Bhugut, Barra, Thukur, Bhut, Jajak, Birm-Charree.

Shikarpoor Collectorate.

Mussulmans.

1, Syud; 2, Patan; 3, Mogul; 4, Brahoee.

5, Belooch; Rhind, Juttooee, Talpoor, Chandia, Khosa, Luggaree, Mugsee, Booldee, Lasharree, Julbanee, Loond, Jumalee, Bunglanee, Boogtee, Muzaree, Gadee-Doondkee, Nizamanee, Bang-Jukranee, Dhoomkee.

Jhutt; Surrai.

Sindee, Abra, Collora, Pholpota, Gopang, Mussem, Porrur, Seeal, Soda, Boogia, Budda, Sukta-Turrio, Machee and Bhutto.

Hindoos.

Brahmin, Chuttree, Bunyas, Amil, Thukkoor.

Upper Sind Frontier.

Beloochee.—Tribes the same as given above, viz: Rhind, Dhoomkee, Jukranee, Murree, Boogtee, Lasharee, Goorchanee, Muzzaree, Boordee, Cosah, Jumallee, Mugzee, Chandiah. These people have all the characteristics of Arabs, both in features and customs. They are restless, and unwilling to labor, but will undergo the most wonderful fatigue for the purpose of stealing a camel or bullock. They have sharp, well-defined features, and very spare, but well-knit bodies and limbs. All their traditions agree that they originally came from Syria, probably about 1,200 years ago.

Khyheree, are a priestly set who attached themselves to the Belooch on their way eastwards, from Aleppo, joining them from Tabreez. In importance among themselves, the Belooch rank as follows:—

1, Rhind; 2, Lasharee; 3, Jutoee; 4, Dhoomkee; 5, Jeekranee; 6, Murree, 7, Boogtee; &c.

Brahooee.—These have a different origin from the Beloochees, and have remained for the most part in the mountains of Beloochistan, giving the Khan to the country. The traditions of the Brahooee are not so clear as the Belooch, but they came also from the west, entering Beloochistan from Kerman, by Mekran.

Jhutt.—This is a wandering race, but attaching themselves to Beloochee, and other tribes. They were generally hindoos; are squarer, and stouter in their build, and have broader features than the Belooch. They are all camel-breeders and dealers.

Hindoos.—Are principally of the Bunyah caste.

Thur and Parkur.

The Thur and Parkur district is inhabited by hindoos and mussulmans, more equally divided than in any other part of Sind. Each of these include several tribes which are divided into classes. Their manners and customs resemble those of Cutchee. They are naturally inactive. The chief occupation is breeding and grazing cattle, for which they evince greater preference than for agricultural pursuits. The language in use is a combination of Sindee, Marwarree, and Guzerattee, and is called Datee. In some parts of the district, they carry on business in Guzerattee, but the generality use the Datee, with which they are more familiarized.

Mussulmans.

1, Syuds; 2, Beloochee, viz., Rhind, Chandia, Goorgage, Kullohee, Bunglanee, Dulwanee, Sugranee, Dhoonkee, Luggaree, Nattikanee, Murree, Kuppree, Bhoorgee, Khoso, Noomriah, Bootranee, Lusharee, Bubber, Koriah, Nora, Kolachee, Zindpooree, Berohee.

Jhutt.—Chacher, Kalroo, Kokur, Syal, Poosiah, Thyme, Arie.

Summat.—Summa, Summaja, Dull, Roahma, Oomur, Bumbra, Gailra, Pullee, Saita, Rajur, Nookry, Powur, Powhore, Hallapotra, Molla, Diary, Dura, Sukkerdeonpotra, Kotriah, Vikiah, Dadpotra, Keriah, Sungrasee, Thabba, Noree, Seahra, Joga, Jinjee, Joonaja, Hingorja, Hingora, Bahun, Kullur, Bakoor, Durpar.

Hindoos.

Brahmin, Pooskurna, Veeas, Ackaraj, Cavata, Josee, Basoo, Changangree, Jundria, Prohut, Masara, Dhowra, Lora, Mahdave, Veeasurra, Takoor, Heerow, Panah, Kullah, Hojah, Sarsood, Nooriajoor, Saneechurree.

Soda.

Sooltan, Bhojraj, Gungdass, Bijara, Sadoor, Bhoojbur, Kalun, Sungrasee, Virjueed, Bhar-Mull, Askaran, Ooda, Bhowta, Gagilra, Sutta, Muddat.

Commercial Tribes.

Lohana, Kerar, Ooswur, Kutree, Chepa, Sonara, Durzee, Mallee, Sootar, Ooda, Barber, Rajpoot, Dohut, Balwaro, Kavrio, Charnee, Bhuttee, Rhye, Dhur, Jessore, Chowan, Jaraja, Purwar, Vurhun, Joga.

Broken tribes.

Mengwar, Bheel, Colee, Balashaee and Shikaree.

Miscellaneous races.

Shaik, Memon, Kumbranee, Gudda, Bujeer, Mohana, Jokiah, Dookur, Koliah, Amunda, Bhopa, Mahur, Hakra.

Captain Postans tells us that the Jut, like all the tribes in the Sind countries, are divided into innumerable sub-divisions called Koum, and are a hard-working oppressed race, occupying themselves in rearing camels, feeding flocks, or cultivating the soil. They are invariably found in large communities, often living in temporary huts or 'wands,' and migrating all over Sind and its confines, as shepherds, in search of pasture. Where this is not the case, they are farm-servants either of the Biluchi chiefs, or wealthy zamindars, who repay their labour with a modicum of the produce. The Jut in Sind, are a quiet inoffensive class, and exceedingly valuable subjects, but have hitherto been much depressed. Their women are, throughout the country, noted for their beauty and, to their credit be it also spoken, for their chastity. They work as hard as the men, and the labour of tending, driving home their flocks, milking the cattle, &c., is fairly divided. The Jut are very numerous and form a large division of the population of Sind, though seldom found in its towns, being dispersed over the whole face of the country particularly eastward to the desert tract which separates Sind from Cutch, known as the Runn on which this tribe rear large flocks of camels. There are other pastoral and peaceable classes besides the Jut, of mahomedan persuasion, such as the Khosa in Upper Sind, Sikh Lohana in the Delta, and emigrants from the Panjab, who have in many instances become amalgamated with the people of the country. The Khosa become a predatory tribe on the eastern confines of Sind, verging towards the Cutch territories, where Rajputs are located they

are very troublesome. They are also in the eastern boundaries, as wandering herdsmen. The Daod Putras who inhabit generally the country of that name in the north are to be met with in various parts of Sindh. The Sumah are Juts, though they are generally known by the former title. Such also are the Machi and numerous other sub-divisions of the Jut tribes. The Jut is as inseparable from the camel throughout Sindh, as the Arab from his horse in Arabia; they are invariably camel-drivers and feeders, and are consulted on every occasion where the health or efficiency of this invaluable animal is in question. According to one authority, the Jut occupying parts of the ancient Sikh territories, are sprung from barbarous hordes who emigrated from the plains of Upper Asia, but who have now long held the brahman language and belief. But if the Jut of Sind and Kach Gandhava be of the same stock, these have become mahomedans. The Jetki is everywhere, according to Mr. Masson, the language of the Jut.

The few Affghan zemindars settled in the north of the province still use the Pushto of their forefathers; but the dialect is not sufficiently diffused among the people to be included in the languages of Sind. The same is the case with pure Panjabi, it is confined to the small number of Sikhs who are settled in the different cities and towns. The generally known tongues are the Belochi, the Jataki, the Persian, the Sindhi.

The Beluchi is a rude, mountain dialect, spoken throughout the country called Beluchistan, and by those hill tribes who have migrated to the plains of Sind. It belongs to the Indo-Persian class of languages, and though uncultivated, is said to be very ancient. It is remarkable for its similarity to modern Persian one-half of the words appear mere corruptions, or possibly similar forms of the polished tongue. Like its sister dialects, Brahuiki and Pushtu, the vocabulary contains a few Sanscrit and Arabic roots, together with a considerable proportion of other words. The latter, however, appear not to be the remains of an aboriginal tongue, otherwise they would be those expressing primary ideas: they are probably a new element, introduced by isolated position and the want of a standard of language. As must happen among a people divided into clans, and separated from each other, the dialect abounds in diversities of words and idiom, and being naturally poor, it borrows many vocables from the neighbouring countries. Its literature is confined to a few tales, legends, war songs, and the productions of the bhat or Beluch bards.

The earliest names of the inhabitants are those to be found in the Beglar-namah of A. D. 1625, where Bina, Tak and Nabumiya, are named. The Tahfat-ul-Keram names them as the Banya, Tank, Munid and Mahmir, but Lieut. Postans names them Nubeteh, Tak and Momeed. Of all these the Tak alone are now to be traced. The Bina and Banya may be the baniah or shop-keeper class: the Nabumiya, perhaps foreigners, from na not and bhumiya of the soil; and the Nubetah, may be the nao-aita or new-comers. Though the older residents in Sind have become mahomedans, down to modern times, mahomedan converts have been allowed to retain their hindoo names.

The Jat, Jot, Jet, Jut or Jhut, partly hindoo, partly sikh, and partly mahomedan, occupy the north-west and bordering provinces, also the Panjab and Sind. They all refer to the west of the Indus and to Ghazni as their original seats, and the Dhe or Pachade reached India from the Panjab about the middle of the eighteenth century. The other section is the Hole or Deswale. The Jat seem to have descended by the Bolan pass, occupied the high pastoral lands about Quettah and thence descended into the plains of the Indus and to the districts on the east, which they still occupy.

Guda, a race in Sind, from intercourse between Sind'hians and Sidi women, they were equally slaves with their mothers, and could be bought or sold at will.

When a Sindhi is seen to be in the sakarat state (the agonies of death), all present recite the shahadat, or confession of the mussulman faith. If water from the sacred well, Zamzam, be procurable, it is squeezed into the man's mouth, and a traditional saying of the Prophet informs his followers that it is a meritorious deed: the holy fluid, however, is not common in Sind.

The Sindhi very are fond of fighting Ghata (rams). The best breed is the large and strong black animal of the hills.

The two great families of sayyids, viz., Hasani and Hosayni, are both numerous in Sind. Individuals belonging to the latter class have the title of Pir, as Pir Bhawan Shah. The Hosayni race is termed Sayyid, as Sayyid Jendal Shah. As is usual in the Sind province, these two large bodies are sub-divided into clans, called after their original place of residence, as Bokhari, Mathari, Shirazi, Lakhirai, Lakrulni, &c. Most of them are of the Shiah or Rafizi persuasion, and therefore they suffered severely during the various Affghan invasions. Many of these Sayyids are learned men, much respected by the commonalty, in spite

of the discrepancy of belief. Under the Kalhora dynasty they became possessed of large landed estates, granted as Inam (or free gift) in perpetuum. When the Talpurs came into power the priesthood declined. The other religious families in Sind are—

1. Kurayshi, or Siddiki, descended from Abubakr. They are sufficiently numerous, and have the title of Makhdum, or master, as Makhdum Nuh Siddiki. Under the head Kurayshi (descended from the Koreish tribe), are included the Faruki family, that claims descent from Umar. Their name usually begins with Miyan ('master'), as Miyan Ibrahim Faruki.

2. Alawi, the posterity of Ali by any of his numerous wives, except Fatimah. They are all Shiahs, are not often met with, and bear the title of Khwajo, 'sir,' *e. g.*, Khwajo Murad Ali.

3. Abbasi, the descendants of Abbas, very numerous in Sind. They are called Mullo ('priest'), or Buzurg (the 'great'), *e. g.*, Buzurg Maaruf Abbasi.

The other families, such as the Hamzawi, Musawi, Razawi, Mahdawi, &c., &c., so common in different parts of the mahomedan world, are here either unknown, too inconsiderable to merit any notice, or included under the above three heads.

The Affghans, or Pathans, are generally found about Hyderabad, and in the north of Sind. Many of them have been settled in the country for some generations, and become possessed of considerable landed property.

The women of Sind dress gaily, in bodices worked over with variously coloured silks in many patterns, into which they frequently insert pieces of looking-glass. There was, in Sind, in the time of the Amirs, a system of slavery common to it and all the countries to the north-west, viz., that of fathers selling their daughters as wives when very young, as also of the sale of girls for the zenanas of the wealthy. The Affghans are particularly distinguished for this traffic in Sind, but it is after all very limited. Hindoos are dispersed over the whole of Sind: in the wildest fastnesses of the Beluchi mountains, in the deserts and smallest collection of huts in the jungles of the plains, a hindoo and his shop of tobacco, spices, groceries, or cloths, is sure to be found; but their principal localities are in Northern Sind at Shikarpur, and in Southern Sind at the port of Karrachi. The hindoo merchants or bankers have agents in the most remote parts of Central Asia, and could negociate bills upon Candahar, Kelat, Cabul, Khiva, Herat, Bokhara, or any other of the marts in that direction. The population of Sind has been estimated in round numbers at about a million. Hindoos seem to have come from Amritsur, Multan and the north. They are divided into two great classes, Lohana and Bhotia. The language of Sind is of hindi origin, being a still greater corruption from the Sanscrit than that spoken in the Guzerat peninsula: it is written in a peculiar character, called the Khuda Wadi, and the hindoos keep all their own accounts and correspondence in it. The higher orders of the Sindi are fond of being uncivil to strangers, particularly if the latter permit it, but like true orientals, they seldom venture upon rudeness when they expect a rebuff. The easiest way of treating such individuals, is by a display of anger proportioned to the offence, or by some fiercely satirical reply. Sindi women are of fairer complexion and finer features and form than those of Western India: the latter, however, are superior in grace and delicacy of make. Sindi women are most indecent in their language, especially in abuse; they have very few expressions peculiar to their sex, but deliberately select the worst words used by the men. The prostitutes in Sind are of two kinds. The Rangeli, or Khobli, is a low courtezan of the Jatki race, from the districts of Ubbo and Jhangsiyal. They inhabit villages on the main roads, and support themselves and the men by the contributions of travellers. Some of these women have very fine features and forms, particularly in early youth. Another and a more respectable class is the Kanyari, who, like the nautch girl of India, generally unites the occupation of dancing with the immoral part of her profession. The principal of the cultivating and pastoral classes in Sind are the Jut, who in all probability are the aboriginal hindoo inhabitants converted to Islamism. The Sindians, those particularly of Upper Sind and the interior, are a very pastoral people, who breed and tend vast numbers of cattle.

Rennell, and Pottinger, notice the striking resemblance between Sind and Egypt, the level plain of each, the noble river annually overflowing and fertilizing the soil to a certain distance on both sides, and the sandy desert and range of mountains on right and left, Strabo, (Geogr. Lib. xv,) and Arrian, (Hist. Ind., c. 2,) compare the Delta of the river Indus to that formed by the Nile; and both, after Eratosthenes, declare India limited by the Indus westward. Yet, in this direction, modern Sind extends considerably beyond the river; whilst, it is generally assigned to. The more habitable part of Sind is a long narrow tract of country, yearly fertilized by the inundation of the Indus, with shifting sand-heaps on the east,

and bare stony mountains on the west. Eastward, Sind is bounded by some of the most desert portions of Bhawulpore, Jeysulmir and Balmir, a dependency of Joodhpur, and the eastern portions of Sind itself, for from ten to sixty miles within the frontier, are desert wastes. Northwards and westwards are rugged ranges of inhospitable stone heaps, varying in height from 2,000 to 5,000 feet, where inhabitants, animal life, vegetation and water are altogether wanting and divide the province from the territories of the many Belooch clans that compose the kingdom of Kelat. In the Delta of the Indus, expansive lakes called "Dhund" abound ; from the easternmost mouth of the Indus to the Kurachee harbour, nearly the whole coast is a net work of channels, marine, lagoons, and of sand-banks and mud-banks, more or less covered by each advancing tide. The contrasts presented by this province are striking : in the central tracts liable to inundation, are picturesque looking villages with, in the cold season, waving fields, beautiful small lakes, and the land throughout its length and breadth, partitioned by numerous canals and irrigation channels, but outside of the fertilized tracts are bare mountains and sandy deserts. To the west the Mekran coast, as far as Gwader, much resembles Sind and the Kelat hills and the immediate neighbourhood of Muscat and the coast for a few miles on each side of Muscat is much like Aden.

The method of closing water-courses adopted by labourers is peculiar to Sind : they are attended in their work by musicians, and the excitement is kept up by beating drums and blowing horns : without these they make no progress, but with them the canal-diggers of Sindh will do more manual labour than any natives of India : they work uninterruptedly for twelve hours, and use a large hoe called a powrah, with a short handle. The period for clearing the water-courses is the first appearance of a rise in the river (March or April.) The seasons for crops in Sind are two, Rabi, or spring, and Kharif, or autumn, the produce varying in portions of the country : these divisions of the year do not apply to climate, for they hardly exist. Saltpetre abounds in the soil of Sind, particularly the lower country, and is collected in great quantities. In many districts the surface of the land is covered with a saline efflorescence. Sind is not a wool-producing country, though it is to be obtained in its western confines to a great extent, particularly in Cutchi and the Jhalawan mountains of the Brahui : the hindoos of the country carry on the trade, and thus much of the article coming into the Bombay market through Sind is misnamed Sindian wool ; many districts, however, accessible through Sind and the Indus, yield this important article abundantly ; that furnished by the Kelat territories finds its way to Bombay viâ the mountainous road to Sonmiani. The timber of Sind, though it may be considered inexhaustible in quantity, is generally indifferent. The principal jungle trees are the tamarisk and baubul (this latter is a species of Acacia.) The hunting grounds are rich in the babul and other Acaceæ.

The alcoholic drinks principally used are two in number, viz., 1, Gura jo darun, made from molasses with Babul bark and other ingredients. Though fiery and disagreeable in flavour, the people of Sind are remarkably fond of it, and some will finish as much as a bottle a day ; they drink it out of small cups, containing about a tea-spoonful, and repeat the dose every quarter of an hour ; 2, Kattala jo darun, a spirit extracted from dates, and very generally drunk by the lower orders. It is hot and nauseous. The principal wines, if they can be so called, are—

Auguri, made of the Sindh grape at Hyderabad, Sehwan and Shikarpur. It is generally qualified with the spirit of Gur. When wine is made of dried grapes, it is called Kishmishi.

Sonfi, extracted from aniseed with Gur brandy ; it is considered a superior kind of drink.

Mushki, perfumed with musk and other perfumes.

Turanji, extracted from citron peel.

Misri, made with sugar-candy, and perfumed. It is one of the most expensive preparations.

Gulabi, perfumed with rosewater.

Kaysari, coloured with saffron.

Very few Sindi would be restrained from theft by a feeling of honesty, or sense of duty ; though at the same time, the name of thief is offensive to them. This is not always the case among uncivilized tribes. Some of the chiefs of clans did not object to order robbery and divide the spoils with the thieves. Many took a pride in this procedure, as the non-interference of the native governments was considered to be a tacit admission of their being superior to the laws. The robber chiefs on the frontier were paid by the Ameers, and yet levied a black mail from travellers, and on occasions robbed them also. The people of the plains erected Thullæ or Martello towers, capable of containing from twenty to fifty men, or built mud forts, with ramparts and battlements, surrounding a space of level ground, where their cattle might be in safety when a raid was

Jatii of the Oxus, who are coupled together expected. Towards Kusmore, on the north-west frontier, the former traveller would immediately remark the number of maimed and wounded cultivators. Before the British took possession of the country, this was one of the points which the hill robbers often attacked.

In Sind'h the 'son' or "sugun" is a kind of divination by means of the position of birds and beasts, their cry, the direction of their flight, and other such particulars.

In Lower Sind, in the Kurrachi collectorate, are brahmins from the Kokun and Mahratta country, Guzerat and Nagar. There are also, however, Gour brahmans, the Sarsat or Sindi and the Pokarna from Jeysulmir. In the Hyderabad district, they are even from more distant countries, from the Dekhan, Telingana, Dravila, the Carnatic and Kanouj.

Khatri, or *Kshatri*, occur both in Hyderabad and Kurrachee.

Vaish, of these are several tribes, seemingly embracing all who engage in traffic and banking. In Kurrachee are the Amil, Godi, Kanooga, Mahajan, Merani and Wanhia; and in Hyderabad also the Lohana, Bhattia, Bhabera, Panjabi, Mehisirri, Oosuwar, Suhwani, Khalsa and Shahdadpuri.

Sudra hindoos, are the Bagoi, Jakhiri, Jeysulmiri, Khutti, Kulul, Kurmi, Lohar, Mochi, Ode, Sochi, Sonara, Sootar, Thumboolee.

General Cunningham mentions that the Maud tribe have occupied Lower Sind in great numbers from the beginning of the christian era. Edrisi describes the Mand as a numerous and brave tribe who occupied the desert on the borders of Sind and India, and extended their wanderings as far as Alor on the north, Mekran on the west, and Mamehel (or Umarkot) on the east. Ibn Haukal records that "the Mands dwell on the banks of the Mihran, from the boundary of Multan to the sea, and in the desert between Mekran and Famhal (or Umarkot.) They have many cattle-sheds and pasturages, and form a large population." Rashid-ud-din locates them in Sind at a still earlier period. According to his account, Med and Zat, two descendants of Ham, the son of Noah, were the progenitors of the people of Sind prior to the Mahabharata. The name is variously written as Mer, Med, Mand, in all of which forms it is found even at the present day. To these he would add Mind, which is the form of the name given by Masudi. He identifies this people with the Medi and Mandrueni of the classical writers; and as their name is found in northern India from the beginning of the christian era downwards and not before that time, he concludes that the Maudrueni and by Pliny, must be the Sacæ Indo-Scythians, who occupied the Punjab and Sind, and who under the name of Mand and Zat of the early mahomedan authors, were in full possession of the valley of the Indus towards the end of the 17th century. Lastly, Wilford's surveyor, Mogal Beg, writes Mandyala, which is also the form that he received from two different persons, while in General Court's map it is spelt Mamriala. To this people he refers the name of Minnagar, or 'city of the Min,' which was the capital of Lower Sind in the second century of the christian era. That Min was a Scythian name in use is known from its occurrence in the list of Isidor of Kharax as one of the cities of Sakastene or Sejistan. The actual position of Minnagar is unknown and there are but few data to guide us in attempting to fix its site. If right in identifying Min-nagar, or the 'city of the Min,' with Manabari, or the 'place of the Mand,' there can be little doubt that the great Indo-Scythian capital was at Thatha. He adds that the Agari is a well-known caste, of low degree, who are employed in the manufacture of salt.—*Aitcheson's Treaties, Engagements and Sunnuds, Vol.* vii, *pp.* 14–15; *Tod's Rajasthan, Vols.* i, vi, *pp.* 244–45; *Elliot's History of the Punjab, Vol.* i, *pp.* 63, 489, 498; *Postan's Personal Observations, pp.* 3, 9, 64, 65, 66, 69, 73, 74, 86,88, 95, 99, 110; *Masson's Journeys, Vol.* i, *p.* 374; *Vigne, Travels*; *Postan's Sindh, p.* 359; *Burton's Sindh, pp.* 164, 167–68, 232–34, 276, 288, 296 *to* 299, 376, 390; *Ouseley's Travels, Vol.* i, *p.* 149; *Hindoo Infanticide, p.* 170; *Pennant's Hindoostan, Vol.* i, *pp.* 1 *and* 2; *Rennell's Memoir, pp.* 94–98; *Rawlinson, Herod, Vol.* ii, *p.* 495; *Smith's Dictionary of the Bible, Vol.* i, *p.* 867; *Cunningham's Ancient Geog. of India, pp.* 251, 265, 278, 290-92; *Genl. Mereweather in litteris.* See Bharata, Hindoo, India, Inscriptions, Jat, Jell, Junagurgh, Kalora, Kandahar, Kattywar, Kelat, Khajah, Khosah, Kiang, Khyber, Krishna, Kurrachee, Panjab, Sanatoria.

SINDABAL, see Chenab.

SINDBAD, a voyager, well known to Europe as having his history incorporated in the Thousand and one Nights, but they form in Arabic a distinct and separate work, which Baron Walkenaer (in Nouvelles Annales des Voyages, tom. liii, p. 6) regards of equal value with those of Soliman and Abu Said. His first voyage appears to have been to the Western Coast of India when the Bejanuggur dynasty ruled, as he calls it Maharaj. Riha, was the termination of his second voyage, and was probably the Malay Peninsula as he describes it as producing camphor. And in

his third voyage the island with ferocious savages seems to have been the Andamans. His fourth voyage would seem to have been the coast of Malabar, whence he went to the island of Nacaus apparently the Nicobars, thence in six days to the island of Kela, which Baron Walkenaer recognises as Quedah in the Malay peninsula. In his fifth voyage where he is shipwrecked and becomes the victim of the Old Man of the Sea, the site is supposed again to be the Malabar Coast. After his escape he visited the Maldives, Cape Comorin, for aloes wood, and to the Gulf of Manar for pearls. In his sixth voyage, he is thrown on an island where superb aloe wood trees, Santy and Comari, were growing, whence he finds his way to Serendib, the present Ceylon, which was the object of his seventh and last voyage where he was sent as an ambassador from caliph Haroon oor Rasheed.—*Ind. in the* 15 *Cent.*

SINDHAKATEE, Sans., to cut a passage, from sindha, and krit, to cut.

SINDI, the language of Sind. Some of the Hindi tongues, such as Kashmiri, Uria and Guzerati are the languages spoken in the smallest limit. But the Jataki, Sindi, Panjabi, Harauti, Marwari, and Konkani, are other Hindi dialects. This tongue has the dialect of the Siraiki of Upper Sind, containing numerous Jutki words. The Kachi, has in it elements of the Guzerati. That of the hunters and tanners. Dedh is another dialect, but the language of Lar is purest. See Hindu.

SINDHU, or Indus river, see India.

SINDHU. India was first known to the Chinese in the time of the emperor Wu-ti of the late Han dynasty, in the second century before Christ. It was then called Yuan-tu, or Yin-tu, that is Hindu, and Shintu, or Sindhu. At later date it was named Thian-tu; and this is the form which the historian Mat-wan-lin has adopted. Sindhu was taken from the Romans, the Romans from the Greeks, the Greeks from the Persians. It is only in Persian that an initial *s* is changed into *h*, which initial *h* was as usual dropped in Greek. It is only in Persian that the country of the Sindhu (Sindhu is the Sanscrit name for river), or of the seven Sindhu, could have been called Hindia or India instead of Sindia. Unless the followers of Zoraster had pronounced every *s* like *h*, we should never have heard of the West Indies. The name of India i. e., *Hoddu*, does not occur in the Bible before the book of Esther, where it is noticed as the limit of the territories of Ahasuerus in the east, as Ethiopia was in the west (i, 1; viii, 9): the names are similarly connected by Herodotus (vii, 9.) The Hebrew form "Hoddu" is an abbreviation of Honadu, which is identical with the indigenous names of the river India, "Hindu," or "Sindhu," and again with the ancient name of the country as it appears in the Vendidad, "Hapta Hendu." The native form "Sindus" is noticed by Pliny (vi, 23). But though the name of India occurs so seldom, in the Old Testament, the people and productions of that country must have been tolerably well known to the Jews. There is undoubted evidence that an active trade was carried on between India and Western Asia: the Tyrians established their depots on the shores of the Persian gulf, and procured "horns of ivory," "broidered work and rich apparel" (Ez. xxvii, 15, 24), by a route which crossed the Arabian desert by land, and then followed the coasts of the Indian ocean by sea. The trade opened by Solomon with Ophir through the Red Sea chiefly consisted of Indian articles, algummim, "sandal-wood," kophim, "apes," thuccum, "peacocks," are of Indian origin, (Humboldt Kosmos, ii, 133); to which we may add the Hebrew names of the "topaz," pitdah, derived from the Sanscrit pita.—*Muller's Lectures, p.* 215. See Hindoo, India, Indus, Jat, Bharata, Bharata Versha, Sind.

SINDIA, the title of the ruling family of Gwalior. The Sindia family, now the Gwalior rajas, came from a family near Sattarah. The first, 1724, Ranojee Sindia was an officer in the peshwa's army: in 1825, Baiza Bai, widow of Doulut Rao, adopted Jankuji, who assumed the reins of government in 1833. Rajputanah only has 123,000 square miles, with a population of ten millions. It contains the British district of Ajmir, and Mhairwarah; Meywar, Marwar and Jeypoor, are considered first class principalities ranking with Sindhia, Holkar and Bhopal, and there are eighty of the second class and eighty of the third class. Jeypore is the most wealthy and its public revenue amounts to £440,000 or nearly half a million sterling; this is excluding the incomes of its vassals, which amount to nearly as much more. The revenues of five other principalities range between £200,000 and £300,000, and three more between £100,000 and £150,000. In all, the revenues of the 19 states are estimated at £2,350,000, of which £1,500,000 are raised from the land. If to this be added the income of vassals holding their estates on feudal and military tenure, the gross public revenue will amount to about £4,500,000 sterling. In most of the chiefships, the land revenue is raised in kind. The chiefs' share of the gross produce varies in different localities from 30 to 55 per cent., which is much higher than ordinary in districts of British India. After the land revenue that from the customs and tribute,

form the chief items. The courts have no written codes, but many civil cases are settled by arbitration or punchayet, and about four or five hundred interfeudatory cases are disbursed by courts of vakils, presided over by the political agents. Jeypore has a good college, and, as also Bhurtpore and Mhow, have good central and district and village schools. The Odeypore school also is well spoken of. The principal centres of trade are Pallee in the S. West; Jalra Puttun in the S. East and Ajmir and Tonk in central Rajputanah. The military establishments and armed police maintained by the chiefs number 11,500 horse and 63,000 foot, but by calling out feudal quotas, the horse could be doubled and the foot largely increased, but they are all badly mounted and equipped. As tributaries against a disciplined foe, they would be valuless except to guard communications or aid in the defence of fortified positions. Dholepore in Rajputanah has 1,250 sq. miles with 192,382 inhabitants. Shekawattee people from the earliest times have been robbers and addicted to the most cruel and worst of crimes; up to 1868, it continued simply a country of robbers. They carry on their depredations at long distances from their homes, to which they return by rapid marches, and share their plunder to pay for the protection at times which their own chiefs afford them. Ranajee, the first member of the Sindia family of note, commenced his career as the carrier of the slippers of Balajee Rao, peishwa. His care in the performance of this menial duty attracted his master's attention, who appointed him to a command in the pagah or stable horse. From this his rise to the first rank of Mahratta chiefs was rapid. He died in Malwa where he had acquired some possessions, and was succeeded in the headship of the family by Madhojee Sindia, his second son. Madhojee Sindia was present at the battle of Paniput, in which he was severely wounded. After the disastrous flight of the Mahrattas, Sindia's family, like other Mahratta chiefs, lost their possessions in Malwa. On the return of the Mahrattas to Hindostan in 1764, the most active of the predatory leaders was Sindia, whose formidable army, organised under French officers, made him in reality the ruler of Hindostan, though nominally the servant of the peishwa. Madhojee Sindia played a most important part in the struggle which took place for the peishwaship after the death of Madho Rao, Bullal. He was the chief support of the party of Nana Furnaves. Peace was concluded with the Mahratta by the treaty of Salbye in 1781, Sindia being the mutual guarantee of both powers for its observance. Under the 3rd Article of this treaty, the right of the British government to the Pergunnah and town of Barooch was recognised. By the treaty of Salbye the independendent power of Madhojee Sindia, in his relation to the British government, was first recognised, but in all other respects he continued ostentatiously to proffer subjection to the peishwa. Madhojee Sindia died in 1794 and was succeeded by his grand nephew Dowlut Rao Sindia who was too young to carry out any dangerous designs which Madhojee Sindia who died in 1794 might have entertained. During the distractions which followed on the peishwa Madho Rao Narain, Sindia was able to place Baji Rao in power. The power of Sindia, whose army was commanded by French officers, was at this time most dangerous to the British government. When by the treaty of Bassein the British government had recovered its influence at Poona and established a subsidiary force there, Dowlut Rao Sindia entered into a league with the rajah of Berar to defeat the objects of the treaty, and he opposed General Wellesley's plan. In the campaign which followed, the power of Sindia was completely broken, both in Upper and Central India, and he was compelled to sue for peace, and to sign the treaty of Surjee Anjenguam in 1803, by which he was stripped of his territories in Hindustan and south of the Adjunta hills, with the exception of some hereditary villages, and resigned his claims on his former feudatory rajahs with whom the British government had made treaties. A subsequent treaty was concluded on the 23rd November 1805, but Sindia countenanced the pindarahs in 1817. The subsequent open defection of the peishwa and the rajah of Berar shook the steadfastness of Sindia to his engagements. The strong fortress of Aseergurh was not surrendered as stipulated by the treaty, and it therefore became necessary to reduce it by force. In the captured fort a letter was found in which Sindia directed the governor to obey all orders of the peishwa, who, by attacking the Residency at Poonah, had declared war with the British government. In consequence of this want of good faith Sindia was required permanently to cede the fort of Aseergurh. Dowlut Rao Sindia died in March 1827. He left no son, and had repeatedly evaded the advice of the Resident to adopt a successor, leaving it to the British government to do what they might think proper. In accordance, however, with what was believed to be the last wishes of Dowlut Rao, a youth of eleven years named Moogut Rao, of an obscure branch of the family, but declared to be the

nearest relation of Dowlut Rao, was adopted, married to the grand daughter of Dowlut Rao by Baiza Bai and placed in power with the title of Ali Jah Jankojee Rao Sindia under the regency of Baiza Bai. The Baiza Bai acknowledged this succession most reluctantly, and maintained that it was her late husband's intention that she should hold the regency during her life. The restraints under which the youth was held by the regent became at last intolerable to him and he fled from the palace and took refuge with the Resident. A reconciliation was with difficulty effected, but as government gave no definite decision on the rights of the parties, the seeds of dissension remained and the quarrel finally came to a crisis in 1833. The Baiza Bai's rule had become most unpopular and the cause of the young maharajah was espoused by a large portion of the army, the Bai was compelled to retire from the Gwalior territory, and the maharajah was acknowledged by the British government. To such a length was the principle of absolute neutrality carried at this time, that government declared its indifference as to which of the two ruled. Rajun Khan, a Pindaree leader, brother of the notorious Cheetoo, had received a life-grant of lands in Shuja Wulpore. The rule of maharajah Jankojee Sindia was very weak. Although the Baiza Bai had no strong party within Gwalior territories she did not cease to intrigue and to use freely for this purpose a sum of Rs. 37,00,000 which she had been awarded as her private property. Jankojee Sindia died on 7th February 1843, he had no children and had expressed no wish regarding the succession although repeatedly and earnestly urged by the Resident to do so. Tara Ranee, however, the maharajah's widow, a young girl of twelve years of age, with the concurrence of the chiefs of the state and the army, adopted Bugeerut Rao, son of Hunwunt Rao, usually called Babajee Sindia, the nearest though a very distant relative of the maharajah, and the adoption was recognized by the British government. The boy was then about eight years of age. He assumed the title of Ali Jah Jyojee Rao Sindia. The Mama Sahib, who appeared to possess the greatest influence and was attached to British interests, was chosen by the chiefs as regent. But troubles again arose through the instigations of Dada Khasji Wala who was at length delivered up. It remained now only to negociate measures for the formation of an efficient government and the reduction of the army. For this purpose an interview was agreed upon between the governor-general and the maharajah which was to take place at Hingoona on 26th December 1843. The day passed without the appearance of the maharanee and her son, who were held in restraint by the mutinous troops. On the 29th December when the British army was taking up its advanced ground, it was fired on by the Gwalior troops. The battles of Maharajpore and Punniar were fought the same day and ended in the total defeat of the Gwalior army, and the conclusion of a treaty by which it was agreed that territory yielding eighteen lakhs a year should be ceded to the British government for the maintenance of a contingent force, and other lands for the payment of the debts of the state to the British government and the expenses of the war; that the army should be reduced to 6,000 cavalry, 3,000 infantry and 200 gunners with 32 guns; that the government during the minority should be conducted according to the advice of the British Resident; and that the just territorial rights of the Gwalior state should be maintained by the British government. From this time till the mutinies of 1857 there was little change in the relations of the British government with the Gwalior state. By the mutiny of the contingent in June 1857, the political agent was forced to quit Gwalior. In June 1858 the maharajah was deserted by his troops on the approach of the rebels under Tantia Topee. He and his minister were compelled to flee to Agra. On 19th June, Gwalior was re-taken by Sir Hugh Rose's force and the maharajah was re-established in his palace. From that date the confidence of the maharajah was entirely withdrawn from his minister to whom he conceived an intense dislike. Dinkur Rao was at last removed from office in December 1859, and Balajee Chimnajee was appointed in his stead with the concurrence of the British government. Since that time the maharajah has himself superintended the whole of his affairs. For his services during the mutinies, Sindia received a Sunnud conferring on him the right of adoption. He was also informed that lands yielding three lakhs of rupees a year would be added to his territories; that permission would be given to him to raise his infantry from 3,000 to 5,000 men, and his artillery from 32 to 36 guns; that the arrears due to the British government on account of the deficiency in revenues of the districts assigned under the treaty of 1844 would be remitted, and that no payments would in future be claimed should these revenues fall short of eighteen lakhs; and the annual payment of rupees 10,000 out of the revenues of Burwa Saugor in the

Jhansi district would be hereditary. These modifications of the treaty of 1844 were embodied in a new treaty concluded on 12th December 1860. The rajah of Amjhera, tributary to Sindia, paid annually to the Gwalior state a tribute of rupees 35,000 under an engagement mediated by the British government. This tribute was part of the sums assigned in 1844 for the payment of the contingent, and is now payable by Sindia to the British government under the treaty of 1860. Besides this the maharajah contributes Halee rupees 20,000 towards the payment of the Malwa Bheel corps. Formerly Sindia contributed only rupees 8,000 to this corps, and the rajah of Amjhera contributed rupees 4,000. But when Amjhera was confiscated and made over to Sindia in consequence of the rebellion of the rajah in 1857 it was made subject to a payment of rupees 20,000, no further contribution being required on account of Gwalior. Including the cessions to Sindia under the treaty of 1860, the territories of the Gwalior state are estimated to contain a population of about 2,500,000 souls and to yield a revenue of rupees 93,09,102, of which rupees 78,38,900 are derived from the land tax, rupees 14,70,202 from customs, and the rest from the tributes of feudatories. The customs revenue is realized from transit duties on iron, tobacco, sugar, and salt, all other articles being free, and from Jaghire and other local taxes. 'No transit duties are taken on the portion of the Agra and Bombay road and its branches passing through Sindia's territories or on the roads connecting Gwalior with Etawah and Furrukhabad, Duttia and Jhansi and Calpee. After the capture of Gwalior by the force under Sir Hugh Rose in 1858, the fort of Gwalior continued to be held by British troops. During the negociations, however, which ended in the treaty of 12th December 1860, Lord Canning promised that the fort should be restored to Sindia, when this could with safety be done. It was, however, finally decided in 1864, that the cantonment of Morar should be maintained, and it therefore became necessary that the Gwalior fort should continue to be garrisoned by British troops. Gwalior is the capital of the maharajah Sindia.—*Treaties, Engagements and Sunnuds, Vol.* iv, *pp.* 199, 200, 203-204, 207-208, 211-12. vii, *p.* 391 ; *Annals of Indian Administration* ; *Friend of India, October* 1868. See Perron, Thomas, Mahratta governments in India.

SINDICA, also Punarnava, SANS. Boerhaavia tuberosa, also Diospyros embryopteris.

SINDI KODI, MALEAL. Cocculus cordifolius.

SINDJAVI, see Kurdistan.

SINDOMANA, or Sehwan, capital of Sambus. See Kabul.

SINDOO, Cheeneh, Vurnitch, Chhuttheh, Sidhoo, Kureka, or Kurreal, Goudul, &c., are Jat sub-divisions in the Panjab.

SINDROL, HIND. Rhamnus virgatus.

SINDU, or Saraswati, see Hindu.

SINDUR, GUZ., HIND. Red lead.

SINDURA, SANS. Red lead.

SINDURAM, properly Senduram, TEL. Red lead.

SINDURI CHETTU, TEL. Rottlera tinctoria.

SINDUVA CHETTU, TEL. Acacia speciosa.

SINDUYA, SANS., also Sindhuka, SANS. Vitex negundo.

SING, GUZ., HIND. Horn.

SING. No nation is more closely united by the ties of clanship, which they designate by the word sing, than the Chinese. All the many millions are divided into rather more than 400 sing ; those who belong to the same sing, consider each other as relations, descended from the same ancestor, and bound in duty to lend mutual help. This excellent custom degenerates frequently into that exclusive partiality, which is so repugnant to the spirit of true philanthropy. One sing is opposed to the other, one clan oppresses the other ; they proceed even so far as to engage in open hostilities. The ties of nearer relationship are still closer. A Chinese is taught by his sages to love his relations.—*Gutzlaff's Chinese History, Vol.* i, *p.* 207.

SINGAHAR, BENG. Nyctanthes arbor tristis.

SINGALESE, the people of Ceylon. See Singhalese.

SINGAPORE. The island of Singapore, at the southern extremity of the Malay peninsula, in lat. 1·17° N., long. 103·50° E., is separated from the continent by a narrow strait, in some places less than a mile in width. The island is 25 miles in length, and about a third of that distance in breadth, has an area of 206 square miles, and a population of 50,000, of whom a very large proportion are Chinese emigrants.

The settlement was obtained by purchase from the sultan of Johore on the mainland in the year 1819, and has since rapidly risen to importance. It is attached to the Bengal presidency. The town of Singapore, on the S. E. coast of the island, contains a number of public edifices, several churches, and an Anglo-Indian college. The island consists of a number of low hills and ridges with narrow and rather swampy flats intervening. In several places the sea-face is elevated but the

greater portion of the circumference is fringed by a pretty deep belt of mangrove forest. Bukit Timah is a granitic hill, about 530 feet high, but the rest of the island is composed of sedimentary rocks, amongst which sandstone occupies a prominent place. There are other elevations on the island known as Oxleys, Scotts, Guthries, &c., hills. Singapore was first settled in A. D. 1160, by Sri Sura Bawana. From an inscription now destroyed on a sandstone rock on a narrow point to the left of the entrance of the Singapore river, it would appear that raja Suran of Amdan Nagara after conquering the state of Johore with his kling or Coromandel troops proceeded to Tamask, about A. D. 1201, returned to Kling or Bejanagar, and left this stone monument. Tam Sack is also called Singapura. In 1836 the population was 29,984, in 1840 it was 39,681, in Nov. and Dec. 1849, it was 59,043:

Europeans	360	Jews	22
Eurasians	992	Malays	12,206
Armenians	50	Natives of India	6,261
Arabs	194	Parsees	23
Balinese	149	Siamese	5
Boyanese	763	Military	609
Bugis	2,269	Convicts	1,548
Caffries	3	In Ships	2,995
Chinese	27,988	Others	1,000
Cochin-Chinese	27		
Javanese	1,649	Total	59,043

The gross value of the imports and exports at Singapore at stated intervals, during the 31 official years 1825-26 to 1854-55, was

Years.	Imports.	Exports.	Grand Total.
	£	£	£
1825-26	1,407,465	1,202,975	2,610,440
1830-31	2,000,373	1,948,406	3,948,784
1835-36	1,654,089	1,562,864	3,216,953
1840-41	3,178,543	2,673,381	5,851,924
1845-46	2,895,227	2,356,872	5,252,099
1850-51	3,085,587	2,551,700	5,637,287
1854-55	3,976,280	3,409,934	7,386,214

Singapore is a free port, the only charges being the Straits Light Dues, which are one anna or 2⅝ cents. per registered ton on merchant vessels. All national ships are free of this also.

In Singapore, measures of capacity are rarely used, and these only with certain articles, such as tobacco, &c.

16 tael make 1 catty equal to 1 lb., 5 oz., 5½ grs. or 1⅓ lb. avoirdupois.

100 catties, make 1 (Chinese) picul = 133⅓ lbs. avoirdupois.

40 (Chinese) piculs, make 1 royan.

2 (Malay) piculs, make 1 char.

The Malay catty weighs 24 Spanish dollars.

The Chinese catty weighs 22½ Sp. dollars. Rice is sold by the royan of 40 piculs. The native merchants buy imported produce from the islands by the Malay picul, but sell it by the Chinese picul. Singapore timber is conveyed in huge rafts, 500 or 600 feet long and 60 or 70 feet broad with atap-leafed houses on the top: each raft containing about 2,000 logs, bound together by rattan rope. In 1852 the value of the British exports to Singapore was 637,981*l.*; in 1860 it had risen to 1,671,092*l.* The imports from Singapore amounted in value, in 1854, to 794,105*l.*, and in 1860 to 4,054,042*l.* In 1852 the exports of cotton goods to Singapore were of the value of 452,927*l.*; in 1860 they had risen to 1,079,098*l.* The Singapore of 1861, was a great city of 90,000 inhabitants stretching upwards of five miles from the Peninsular and Oriental Company's station at New Harbour on the west to the vast cocoanut plantations on the east. Spacious roads covered with Chinese, Kling, Malay, Jew and Arab; churches, town-halls, institutions and court-houses. Government hill is about 160 feet high. There are no hills higher than 300 feet in or near town. The highest hill Buket Temah is in the centre of the island and about 500 feet high. For a sum of 60,000 dollars and a yearly stipend of 24,000 dollars for life, the sultan of Johore made over the island of Singapore to the British in the year 1819. Sir Stamford Raffles lived but a few years to lay the foundation of the commerce of the port. Singapore was settled on the 6th February 1819. Singapore was finally ceded by treaty on 2nd August 1824 to the British by the sultan of Johore. The population of Singapore exceeds 90,000 souls, viz.:—

Europeans and Indo-Britons	2,445
Klings, (Madras Coast men)	10,888
Bengalees	11,736
Chinese	50,043
Burmese, Siamese, Bugis, Javanese and Arabs	14,581
Floating population and Convicts	8,000

The shipping frequenting the port equals that of Bombay and the trade is yearly on the increase. The prosperity of the island may be attributed to the fact of its ports being free of charge to all nations and to the encouragement being given to the innumerable native craft to convey thither the rich produce from the innumerable Eastern Archipelago group of islands, which they barter for piece goods from the home market.—*Quarterly Review, No.* 222, *p.* 513; *Calcutta Review, No.* lxxiii, *pp.* 36-38; *Trains in America, pp.* 83-90 *of No.* iii, *Sep.* 1847, *of Jour. of Ind. Arch.* See India, Jakun, Johore, Kyans, Malays, Pedra Branca, Raffles.

SINGARA, BENG., HIND. Trapa bispinosa or natans.

SINGARDAN, a toilet bag for containing a looking-glass, comb, tongue-scraper, meesee, soorma.

SINGARHUR, Beng., Hind. Nyctanthes arbor tristis.

SINGASUN is the ancient term for the hindoo throne, signifying 'the lion-seat.' Charuns, bards, who are all maharajas, 'great princes,' by courtesy, have their seats of the hide of the lion, tiger, panther, or black antelope.—*Tod's Rajasthan, Vol.* i, *p.* 293.

SINGBHUM, that part of it called the Kolehan is the country proper of the Ho, and is for about 60 miles and from 35 to 60 in breadth a series of fair and fertile plains studded with hills. In Singbhum, occasionally, in the markets, a young man will pounce on a girl and carry her off by force, his friends covering the retreat. Singbhum was never Mahratta, and in 1857 its chief, the rajah of Poorahat, joined in the rebellion, many of the Lurka-Kol following him. A christian mission went to Chota Nagpore, in 1845, and has made much progress amongst the Dhangar race.—*Dalton, pp.* 163, 181.

SING-BRANG-KUN. Lepch, Gordonia wallichii, a timber of the Himalaya, universally adopted for ploughshares and other purposes requiring a hard wood. It ascends 4,000 feet on the mountains. In very dry soils it is replaced by "sal" Vateria robusta, and more rare the Pinus longifolia.

SINGESHWAR, an ancient buddhist temple in the Chayagang Duar, a southern division of Kamroop. It has been appropriated by the hindoos.

SING-GE-CHU. The Garo river is the Sing-ge-chu or Indus, also called there Garjung-chu, and there is no great eastern branch as some suppose. At Garo, according to Moorcroft, it is a very insignificant stream.—*Capt. Gerard's Account of Koonawar, pp.* 3 *to* 144. See Indus.

SINGH, Hind, from the Sanscrit Sinh or Sinha a lion, is a suffix to the names of the military castes of Rajputs, also of Sikhs, when fighting men. When a Manjhee Singh dies, leaving no male offspring, his brothers, or his nephews, of the full blood, assume the right of succession, to which the widows become competitors. According to the Shasters (if they may be considered applicable to public property and chiefships,) the prior title of the widows is held; but the Sikhs, with a view to avoid an open and direct violation of a known law, have a custom termed kurawa, or chadur-dalna, which obtains in every family, with the exception of those of the Bhaee, the eldest surviving brother of the deceased places a white robe over, and the neeth, or ring, in the nose of the widow, which ceremony constitutes her his wife.—*Steinbach's Punjab, pp.* 79-80; *Wilson.*

SINGHA RAJA, a ruler of Kandy in Ceylon, a history of whose cruelties is given by Knox, who escaped in 1679.—*Knox's Relation.*

SINGHALESE, natives of Ceylon. The population in 1844 was estimated at 1,442,062, and in 1857 it amounted to 1,697,975 besides about 30,000 soldiers and foreigners. Since then an estimate has been made, which shows a population close on three millions. There are various statements as to the races occupying Ceylon. The European population is small, under 4,000, consisting chiefly of British emigrants employed in the civil and military service or on the plantations. Descendants of Europeans, or Ceylonese, are about 15,000 or 20,000.

Burgher is a term properly applicable only to white persons of pure Dutch descent, of whom there are now but very few in Ceylon; but the name has, by courtesy, been given to all those who in India are styled Indo-Britons, Eurasians, Anglo-Indians, East-Indians or half-castes, namely, the descendants of Europeans by native women, therefore a race of mixed European and native origin.

The coast people of Ceylon are of a Tamulian or Dravidian stock. Those of Kandy, with their habits of polyandry, would seem to be more allied to the people of Coorg, but the coast tribes are of the same race as the Tamular of the peninsula. The Singhalese themselves, however, do anything but favour this idea. They regard the Tamuls with dislike, as foreigners who warred on them and conquered the northern part of the island. Intermarriages are exceedingly rare, and the Singhalese of any position who formed such a union would be considered socially degraded. There are a few wild out-caste races, the Gahaleya, Rhodiah and Veddah in the forests and unfrequented parts. The Singhalese range themselves under the heads of Kandians, low-country Singhalese, Rhodiah and Veddah. The Tamul people of Ceylon belong to the same race as the Tamular of Southern India, and consist either of those who have been on the island for centuries or who are recent emigrants. They are chiefly to be found in the north-east portion of the island, and the two towns to which they chiefly resort are Jaffna and Trincomallee. Batticaloa is the centre of the dense Tamul population. Their main occupation is agricultural. The labourers of the island are styled coolee also a Tamul word. They come over in large numbers from the continent during the coffee season.

Lord Valentia who travelled in Ceylon,

in the beginning of the century, says the races are the Rajah Wansaya, the king's caste.

Brahmana Wansaya, the caste of brahmins skilled in science. This race belong to the Tamul family, following the hindoo religion. The highest of the Singhalese races is the Velala or Goya.

Wanija Wansaya, the merchant caste.

Gowi wansaya, the caste of Gowi, who cultivate the ground, known in Ceylon by the name of Vellala, which however is not a Singhalese word. These Gowi or Vellala are of the highest caste of Singhalese on the island.

Chandalayo, inhabitants of the woods, who strip the skins of animals to make leather thongs.

Veddo, a people who live wild in the woods, and kill wild beasts.

Duravo caste, commonly called Chando, which is not a Singhalese word. The name Duravo is compounded of two words, which signify come from afar.

Karawo. There are nine sub-divisions of this race, which is commonly called the fisherman's caste ; it derives its name from a compound word which signifies "evil-doers," because the occupation of the caste is the destroying of animals, which by the religion of Buddha is forbidden.

Sirr in his Ceylon says, the principal castes are four, viz :

The Surya Vanse or royal race ; this has two divisions, viz :

Goe Wanse, a division of the Surya or royal race, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the government servants.

Nille Makareya, or shepherds, is the second division of the Surya.

Brahmina Wanse, descendants of brahmins.

Wiepa Wanse, is divided into two classes, cultivators and shepherds.

Kshoodra Wanse, which has sixty subdivisions. The Singhalese are a small race, and by no means good-looking. Their complexion is the same as that of the hindoos ; but their features are of the European type, and their skin is far fairer than that of the Tamul race in Ceylon.

The costume of the men is a long petticoat, fastened round the waist and reaching to the heels. Tortoise-shell combs are worn by men as well as women. In the numerous excesses into which European costume has been carried, the size of the back comb worn by ladies has never attained that of the Singhalese men, who also wear a narrow long bent comb across the forepart of the head—the lighter coloured shell is most esteemed by them. Five pounds is a moderate price for a tortoise-shell back comb, which increases in value according to the size and quality of the shell : hair pins of tortoise-shell are worn by the women: gold and silver being substituted for full dress; these hair pins are among the articles purchased by passengers in the steam-boats. The rich and well-watered delta between Colombo and Galle is an overgrown waste. The Singhalese, whose property it is, have covered it with cocoanut, bread-fruit and jack-fruit trees, and on these they are content to live, or rather exist, passing the great part of their time in sleep, while the women of their household work.

Kandians are the inhabitants of the hill-country, and are a hardy robust race, never till recently intermingling with their low country-brethren. Their language is made up of three component parts, Elu (or Singhalese pure) the Pali, and the Sanscrit. They possess an extensive literature, and their religion is buddhism. The low country Singalese are either Buddhists, Roman Catholics, or Protestants. The influence of Roman Catholicism is very great, and the people are divided into classes according to their occupations. Among the Kandyans, polyandry was prevalent till declared illegal in 1856, and the wife had the possession of all the brothers. The children call the eldest brother, father. A man can bring in another not a relation, to have joint marital rights with himself ; indeed the first husband, can so introduce, as many as the wife will consent to receive as husbands. According to Polybius, polyandry was practised in ancient Greece, and in Book vii, we read that it was an old and habitual practice in Sparta. In Kandy, in the Beena marriage, the husband went to reside in the wife's house, and the woman shared the family inheritance with her brothers. The husband, in this marriage, can be dismissed summarily, by the family of the wife. In the Deega, a more respectable marriage, the wife leaves her own house for that of the husband—forfeits all claim on the property of her parents, but acquiring some claim on that of her husband, and the wife cannot obtain divorce, unless with the full consent of the husband. Divorces are constantly sought for by women, on trivial pretences. A child born within nine months of the divorce, must be maintained by the husband. The Kandyans are a larger race of men than the Singhalese of the coast provinces. They have a saucy, independent mien, but are exceedingly indolent and thriftless.

Gahalaya, are an outcaste predatory race, near Matelle in Ceylon who acted as executioners in the times of the Kandyan kings.

Gattaroo, an outcaste race in Ceylon.

Veddah, are hunters, and are supposed to be amongst the first occupants of the island. They are a wild semi-savage race residing in the interior. The forest Veddah dwell in hollow trees or caves, subsist on game which they kill with rudely formed bows and arrows, wandering from jungle to jungle, as the game becomes scarce. They will not hold the slightest intercourse with any natives but those of their own tribe, and their language is said to be unintelligible to all others. The village Veddah dwell in certain districts, hold but slight intercourse with the other inhabitants of the island, will not intermarry nor mix with them. They can make themselves understood to the Singhalese. Their sole clothing is a strip of cloth which hangs down in front, and is fastened by a coir cord, which passes round their loins. Their hair, beards and whiskers are never shorn or cleansed, but hang down in matted masses. Tennent describes the Veddah as miserable objects, active but timid, athletic though deformed, with large heads and misshapen limbs. Their long black hair and beards fall down to the middle in uncombed lumps, they stood before him with their faces bent towards the ground, and their restless eyes twinkled upwards with an expression of uneasiness and apprehension. The children were unsightly objects, entirely naked, with misshapen joints, huge heads and protuberant stomachs; the women, who were reluctant to appear, were the most repulsive specimens of humanity he had ever seen in any country.

The forest Veddah are dexterous hunters, and especially skilful in snaring the wild elephant. The two sections of the tribe do not intermarry, as they mutually distrust each other. The Veddah generally deposit their dead in the jungle to be devoured by wild animals. They are said to worship the planets, ? evil spirits and the spirits of deceased ancestors. They have their own headsmen whom they elect and obey. They use bows and arrows and clubs of iron wood. They occupy a district about 90 miles long and 45 broad in the south-eastern side of Ceylon, lying between the sea and the base of the Badullah and Oovah hills. According to Mr. Sirr they are a remnant of the Yakko, the original inhabitants of Ceylon, who, 2,000 years ago, after the conquest of the island by Wajayo and his followers, retired into the wilds as the Kuli in Guzerat, the Bhil in Malwa, the Putwa in Cuttack, the Kond in Gondwana, and the Beda in Mysore retired before conquerors. The Bisadæ, or Besadæ, which in mediæval Greek is called Vesadæ, are alluded to in the tract of Palladius de Moribus Brachmanorum, written about A. D. 400, and the same name is applied by Ptolemy to a similar race inhabiting northern India. A tribe in Mysore, known by the name of Beder or Beda, is said to have formed part of the army of Tipu Sahib; the Beder of Mysore and up to the Kistnah river are an active agricultural people though predatory and from them the term Pindara came to be used. The Veddah of Ceylon live by hunting and use the bow, in drawing which they employ their hands and their feet. They are omniverous and eat carrion and vermin, roots, grain, fruit, birds, bats, crows, owls, and kites, but refuse the bear, elephant and buffalo. Their language is a dialect of Singhalese, free from Sanscrit or Pali, but the vocabulary is very limited and they have recourse to gestures and signs. They have no knowledge of God, nor of a future state, and have no temples, idols, altars, prayers, or charms, but have a devil-worship. They do not bury, but cover their dead with leaves in the jungle. They are regarded by the Singhalese as of high descent.

Rhodia, a little numerous outcaste, scarcely civilized, race, in Ceylon, forbidden to approach a temple, or any of the higher castes. According to one tradition, they were hunters who, on the eve of a solemn occasion, failing to obtain game, &c., murdered a child and sent its dismembered body for the king; but another tradition is to the effect that this caste persisted in eating beef after its use as food had been prohibited. The native laws forbade a Rhodia to approach a temple of buddha or the gods; to build houses or to live in any abode enclosed within walls, nor even to cultivate the soil or possess land; and, even to this day, their dwellings are mere sheds. They were forbidden to approach much less to touch or breathe upon a caste man, and all things they touch are deemed unclean. The men wander about in parties or tribes seeking their precarious subsistence. Their women perform feats of legerdemain, and tell fortunes, their want of chastity is proverbial. Their numbers do not exceed a thousand, and they are principally in the Kandyan province, at Saffragam, Dombera, Wallepane, &c. Nominally buddhists they are also devil-worshippers. Rodeya or Rodda, in Singhalese, literally means filth. In their social degradation, they resemble the Cagot and Caqueax, who from time immemorial have been held in abhorrence in the valleys of the Pyrenees and the plains of Bretagne, Poitou and Guienne.

Chalia, the cinnamon-peelers of Ceylon, claim to be superior to the Velalar race. The Chalia were the founders of the Amerapura sect of buddhists in opposition to the sectarian tyranny of the orthodox buddhists.

Amongst the Singhalese buddhists, the term buddha is understood to mean, beings

who appear in the world at intervals, and are able to teach men the way to attain nirwana, and they recognize Anomadassa as a Buddha prior to Gautama. Their literature is in Pali, and the Dipavansa contains a history of buddhism in that island which breaks off with the death of Mahasena A. D. 302. The Mahawansa was compiled by Mahawana who lived about A. D. 500, was brought down by successive writers to the eighteenth century and was translated by the Hon'ble G. Turnour of the Ceylon Civil Service. The Singhalese language according to Rask belongs to the Turanian family of speech, but in Ceylon, where the Arian and Dravidian element is intermixed, a remnant of buddhists is still to be found who use the Pali scriptures. In the whole line of coast in the extreme south-east, south and south-west of the peninsula of India, a large part of the population of Ceylon is of foreign blood.

Singhalese seems to bear towards Sanscrit and Pali a relation similar to that which the English of the present day bears to the combination of Latin, Anglo-Saxon and Norman-French, who form the bases of the language. In Singhalese, words connected with rural life and used to denote the ordinary wants of mankind before society had attained organisation, are pure Singhalese. Terms applicable to science and art are from Sanscrit, and those of the national religion are taken from the Pali.

The names of their week days are :—

Sunday.....Irida, from Iru, the Sun.
Monday.....Sanduda, from Chanduya, the Moon.
Tuesday....Angaharuwada, from Angaharawa, Mars.
Wednesday.Badada, from Buda, Mercury.
Thursday...Brahaspatinda, from Brahaspati, Jupiter.
Friday.......Sikurada, from Sikura, Venus.
Saturday....Senusarada, from Senasura, Saturn.

The men as well as the women, have long petticoats, with their hair fastened with a tortoiseshell or silver comb, in a coil at the back of the head. There is very little difference in the dress of the men and the women, the men all wear long hair, which is black, fine and straight. While bathing the men let their hair down, but at other times it is drawn tightly off the face, and rolled in a knob at the back.—*Hardy, pp.* 4, 5, 83, 84, 286, 290, 291, 303, 433 ; *Frere's Antipodes, p.* 146 ; *Tennent's Ceylon* ; *Sirr's Ceylon, Vol.* ii, *p.* 216 ; *Yule Cathay, Vol.* ii, *p.* 371. See Ceylon, India, Rhodia, Spinifex squarrosus, Wijao.

SINGHARA, HIND. This is the spinous fruit of Trapa bispinosa, &c. The plant furnishing this important article of food appears to have been extirpated from the tanks of Southern India, but it has been preserved in the Mahratta country and the Dekhan. There are more than one species which produce the Singhara or Water nuts. The large seeds of Trapa bicornis, a native of China, and of T. bispinosa and T. natans, species indigenous to India, are sweet and eatable, and the aquatic plants which furnish them are hence an extensive article of cultivation. In Cashmere and other parts of the east they are common food, and known under the name of Singhara nuts. In Cashmere the government obtains from these nuts £12,000 of annual revenue. Mr. Moorcroft mentions that Runjeet Singh derived nearly the same sum. From 96,000 to 128,000 loads of this nut are yielded annually by the lake of Ooller alone. The nut abounds in fecula. In China the kernel is used as an article of food, being roasted or boiled like the potato. The Singhara grown in the pools near the Jullundhur cantonment is considered very superior. Dr. Royle writes: that a species of Singhara forms a considerable portion of the food of the inhabitants of Cashmere, and we learn from Mr. Forster, that it yielded the government £12,000 a year of revenue; and Mr. Moorcroft mentions nearly the same sum as Runjeet Singh's share, from 96,000 to 128,000 ass-loads of this nut being yielded by the lake of Oller. The long stalks of the plants reach up to the surface of the water, upon which their green leaves float, and their pure white flowers expand beautifully among them in the latter part of the afternoon. The nut grows under water after the flowers decay ; it is of a triangular shape, and covered with a tough brown integument adhering strongly to the kernel, which is white and esculent, and of a fine cartilaginous texture. They ripen in the latter end of the rainy season and are eatable till November. In the Panjab, the variety called Singhara purbiya, the eastern or down country water caltrops, is deemed of superior quality.—*Sleeman's Rambles of an Indian Official* ; *M. E. J. R.* ; *Simmonds* ; *Powell's Hand-book, Econ. Prod., Panjab, p.* 262 ; *Valentia's Voyage and Travels, Vol.* i, *p.* 492 ; *Rhode's MSS.* ; *Sirr, Vol.* ii, *p.* 316.

SINGHU, SANS. A lion, from singa, to injure.

SINGHU-VAHINEE, SANS., from singhu, and vuh, a vehicle.

SINGHBUM is situated in the Singhbum district, and the inhabitants pay a nominal obedience to the maharajah of that province, but the greater proportion of this population is more under the influence of the rajah of Mokurburj than of any of the other powerful

chiefs in that part of the country. But even his orders are obeyed only where they are supposed to tend to the advantage of the Kol themselves. Upon the whole it may be said of this singular people that, living in a primeval and patriarchal manner under their Moondas and Mankies, they have managed to preserve a sort of savage independence, making themselves dreaded and feared by their more powerful and civilized neighbours. The Kolehan with its wilds and jungles is divided into different peer, as they are termed, or pergunnahs. These peer are, generally speaking, not of any great extent, two or three moderate marches carry you through each of them. There can be little doubt, and such is the tradition among the people themselves, that the Lurka Kol came originally from Chota-Nagpore, and are descendants of the old Moonda or Moondaree of that district. They emigrated finding the romantic hills and valleys of Chota-Nagpore too confined for their increasing numbers. The same cast of countenance prevails in the two races, though, perhaps, tinged with a wilder and more fierce expression in the Lurka Kol. The Uraon, who inhabit great part of Chota-Nagpore, regard these Kol as a tribe inferior to themselves, and do not intermarry with them. The villages in the Kolehan are ruled by Moondas and Mankies, as in Chota-Nagpore. The former, the Moonda, is the proprietor of one village; while the latter holds six, eight, or twelve. These village potentates used frequently to wage fierce war with one another, and bitter and long existing feuds have often prevailed amongst them. There is this peculiarity in the Kol character, however, that serious and bloody as may be the domestic quarrels, no sooner are they threatened with hostlilities from without, than all their animosities are laid aside and forgotten for a time. The villages are generally built on some elevated spot surrounded by trees, and, at some little distance from the principal entrance to the villages, the Kol standard or ensign, a pair of buffalo horns, is suspended in a conspicuous situation. The dress of both sexes, is alike, a strip of cloth brought round the loins and passed between the thighs forming their only covering: the women wear a profusion of coloured beads suspended from their necks, and have their ears pierced with a number of small brass rings. Their diet is of a very promiscuous nature; everything almost that can be considered eatable being relished by them, and much of what we consider carrion is eagerly sought for and devoured. In this respect they do not differ from the Kol of Chota-Nagpore. They are greatly addicted to drunkenness; the religion of the Lurka Kol is nothing but a superstition of the grossest kind. Their great divinity is the sun (suruj), next to the sun ranks the moon (chandoo), and then the stars, which they believe to be the children of the latter. They uniformly, upon solemn and great occasions, invoke the sun, and by him many of these lawless men have, at times, sworn allegiance to the East India Company. Another form of oath used by them is that of swearing upon a small quantity of rice, a tiger's skin and claws, and the earth of the white ants nests; besides the sun and moon, other inferior divinities are supposed to exist, to whom the Kol offer up sacrifices of various kinds. These spirits are supposed to inhabit the trees and topes in and around the village. It has not been distinctly ascertained what degree of power is attributed to these penates, as we may call them; but the belief the Kol entertain of the power and influence of the Bhongas must be considerable, as they will on no account allow those trees to be denuded of their branches, and still less cut down. It is the universal custom in the various Kol villages, that when a woman is seized with the pains of labour, she is immediately removed to a lonely hut, the door is shut upon her, offerings of various kinds are suspended near it to propitiate the Bhongas and no one ventures near till all is over. The female sex, it may be observed, is not kept secluded and shut up. Not amongst the least singular of the customs of the Kol is that connected with their marriage. When a youth has fixed his affection on a lass, generally the inhabitant of some neighbouring village, she is waylaid and carried off to his house by himself and his friends. So soon as information of this reaches the parents of the girl, they proceed to the village of the ravisher, not however, in general, with any hostile purpose. Interviews take place between the friends on either side, and at length matters are brought to a final settlement; the new husband paying to the father of his spouse a certain number of cows, goats, or buffaloes, according to his means, or the beauty and comeliness of his bride. After this a scene of feasting and intoxication generally follows, in which women and children as well as men participate. The Kol burn their dead, carefully collecting the bones and ashes and burying them with offerings of rice in or near their villages, placing perpendicular or horizontal slabs of stone over each particular grave. Those grave-stones form a remarkable object, and strike the eye of every stranger on approaching a Kol village. The only weapons used by the Kol, whether

in the beginning of the century, says the races are the Rajah Wansaya, the king's caste.

Brahmana Wansaya, the caste of brahmins skilled in science. This race belong to the Tamul family, following the hindoo religion. The highest of the Singhalese races is the Velala or Goya.

Wanija Wansaya, the merchant caste.

Gowi wansaya, the caste of Gowi, who cultivate the ground, known in Ceylon by the name of Vellala, which however is not a Singhalese word. These Gowi or Vellala are of the highest caste of Singhalese on the island.

Chandalayo, inhabitants of the woods, who strip the skins of animals to make leather thongs.

Veddo, a people who live wild in the woods, and kill wild beasts.

Duravo caste, commonly called Chando, which is not a Singhalese word. The name Duravo is compounded of two words, which signify come from afar.

Karawo. There are nine sub-divisions of this race, which is commonly called the fisherman's caste; it derives its name from a compound word which signifies "evil-doers," because the occupation of the caste is the destroying of animals, which by the religion of Buddha is forbidden.

Sirr in his Ceylon says, the principal castes are four, viz:

The Surya Vanse or royal race; this has two divisions, viz:

Goe Wanse, a division of the Surya or royal race, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the government servants.

Nille Makareya, or shepherds, is the second division of the Surya.

Brahmina Wanse, descendants of brahmins.

Wiepa Wanse, is divided into two classes, cultivators and shepherds.

Kshoodra Wanse, which has sixty subdivisions. The Singhalese are a small race, and by no means good-looking. Their complexion is the same as that of the hindoos; but their features are of the European type, and their skin is far fairer than that of the Tamul race in Ceylon.

The costume of the men is a long petticoat, fastened round the waist and reaching to the heels. Tortoise-shell combs are worn by men as well as women. In the numerous excesses into which European costume has been carried, the size of the back comb worn by ladies has never attained that of the Singhalese men, who also wear a narrow long bent comb across the forepart of the head—the lighter coloured shell is most esteemed by them. Five pounds is a moderate price for a tortoise-shell back comb, which increases in value according to the size and quality of the shell: hair pins of tortoise-shell are worn by the women: gold and silver being substituted for full dress; these hair pins are among the articles purchased by passengers in the steam-boats. The rich and well-watered delta between Colombo and Galle is an overgrown waste. The Singhalese, whose property it is, have covered it with cocoanut, bread-fruit and jack-fruit trees, and on these they are content to live, or rather exist, passing the great part of their time in sleep, while the women of their household work.

Kandians are the inhabitants of the hill-country, and are a hardy robust race, never till recently intermingling with their low country-brethren. Their language is made up of three component parts, Elu (or Singhalese pure) the Pali, and the Sanscrit. They possess an extensive literature, and their religion is buddhism. The low country Singalese are either Buddhists, Roman Catholics, or Protestants. The influence of Roman Catholicism is very great, and the people are divided into classes according to their occupations. Among the Kandyans, polyandry was prevalent till declared illegal in 1856, and the wife had the possession of all the brothers. The children call the eldest brother, father. A man can bring in another not a relation, to have joint marital rights with himself; indeed the first husband, can so introduce, as many as the wife will consent to receive as husbands. According to Polybius, polyandry was practised in ancient Greece, and in Book vii, we read that it was an old and habitual practice in Sparta. In Kandy, in the Beena marriage, the husband went to reside in the wife's house, and the woman shared the family inheritance with her brothers. The husband, in this marriage, can be dismissed summarily, by the family of the wife. In the Deega, a more respectable marriage, the wife leaves her own house for that of the husband—forfeits all claim on the property of her parents, but acquiring some claim on that of her husband, and the wife cannot obtain divorce, unless with the full consent of the husband. Divorces are constantly sought for by women, on trivial pretences. A child born within nine months of the divorce, must be maintained by the husband. The Kandyans are a larger race of men than the Singhalese of the coast provinces. They have a saucy, independent mien, but are exceedingly indolent and thriftless.

Gahalaya, are an outcaste predatory race, near Matelle in Ceylon who acted as executioners in the times of the Kandyan kings.

Gattaroo, an outcaste race in Ceylon.

Veddah, are hunters, and are supposed to be amongst the first occupants of the island. They are a wild semi-savage race residing in the interior. The forest Veddah dwell in hollow trees or caves, subsist on game which they kill with rudely formed bows and arrows, wandering from jungle to jungle, as the game becomes scarce. They will not hold the slightest intercourse with any natives but those of their own tribe, and their language is said to be unintelligible to all others. The village Veddah dwell in certain districts, hold but slight intercourse with the other inhabitants of the island, will not intermarry nor mix with them. They can make themselves understood to the Singhalese. Their sole clothing is a strip of cloth which hangs down in front, and is fastened by a coir cord, which passes round their loins. Their hair, beards and whiskers are never shorn or cleansed, but hang down in matted masses. Tennent describes the Veddah as miserable objects, active but timid, athletic though deformed, with large heads and misshapen limbs. Their long black hair and beards fall down to the middle in uncombed lumps, they stood before him with their faces bent towards the ground, and their restless eyes twinkled upwards with an expression of uneasiness and apprehension. The children were unsightly objects, entirely naked, with misshapen joints, huge heads and protuberant stomachs; the women, who were reluctant to appear, were the most repulsive specimens of humanity he had ever seen in any country.

The forest Veddah are dexterous hunters, and especially skilful in snaring the wild elephant. The two sections of the tribe do not intermarry, as they mutually distrust each other. The Veddah generally deposit their dead in the jungle to be devoured by wild animals. They are said to worship the planets, ? evil spirits and the spirits of deceased ancestors. They have their own headsmen whom they elect and obey. They use bows and arrows and clubs of iron wood. They occupy a district about 90 miles long and 45 broad in the south-eastern side of Ceylon, lying between the sea and the base of the Badullah and Oovah hills. According to Mr. SIRR they are a remnant of the Yakko, the original inhabitants of Ceylon, who, 2,000 years ago, after the conquest of the island by Wajayo and his followers, retired into the wilds as the Kuli in Guzerat, the Bhil in Malwa, the Putwa in Cuttack, the Kond in Gondwana, and the Beda in Mysore retired before conquerors. The Bisadæ, or Besadæ, which in mediæval Greek is called Vesadæ, are alluded to in the tract of Palladius de Moribus Brachmanorum, written about A. D. 400, and the same name is applied by Ptolemy to a similar race inhabiting northern India. A tribe in Mysore, known by the name of Beder or Beda, is said to have formed part of the army of Tipu Sahib; the Beder of Mysore and up to the Kistnah river are an active agricultural people though predatory and from them the term Pindara came to be used. The Veddah of Ceylon live by hunting and use the bow, in drawing which they employ their hands and their feet. They are omniverous and eat carrion and vermin, roots, grain, fruit, birds, bats, crows, owls, and kites, but refuse the bear, elephant and buffalo. Their language is a dialect of Singhalese, free from Sanscrit or Pali, but the vocabulary is very limited and they have recourse to gestures and signs. They have no knowledge of God, nor of a future state, and have no temples, idols, altars, prayers, or charms, but have a devil-worship. They do not bury, but cover their dead with leaves in the jungle. They are regarded by the Singhalese as of high descent.

Rhodia, a little numerous outcaste, scarcely civilized, race, in Ceylon, forbidden to approach a temple, or any of the higher castes. According to one tradition, they were hunters who, on the eve of a solemn occasion, failing to obtain game, &c., murdered a child and sent its dismembered body for the king; but another tradition is to the effect that this caste persisted in eating beef after its use as food had been prohibited. The native laws forbade a Rhodia to approach a temple of buddha or the gods; to build houses or to live in any abode enclosed within walls, nor even to cultivate the soil or possess land; and, even to this day, their dwellings are mere sheds. They were forbidden to approach much less to touch or breathe upon a caste man, and all things they touch are deemed unclean. The men wander about in parties or tribes seeking their precarious subsistence. Their women perform feats of legerdemain, and tell fortunes, their want of chastity is proverbial. Their numbers do not exceed a thousand, and they are principally in the Kandyan province, at Saffragam, Dombera, Wallepane, &c. Nominally buddhists they are also devil-worshippers. Rodeya or Rodda, in Singhalese, literally means filth. In their social degradation, they resemble the Cagot and Caqueax, who from time immemorial have been held in abhorrence in the valleys of the Pyrenees and the plains of Bretagne, Poitou and Guienne.

Chalia, the cinnamon-peelers of Ceylon, claim to be superior to the Velalar race. The Chalia were the founders of the Amerapura sect of buddhists in opposition to the sectarian tyranny of the orthodox buddhists.

Amongst the Singhalese buddhists, the term buddha is understood to mean, beings

SIPHONANTHUS FRAGRANS.

Hatti-kana, Duk. ?

Double variety. A native of China, *Riddell.*

SIPHONANTHUS INDICA, *Linn.*

Clerodendron siphonanthus, *R. Br.*

Burungee, Duk. ?

A tall, erect-growing, suffruticose plant, with linear leaves; flowers white or cream coloured, with long tubes.—*Riddell.*

SIPHONARIA, a genus of Molluscs.

SIPHONIA ELASTICA.

Hevea guianensis.

A tree 50 to 60 feet in height, common in the forests of Guiana and Brazil, and which has been introduced into the West Indies. Condamine frequently mentions it in his voyage down the Amazon. Caoutchouc is the milky juice of the plant, which exudes on incisions being made and solidifies on exposure to the air.—*Eng. Cyc.*

SIPHONIDA, a section of the Conchifera, order of Molluscs. See Molluscs.

SIPI, Duk. A shell, a mollusc, Cardium edule, oyster.

SIPIL, Hind. Bupleurum marginatum.

SI-PI-TO-FA-LA-SEE, Chinese,

SIPPAI MUTHU, Tam. Pearl.

SIPPERAH, the Sifferah of the Arabs. See Babel, Oojein.

SIPRA, a river near Sonwah in the Indore rajah's territory near Kaluhera in Malwa, in Sindhiah's territory, and near Oojein; also a river at Mahidpoor.

SIPRAKA, see Andhra.

SIPU, see Hindu.

SIR,— ? Hedychium spicatum.

SIR, Pers. Allium sativum, *Linn.*, Garlic.

SIR, Hind. Imperata kœnigii.

SIR, Hind. The head, Sir booland, exalted, high, arrogant, hence Sardar, a chief. Sir-pesh, a forehead jewel. Sir-kar, a government, a superintendent. Sar-posh, a cover. Sar-band, or head-binder, becomes with the Turk's turban.

SIR KOTAHA, Hind. Level land, seer cultivation, on the plains, means the land that a man retains for his own individual cultivation.

SIRA, Tel. Ink.

SIRA, Guz. Rhubarb.

SIRA, Hind. Chionanthus, *sp.*

SIRAGADAM, Tel. Ehretia lævis, *Roxb.*

SIRAGAM, Tam. Cumin seed.

SIRAH, Guz., Hind. Rhubarb.

SIRAH, Guz. Hebradendron gambogioides, *Graham.*

SIRAF, Arab., Hind., Pers., a banker, a money dealer, a cashier; it is from the Arabic sarf, expenditure.

SIRANAGAPU, Tam. Cassia buds.

SIRA-PAPU, Tel. Chirongia sapida. Sirapappu nune, Tel. Chirongi oil.

SIRA-SHENGALNIR, Tam. Vernonia cinerea, *Less.*

SIRASWATI AKU, Tel. Clerodendron viscosum.

SIRDAR, Pers. A chief; in India, an officer, a European, a title of the rulers of Candahar. See Affghans, Kandahar, Pindara.

SIRDEHI. A small tribe residing at Sirdeh, S. E. of Ghizni.—*Dr. Latham, p.* 197.

SIRDHANA, 29° 8′ 8″; 77° 36′ 1″, in Hindostan, 12 miles N. W. of Mirath; locality undefined 882 feet above the sea.

SIREE, a river of Subathoo.

SIREKU, Maleal. Andropogon schænanthus, also A. citratum, *Linn.*

SIREN.

Zeiren, Greek.

SIRENIA, Herbivorus cetacea, a sub-order of the cetaceæ, as under;

Order.—Cetaceæ, Whale tribe.

2 Fam.; 8 Gen.; 21 Sp. viz.;

Fam.—Delphinidæ, 5 gen.; 14 sp.; Porpoises; Delphinus, 8 sp.; Steno, 2 sp.; Neomeris, 1 sp.; Platanista, 2 sp.; Globiocephalus, 1 sp.

Fam.—Balænidæ, Whales, 4 gen.; 7 sp. Balænoptera, 1 sp.; Balæna, 4 sp.; Physeter, 1 sp.; Phocæna, 1 sp.

Sub-Order.—Sirenia herbivorous cetacea. gen. Halicore, 3 sp.

SIRGOOJAH, a mountainous tract rising 600 to 700 feet above the level of Chota-Nagpore. Chota-Nagpore, properly Chuttia Nagpore, is the country on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damudah and other rivers have their sources. It extends into Sirgoojah and forms what is called the "Upar-ghat" or highland of Juspur, and it is connected by a continuous chain of hills with the Vindhyan and Kymor ranges from which flow affluents of the Ganges, and with the highlands of Amerkuntuk on which are the sources of the Nerbudda. The plateau averages 2,000 to 3,000 feet above the level of the sea with an area of about 7,000 square miles. It is on all sides difficult of access. It is a well-wooded, undulating country, diversified by ranges of hills, and has a genial climate. The population, in 1866, was estimated at about a million, and is formed of a number of non-Arian tribes who had fallen back to that refuge from the plains, more than half of them being the race known to Europeans as Kol. On the south-west frontier of Bengal, besides Chota-Nagpore, are Sirgoojah, Palamow, Ramgurh, Hazareebagh, Mynpat and Amerkuntuk. The elevation of Chota-Nagpore, is 2,000 to 3,000 feet with hills running E. and W., but of little height; Sirgoojah is mountainous, rising 600 to 700

feet above the level of Chota-Nagpore. Mynpat is a table-land, about 30 miles S. E., from Sirgoojah town and about 3,000 or 3,500 feet high. Palamow district is very mountainous. Hazareebagh town, 24°, 85° 54', 1,750 feet. Slope of the country is S. towards Sumbulpore. N. and E. parts of the district, very mountainous, but level and even depressed towards the Mahanuddy. Sumbulpore town, only 400 feet. Orissa table-land then rises on the southern side of Mahanuddy, in some places to 1,700 feet backed by the chain of E. Ghauts, Amerkuntuk, jungle table-land, 22° 40', 81° 5', 3,500 feet. The soil in the plains is generally fertile, producing abundant crops of wheat, barley, rice, pulse, excellent vegetables, cotton and sugar-cane. The cultivated parts are overrun with a coarse grass. There are 21 mehals which form the S. W. frontier, and which may be classified in four groups, the Sumbulpore, Patna and Sirgoojah groups, and Singbhoom.

The Sumbulpore Group.

Sumbulpore proper.	Suktee.	Bamra.
Burgurgh.	Gangpoore.	Rehra Cole.
Raigurh.	Sarunghur.	Sonepore.
	Bunnie.	

The Patna Group.

Patna proper.	Bora Samur.	Bindra Nowagurh.
Phooljhur.	Khuriar.	

The Sirgoojah Group.

Sirgoojah proper	Oodeypoore.	Chang Bukar.
Jushpore.	Korea	

The Singbhum group.

The territories comprised in the Sumbulpore and Patna groups were ceded to the British Indian government by the treaty of 1830, with Ragoji Bhonsla, were all, except Raigarh, restored in 1806, and finally reverted to the British in 1326. The Sumbulpore and Patna groups are in the circle of the Cuttack tributary Mahals. Singbhoom was never Mahratta, and 1857 its chief, the raja of Poorahat, joined in the rebellion, many of the Lurka Kol, following him. The territories forming the Sirgoojah group were ceded in 1817, and in 1818 the British government sent a Superintendent to Sirgoojah to restore order in the country, which had become distracted by domestic feuds. In 1820 and 1825, engagements were made with the chief of Sirgoojah. In 1819 engagements were also taken from the chiefs of Jushpore and Korea, of which latter state Chang Bukar was then a feudal dependency; but, in 1848, separate settlements were made with Korea and Chang Bukar. The Sirgoojah mountains, are in length 90 miles; breadth 85 miles, and lie between 22° 34,' 24° 54', and 82° 40,' 84° 6.' Sirgoojah is rugged and mountainous, from 500 to 600 feet above the adjoining table-land of Chota-Nagpore. Drained by the rivers Kunher and Rhern, with its feeder.—*Major Dalton's Annals of Indian Administration; Aitcheson's Treaties, &c.* See Kol, Singhbum.

SIRGUNDA PALA, Tel. Hemidesmus indicus, *R. Brown.*

SIRHIND, the capital of the province of that name, is now a town in the state of Patiala. Its gardens are described by Abul Fazul as laid out by Hafiz Rahmat, a grandee of Humayun's court. Thanesar in Sirhind, on the route from Kurnal to Loodiana, is celebrated as the object of one Mahmud of Ghazni's iconoclastic expeditions. It is still surrounded by a ruined wall evidently once of considerable height connected with which is a dilapidated fort with numerous towers.—*Cal. Rev., Jan.* 1871. See Kattyawar, Kuru-Khet.

SIRI, Sri or Siris, was one of the principal deities of Arabian and Ethiopian theologies. Deodorus says the Greeks prefixed an O, and made it Osiris.

SIRI, The ancient name of the ancient city of Delhi; prior to its capture in A. H. 587, A. D. 1191.—*Prin. Ind. Ant.*, 326.

SIRI, Jav. Lemon grass.

SIRI, Malay. Betel-leaf.

SIRI, or Siris, Hind. Acacia speciosa.

SIRIAN, see Rangoon.

SIRIANNEM, Tel. Briedelia scandens, *Willd.*

SIRIARI, Beng., Hind. Tiaridium indicum.

SIRIBOO PEPPER, Eng. Chavica seriboo, *Miq.*

SIR-I-BUL, see Kashmir.

SIRI LAKSHMIVARMA, see Inscriptions.

SIRI MANU, Tel. Conocarpus latifolia, *Roxb.*

SIRIUS, see Bachus osiris.

SIRIN, or sires Hind. Pji. Acacia sirissa also Acacia speciosa, also Acacia stipulata. Chiti sirin, is Cedrela toona. Kali sirin, is Acacia speciosa. Sirin or sares the Acacia speciosa attains full size in 50 years; grows to a great height, length of trunk to first branch 12 feet and girth 6 feet. Sap-wood white, and heart-wood of old trees of a dark colour, heavy and strong; used as building timber, and by zemindars for mills and boats. It is considered unlucky to employ this wood in house-building.—*Mr. Barnes' Kangra Settlement Report, para.* 152; *Lt.-Colonel Lake, quoting Balfour's Timber Trees, p.* 26; *Roorkee Proceeding papers on Gwalior Timber, p.* 27; *Powell's Hand-book, Vol.* i, *p.* 542.

SIRINGRI, Hind. Plectranthus rugosus.

SIRINJI, Tel. Grislea tomentosa, *Roxb.*

SIRI-MINIAK, an oil of Sumatra, prepared from the lemon-grass.

SIRIPOOL, see Andkho.

SIRIS, HIND. Acacia speciosa. Safed siris, is Acacia elata. The "siris" Acacia serissa, yields a coarse gum used by calico printers.

SIRSA TREE, ENG. Acacia speciosa *Willd.*, *W. & A.*

SIRISHA, BENG. Acacia speciosa.

SIRISHT, GUZ., HIND Glue : size.

SIR-I-SHUR, see Takht-i-Soliman.

SIRITETH—? Gingelly seed.

SIRI ULAVA, TEL. Rhynchosia rufescens, *D C.*

SIRIUS, see Iswara.

SIRKA, also Khall, HIND. Acetic acid, vinegar.

SIRKAR, a government, a head of a department : In Calcutta, a supplier.

SIRKI and Kanna, stems of Saccharum munja and of Saccharum sara, also thatch made of the tapering top of the flower stalk of munj grass.

SIR-KAP, part of Taxila. Hatial is a strong fortified position on the west end of a spur of the Margala range, and immediately to the north-east of the Bir mound, from which it is separated by the Tabra Nala. The fortified city of Sir-kap is situated on a large level mound immediately at the north foot of Hatial, of which it really forms a part, as its walls are joined to those of the Kot or citadel.—*Cunningham's Ancient Geog. of India*, *p.* 115.

SIRKUNDA — ? Saccharum procerum.

SIRMOOR, or Nahun. In recognition of the services rendered by rajah Shumsher Purgass during the mutiny, he received a khillat of rupees 5,000, and a salute of seven guns. The family is Rajput. The revenue of Sirmoor may be estimated at a lakh of rupees a year. The rajah maintains a small force of drilled sepoys, numbering 250 men. The population, according to the latest census, amounted to 75,595. The rajah pays no tribute, but is bound to render feudal service. In Sirmoor some women are to be seen delicate in form and feature, but to the northward, the female countenance is generally good humoured, but the form coarse and highly vulgar.—*Fraser's Himalayan Mountains*, *p.* 205.

SIRNA, HIND. When Moses, after the Exodus, made a division of the lands of Canaan amongst the Israelites, and appointed six cities to be the refuge of him who had slain unwittingly, from the avenger of blood, the intention was not to afford facilities for eluding justice, but to check the hasty impulse of revenge ; for the slayer was only to be protected until he stood before the congregation for judgment, or until the death of the high-priest, which event appears to have been considered as the termination of revenge. In India the infraction of political sanctuary (sirna torna) often gave rise to the most inveterate feuds ; and its abuse by the priests is highly prejudicial to society. Moses limited priestly interference, by appointing but six cities of refuge to the whole Levite tribe. The privileges of sirna, or 'sanctuary,' when claimed by the unfortunate or criminal, is sacred in the eye of the Rajput. Kal-Yamun, was the foe of Krishna, ere his apotheosis, from whom he fled to Dwarica and thence acquired the name of Rinchor. Within the sacred bounds of Mount Aboo is the sanctuary (sirna) of Kaniya, where the criminal is free from pursuit ; nor dare the rod of justice appear on the mount, or the foot of the pursuer pass the stream ; neither within it can blood be spilt, for the pastoral Kaniya delights not in offerings of this kind. The territory contains within its precincts abundant space for the town, the temple, and the establishments of the priests, as well as for the numerous resident worshippers, and the constant influx of votaries from the most distant regions.—*Tod's Rajasthan*, *Vol.* i, *pp.* 523, 526 ; *Vol.* ii, *p.* 378.

SIRNAGA-PU, TAM. Cassia buds.

SIRNATH GHOSI, see Inscriptions.

SIROCCO, the sirocco wind in the Mediterranean, on the healthy has little effect, but the weak and diseased are materially injured by its depressing influence. The term has an Arabic origin from Sharq, the east wind.

SIROES, see Sassanian kings.

SIROHI. The Deora of Sirohi is a branch of the Chohan tribe, one of the four Agnicula, a race sprung from fire.—*Tod's Rajasthan*, *Vol.* ii, *p.* 115. See vol. i.

SIRONCHA, the head-quarters station of the Upper Godavari district, pleasantly situated on the left bank of the Pranhita, two miles above its confluence with the Godavari, and 120 miles south-south-east of Chanda, the nearest station of the Central Provinces. It is 520 feet above the sea-level according to the topographical survey maps, but only 360 according to the levels of the Public Works Department : forty miles above Sironcha occurs what is known as the third barrier, which is a far more formidable obstruction to navigation than either of the other Godavari barriers. The river has a broad, sandy bed, which in the rainy seasons is full from bank to bank with a rushing flood, but in the dry weather consists for the greater part of broad reaches of sand, with small and shallow streams flowing through them.

SIROPA, the Rajpoot term for a khillat or

robe of honour, properly Sir-a-pa (from 'head,' sir, to 'foot' pa,) and means a complete dress; in short, cap-a-pied.—*Tod's Rajasthan, Vol.* i, *p.* 265.

SIRPHERRA, a tribe, who reside in summer in Gurghina, and winter in Kach Gandava.

SIRA, see Kelat.

SIRR, salt lakes, throughout the whole of the Indian desert, are termed sirr, though none are of the same consequence as those of Marwar. The largest is at the town of Sirr, so named after the lake, which is about six miles in circumference. There is another at Chaupur about two miles in length, and although each of them frequently contains a depth of four feet of water, this entirely evaporates in the hot winds, leaving a thick sheet of saline incrustation. The salt of both is deemed of inferior quality to that of the more southerly lakes.—*Tod.*

SIRRAS, MAHR. Acacia odoratissima, Acacia sirissa, and Acacia speciosa.

SIRRI, of Amboyna, Andropogon schœnanthus, *Linn.*

SIRRISHT, GUZ. Glue.

SIRRI-TEKKU, SINGH. Gunta baringa?

SIRROO-KALUNG, TAM. Plectranthus rugosus.

SIRRU CALAKA PALLAM, TAM. Carissa spinarum, *Linn., Don.*

SIRRUGHU, also Sirrughu kuttale, TAM. Aloe litoralis, *Kœnig.*

SIRRU KANCHURI, TAM. Tragia cannabina, *Linn.*, GUZ. Size.

SIRRU KANGORI VER, TAM. Root of Tragia cannabina.

SIRRU KATTALAY, TAM. Aloe litoralis, *Kœnig.*

SIRRU KIRE, TAM. Amarantus campestris, *Willd.*

SIRRU KALAKA PALLAM, TAM. Carissa spinarum.

SIRRU KORRUTTI VER, TAM. Root of trichosanthes incisa.

SIRRU KURA, TEL. Amarantus campestris, *Willde.*

SIRRU KURUNGA VER, TAM. Root of Periploca sylvestris.

SIRRU NAGA, TAM. Eugenia jambolana, *Lam., Roxb.*

SIRRU-PULE, TAM. Ærua lanata, Illecebrum lanatum.

SIRRU SANUL VEREI, TAM. Linseed.

SIRRU VALLI KALANG, TAM. Dioscorea aculeata.

SIRSA, HIND. Acacia odoratissima, *Roxb.*

SIRSA. The principal products of the Sirsa district are grains of all kinds ghee, wool, sujji, moonj, red pepper, bullocks and camels. They are transported mostly to Marwar on camels, to meet the demand for food occasioned in that part of the country, by an apparently chronic state of famine existing there.—*Ann. Ind. Adm., Vol.* xii, *pp.* 104-5.

SIRSEE. Maharajah Dowlut Rao Sindia in 1820 granted three-fourths of the revenue of the talooka of Sirsee to Bharut Sah on condition that he would pay the remaining one-fourth and honestly discharge the duties entrusted to him by reducing the Grassias, &c., to obedience.

SIRSHUF, PERS. Mustard seed.

SIRSOOTI. There are 24 dams on this river, between T'hanesur and Sagara, where it joins the Caggar river, the dry river bed under Sirsa.

SIRSUN, also Rajika, SANS. Mustard seed.

SIR-SUK-KA-KOT, part of Taxila.

SIRU KIRE, or Sirru kire, TAM. Amarantus campestris, *Linn.*

SIRU PADI, TAM. Coldenia procumbens, *Linn., Roxb.*

SIRUTALI, TAM. Ipomœa gemella, *Roth.*

SIS, HIND. Crotalaria burhia.

SISA, or Sheesha, GUZ., HIND. Lead.

SISAGI, HIND. A tree of Chota-Nagpore, with hard, white timber.—*Cal. Cat. Ex.* 1862.

SISAKA, SANS. Lead.

SISALIUS, HIND. Leucas cephalotes.

SISAMU, TEL. Lead.

SISAN, SIND. Crocodile.

SISANBAR, ARAB. Thymus chamædrys.

SISHA, also Shish. HIND. Lead.

SISHAM, or Sisu, HIND. Dalbergia sissoo.

SISI, HIND. Glass.

SISIK KURAKURA, also Sisik panu, MALAY. Tortoise shell.

SISKE, HIND. Sambucus ebulus.

SISKIN. The Himalayan Siskin Carduelis spinoides is common in the forest, and generally seen in flocks.

SISPARA, a ghaut on the Malabar side of India, 6,742 feet above the level of the sea.

SISSA, CAN. Dalbergia acuminata, *Ains.*

SISSAI, HIND. Crotalaria burhia.

SIS, also Sissai, Meini, Pola, TRANS-INDUS. Crotalaria burhia, *Ham., Buch.*

SISSOO, HIND. Dalbergia acuminata, *Ains.*, also Dalbergia sissoo, *Roxb.*, is one of the most valuable of the timber-trees of India, and with the Saul, is more extensively employed than any other in north-west India. The ship-builders in Bengal select it for their crooked timbers and knees; it is remarkably strong, its colour is a light greyish-brown, with darker coloured veins. In structure it somewhat resembles the finer species of teak, but it is tougher and more elastic. There are two kinds used respectively in Bengal and Bombay, the latter is

much darker in colour. The Indian black rose-wood (Dalbergia latifolia,) is a superior species of sissoo, from the Malabar coast. Cuttack forests are composed of teak, sal, sissoo, ebony, Pentaptera buchanania, and other trees of a dry soil, and that require a dry season alternating with a wet one. These are unknown in the Chittagong forests, which have Jarool, Lagerstrœmia, Mesua, Dipterocarpi, nutmegs, oaks of several kinds, and many other trees not known in the Cuttack forests, and all typical of a perennially humid atmosphere.—*Holt* ; *Hooker's Him. Jour.*, *Vol.* ii, *p.* 340 ; *Edye*.

SISSOO-WOOD OIL, see Oil, Wood-oil from Chittagong.

SISSOWA, URYA. Dalbergia sissoo, *Roxb.*

SISSU, TEL. Dalbergia sissu, *Roxb.*

SISUM, GUZ., HIND., MAHR. Dalbergia latifolia. Blackwood.

SISUNAGA, a Maghadha dynasty in India, that succeeded the parricide Battya B. C. 446, by the murder by Sisunaga of the last Bhatty.

Sisunaga reigned	18	years	B. C.	446.
Kalasoka	28	„	„	428.
Bhadyasena and 9 brothers	22	„	„	379.

The last brother Pingamakha, was dethroned by Nanda.—*Vol.* iii, *p.* 541. See Bhattya.

SISWA SAH, see Inscriptions, Junagurh.

SISYMBRIUM ATROVIRENO.

Ting-lih, CHIN.

A plant of several parts of China given in dropsy, fevers, amenorrhœa.

SISYMBRIUM IRIS,

Khub, Kalan, Khakshi.

Small oval bright yellow seeds. Used for coughs, but seldom. Formerly used as a pot-herb in England.—*Powell's Hand-book, Vol.* i, *p.* 327.

SISYMBRIUM NASTURTIUM, *Linn.* Garden cresses.

SISYPHUS BOWRINGII, two of the Coleoptera of Hong-kong are S. Senegalensis, the largest known species of Sisyphus on record and the S. bowringii *White*, remarkable for the extraordinary spinal projections from its coxæ. Similar spines occur in S. senegalensis.

SIT, BURM. Acacia elata ; Acacia serissa.

SITA, SANS. Anona squamosa, *Linn.*

SITA, Spouse of Rama : in Hindoo mythology an incarnation of Lakshmi, to accompany Vishnu incarnate as Rama. Rama Chandra had been brought up in the paths of religion and virtue, and had been taught that one of the first duties of a prince was to subjugate his own passions to their control. When, therefore, Ravana became an apostate from his duty to the gods, Rama Chandra was appointed the instrument of his destruction. The Grecians had their Homer to render imperishable the fame acquired by their glorious combats in the Trojan war ; the Latins had Virgil, to sing the prowess of Eneas ; and the hindoos have had their Valmiki, to immortalize the martial deeds of Rama, and his army of monkeys, in subduing the giant Ravana and his hosts of many-headed monsters. The Ramayana, one of the finest epic poems (in spite of its many extravagances) extant, beautifully describes the incidents of Rama's life, and the exploits of the contending foes. The deity whose fame is thus celebrated, is, in the pictorial representations of him, usually described as a green man, seated beneath an umbrella, the emblem of sovereignty, on a throne : a quiver of arrows hangs at his back ; in one hand he holds his destructive bow, and in the other a flower of the sacred lotus. By his side is placed Sita, who is depicted as a goddess of transcendant beauty, of a deep-yellow complexion. The incarnate deity, Rama, whose exploits are recorded by the poet Valmiki, is considered by Sir William Jones to be the same as the Dionysos or Bacchus of the Greeks. This Dionysos, or Bacchus, whom he imagined to be Rama, the son of Cush, is said to have invaded India and other countries with an army of satyrs, commanded by the sylvan deity Pan, and Sir William Jones concludes that this army, or probably part of it which he thinks may have been composed of hardy mountaineers, gave rise to the poetical tale of the feats of Rama, aided by the heroic Hanuman and his host of monkeys. We shall, however, obtain a more consistent, as well as a better understood comprehension of Rama, in considering him to have been the son of Desaratha, of the solar race, king of Ayodhya, now termed Oud'h, a potent sovereign of Hindustan, who having been banished by his father in consequence of the machinations of his queens, retired to the banks of the Godavery, accompanied by his brother Lakshmana, and his wife Sita and lived in the neighbouring forests the austere and secluded life of an ascetic, but Sita having been forcibly taken from him by Ravana, the king of Lanka (Ceylon), Rama, with the aid of Sugriva, the sovereign of Karnata, invaded the kingdom of Ravana, and having conquered him, placed his brother on the throne of Lanka in his stead. The Godavery is a sacred stream, and its banks appear to be classic. After the recovery of Sita, Rama subjected her to the fiery ordeal, to discover whether

her virtue had suffered while thus forcibly separated.

The hindoo gods are supposed to be exempt from the momentary elevation and depression of the upper eye-lid, to which mortals are subject, and to look with a firm unintermitted gaze. Hence a deity is termed Animisha and Animesha, one whose eyes do not twinkle. Various allusions to this attribute occur in poetry. When Indra visits Sita to encourage her, he assumes at her request the marks of divinity—he treads the air, and suspends the motion of the eye-lids. when Agni, Varuna, and Indra, all assume the form of Nala at the marriage of Damayanti, she distinguishes her mortal lover by the twinkling of his eyes, whilst the gods are stabdha lochana, fixed-eyed. And when the Aswini Kumara practice the same trick upon the bride of Chyavana, she recognises her husband by this amongst other indications. The notion is the more deserving of attention, as it is one of those coincidences with classical mythology which can scarcely be accidental. Heliodorus says : " The gods may be known by the eyes looking with a fixed regard, and never closing the eye-lids ;" and he cites Homer in proof of it. An instance from the Iliad which he has not noticed, may be cited perhaps as an additional confirmation, and the marble eyes of Venus, by which Helen knew the goddess, and which the commentators and translators seem to be much perplexed with, are probably the stabdha lochana, the fixed eyes, of the hindoos, full, unveiled even for an instant, like the eyes of a marble statue.—*Hindoo Theatre, Vol.* i, *p.* 137. See Asoka, India, Inscriptions, Mahabharata, Padma Purana, Rama, Ramanandi or Ramawat, Ramayana, Sacti, Sects, Vishnu.

SITABBOGAM, see Oryza sativa.

SITABALDI, 21° 10′ ; 79° 6′, in Berar, a large station adjoining Nagpur. Mean height of the plain, 1,169 feet. The hill of Sitabaldi, standing close over the Residency, consists of two eminences joined by a narrow neck of ground, about 300 yards in length, of considerably lesser elevation than either of the two hills. The whole surface is rock, —*Schl., Ad.* See Statistics of battles.

SITA-KI-PUNJERI, Duk. Lavandula vera.

SITAL, Hind. Nyctanthes arbor-tristis.

SITAL PATI, Beng. Maranta dichotoma, *Wall.* Grows in Bengal abundantly, makes a fine reed mat.

SITAL SINH, munshi to the raja of Benares, author of a history of the various hindoo sects.

SIT-AMANAKU YENNAY, Tam. Ricinus communis.

SITA MANOHARAM, Tel. Pergularia odoratissima, *Linn.*

SITA MERDU, Maleal. Cocculus cordifolius. *D C.*

SITA MULI, Hind. Syn of Pavonia zeylanica.

SITAMMA POGU NULU, Tel. Cuscuta reflexa, *L* ; *R., Vol.* i, *p.* 446 ; *Cor.* 104.

SITAMMA VARI SAVARAM, or Lanja savaram, Tel., Ipomœa filicaulis, *Bl.*

SITA MULI, Hind. ?

SITANA. Below Derbund, lies the district of Sitana, about 15 miles north of Torbaila, near the base of Muhabun, and on the bank of the Indus. The Syuds of this place are the remnant of the followers of Syed Ahmed, who, gathering the handful of " Gazee," (warlike devotees), from various parts of India, raised a formidable rebellion in Peshawur. After winning and losing Peshawur and Eusufzye, the Syud was eventually slain at the mouth of the Kaghan glen by Sheer Sing, the son of maharajuh Runjeet Sing. Most of his adherents, chiefly foreigners to the Punjab, dispersed, and the remainder settled at Sitana. These Sitana people are evil-intentioned and ill-conditioned. They endeavour to rouse the bigotry of the surrounding mahomedan tribes, and especially of the Swatee. They endeavour to intrigue with Wahabees and such like fanatic religionists among the mahomedan population in various parts of India.—*Papers, East India, Cabul and Affghanistan,* 1859, *p.* 20.

SITANG, a river of Burmah, rises in lat. 21° 40′, long. 96° 50′ S., runs into the Gulf of Martaban, length 420 miles ; Yennan, 115 ; Saar, 120 miles. It is a navigable river for about 190 miles, forms the boundary between the Tenasserim provinces and Pegu. Its valley is the valley of Pegu. The whole extent of the valley is about 350 miles, of which one-half lies within the British provinces of Pegu and Martaban. Its mouth is about fifteen leagues eastward from Rangoon bar, and is the easternmost and principal branch of the Pegu or Sirian river.

SITANIKA, Tel. Epicarpus spinosa, *R. W.*

SITANTA, see Meru.

SITANUK, one valve of a muscle shell, with the dried fish attached. The punsaris of Ajmir call it " the small head of a sea animal :" used in Ajmir as an aphrodisiac, and also said to cure the cynanche of children : comes from Bombay viâ Pali : one seer costs two rupees. —*Genl. Med. Top., p.* 132.

SITAPA CHETTU, Tel. Smilax ovalifolia.

SITA-PHAL, Duk. Syn. fruit of Anona squamosa, named after Sita—wife of Rama. It is smooth and soft outside, and in shape not

very conical. It is fancied to resemble the mamma of the human female; and legends are popularly related of the origin and application of these appellations, but it is not always that the popular legends of hindoo fabulists will bear expounding to a European reader.—*Moor*. See Bhilva, Sita.

SITAPA CHETTU, or Konda tamara TEL. Smilax ovalifolia, *R.*

SITAPHALAM, TEL. Anonia squamosa, *L.*, *R.*, ii, 657, 21; *Rheede*, iii, 29.

SITAR, or Sitara, a musical instrument similar to the Cithera, supposed to have obtained its name from the Sih-tara, the three-stringed, and believed to be the source of the word guitar. See Kemanchi.

SITASAVARAM, also Sitamma vari savaram, TEL. Ipomœa filicaulis, *Bl.*

SITASIVA, also Seleya, MALEAL., SANS. Dill seed, Anethum sowa, *Roxb.*

SITAVANAKU, MALEAL. Ricinus communis, *Linn.*

SITA-VER, HIND. Asparagus adscendens.

SITAWAR, HIND. Asparagus filicinus and A. racemosus.

SIT GURJUN, BENG. Dipterocarpus turbinatus.

SITHAI-NAR, the Umbrella tree, Screw Pine or Vacoa, Pandanus odoratissimus.

SITHA SARMI, see Inscriptions.

SI-THO-TOO NAN-TOO CHYKIA, see Chinese.

SITI, BENG. The noble Magnolia, Magnolia insignis.

SITKOKF ISLAND, according to a Japanese geographer, cited by Kampfer, contains many mountainous and barren districts, and is, on the whole, less fertile than the other large islands.

SITODIUM CAULIFLORUM, *Gært.* Syn. of Artocarpus integrifolius.

SITPHAN, also Setphan, BURM. A tree of Moulmein. Its wood is used in common purposes of building.—*Cal. Cat. Ex.* 1862.

SITRA MUTI, TAM. Pavonia zeylanica, *Cor.*

SITS, DUT. Chintz.

SIT-SAL, BENG. Dalbergia latifolia, *Roxb.*

SITTA, HIND. A kind of sweetmeat.

SITTA CINNAMOVENTRIS, S. europæa and S. cœsia, &c., birds of India. Sitta Syriaca, or 'Rock Nuthatch' of S. E. Europe, and Asia Minor, or a species of similar habits (most probably the same), inhabits Affghanistan.

SITTAMUTTI, TAM.

Pavonia zeylanica,	CAVAN.	Mutti-ver,	TAM.
Bulla,	SANS.	Tsinna mootapolaghun vayroo,	TEL.

This root, as it appears in the bazars, has little sensible taste or smell. An infusion of it is ordered as a drink in fevers.—*Ains. Mat. Med.*, *p.* 115.

SITTAVINDI, TEL. Ricinus communis, *Linn.*

SITTRA-PALADI, TAM. Euphorbia thymifolia, *Linn.*

SITTU, also Situn, HIND. Boucerosia edulis of Edgeworth. A curious plant in the Multan division, eaten as a vegetable.

SITUS-HOOKA, RUS. Hordeum hexastichon, *Linn.*, *Roxb.*

SIVA, one of the hindoo deities and the object of worship of the saiva sect of hindoos, the most numerous of all the hindoo religionists. Nearly all the Rajput races, most of the hindoos in the valley of the Ganges, and three-fourths of all the hindoos of the south of India worship the god Siva, in some of his emblematic forms, the most received of which is that of the lingam. Magnificent temples have been erected to him, all over British India, to each of which from thousands, to hundreds of thousands of pilgrims annually resort. Those in the Madras presidency are grand. Siva and his worship are confined to British India. The name is variously pronounced and written Siva, Shiva, Sivin, Seo, Sheo, Shev, Seb, S'hiv, Shivu and Chivin, and the earliest mention of this god is in the Book of Amos, (Ch. v, 25, 26.) "Have ye offered unto me sacrifices and offerings in the wilderness, forty years, O house of Israel? But ye have borne the tabernacle of your Moloch, and Chiun, your images, the star of your god, which ye made yourselves; therefore will I cause you to go into captivity before Damascus." And it is evident from this that even then, B. C., 955, the emblem under which Siva is still worshipped and the marks, which his followers put on their foreheads were both well-known. His attributes are many. Siva, as the destroyer, is named Isa or Iswara; Rudra; Hara; Sambhu; Mahadeva or Mahesha. Siva is time, the Sun; he is Fire, the destroyer, the generator. His consort, Parvati, is the symbol of created nature, and in that character named Prakriti. As the deity presiding over generation his type is the linga, the origin doubtless of the phallic emblem of Egypt and Greece and Rome. As the god of justice, which character he shares with Yama and other deities, he rides a bull, the symbol of divine justice. He holds, as his commonest attribute, a trident, called Trisula, in this and in some other points resembling Neptune. His colour, as well as that of the bull, is white, and his hair of a reddish colour. He is sometimes represented as with two, four, eight, or ten hands, and with five faces. He has a third eye on his forehead pointing up and down, a distinction peculiar to him

and his avatars. As Mahadeva, he is abundantly decked with serpents, emblems of immortality, and common ornaments to many deities. He is often represented with his trisula or trident, in one hand; as also the pasha, string or rope, also often depicted in the hands of his consort Kali, for binding and strangling incorrigible offenders. Serpents, emblems of eternity, form his ear-rings, called Nag-nundala: his pendent collar of human heads, his Mund-Mala, marks his character of destruction or Time; and his frontal crescent points at its most obvious measurement, by the phases of the moon. Occasionally, in his hands, is represented the warlike mace, (Gadha or Parasha), and Mrigu or Sasin, a name for the antelope, given also as an attribute of the god Chandra the Moon. Frequently Siva's loins are seen wrapped in a tiger's skin, and the river goddess Ganga smiles serenely from his Mugut, or headpiece. Another author writes, "To Siva is given three eyes, probably to denote his view of three divisions of Time, the past, the present, and the future. A crescent on his forehead pourtrays the measure of time by the phases of the moon; a serpent forms a necklace, to denote the measure of time by years: a second necklace formed of human skulls marks the lapse and revolution of ages, and the extinction and succession of the generations of mankind. He holds a trident, to show that the three great attributes are in him assembled and united: in another hand is a rattle, called a damaru, shaped like an hour-glass. Siva is also called Sri Virupacsha or the three-eyed god. This name of Sri Virupacsha is, however, differently translated by different Sanscrit scholars. The earliest renders it as above: another, "with a disgreeable countenance:" a third, "the auspicious deity with uneven eyes:" and as the title is also given to an inferior deity, who is not fabled to have three eyes (Nirut), perhaps the latter interpretations are to be preferred. Professor Muller in his 'Results of Turanian Researches,' interprets Siva's triumph over Tripura, and the Garudas devouring the Kiratas, as traditions of the conquest of the Nishada races by the Aryans. Siva is principally worshipped under the form of the linga. Some of these emblems, usually of basalt or dark coloured green stone, are of an enormous size; and they are also made, morning and evening, of the clay of the Ganges, which, after worship, are thrown into the river. The linga is never carried in procession. The temples dedicated to it are square gothic buildings, the roofs of which are round, and tapering to a point. In many parts of Hindustan they are more numerous than those dedicated to the worship of any other of the hindoo idols; as are the numbers of the worshippers of this symbol, beyond comparison, more extensive than the worshippers of the other deities or their emblems. The Binlang stone is also sacred to Siva. Besides the daily worship of the linga in the temples, there are several other periods in which images of Siva are worshipped under different forms; and these are to be seen in numbers, conveyed through the streets of Calcutta, after the festivals in honour of Siva, to be cast into the river. In the month Phulgunu he is worshipped for one day as a mendicant. On the following day the images of him, with a bloated countenance, matted locks, and inflamed eyes, are carried in procession, attended by a large concourse of people, dancing, singing, and playing on various instruments, and thrown into the river. In the month of Mughut, there is another festival in honour of him, called Hari Gauri, in which he is represented riding on a bull, with Parvati on his knee. But the most celebrated occasion of his worship is in the month Choitru, at the time that the ceremony of the churka, or swinging by hooks fastened in the flesh of the back, is performed. This festival derives its name (churakh or chakra, a wheel or discus,) from the circle performed in the swinging part of it, that terminates the ceremonies, which should properly last a lunar month; but the term is now much shortened, and the observances of it are limited to the followers of Siva. The higher classes do not engage in it, although they contribute towards the expense of, and countenance it. The initiatory ceremonies of purification, abstinence and exercises of devotion, take place several days before the commencement of the rites, during which time the sanyasis, or worshippers, form themselves into parties, and wander about the streets with horns, drums, &c., making a most intolerable and horrid din. The first exhibition is that of suspension, which is performed by two posts being erected, on the top of which is placed a strong bar, from which the sanyasi, or worshipper, is suspended by his feet over a fire, kindled beneath him, into which rosin is occasionally cast. His head is then completely enveloped in the smoke, though sufficiently high to be beyond the reach of the flame. On the following day the sanyasis dance and roll themselves upon the beds formed of various descriptions of prickly plants. Their next ceremony is called the Jamp Sanya, or jumping on a couch of pointed steel, which has been thus described. A bamboo scaffolding of three or four stages is erected, on which the saynasis stand, tier above tier, the principal and most expert occupying the upper

row, which is sometimes between twenty and thirty feet high. A kind of bedding, supported by ropes, is stretched beneath the scaffolding by a number of men. Upon the mattrass are attached several bars of wood, to which are fixed very loosely, and in a position sloping forward, semi-circular knives, upon which the sanyasis throw themselves in succession. In general, the effect of the fall is to turn the knives flat upon the bedding, in which case they do no harm ; but occasionally severe wounds, and even death are the consequences of this rite. Before they take their leap, the performers cast fruits, such as cocoanuts, betel, plantains, &c., among the crowd, on which there is a great scramble for them, as they are supposed to possess much virtue. Women desirous of progeny are very anxious to get these donations, and those of the first families send persons to obtain and bring them for their private eating. The ensuing day is spent in revelling and dancing among burning ashes, and afterwards casting them at each other. On the following day they again infest the streets, attended by music of such an abominable description, that the old British instruments of hymeneal serenade would be almost celestial harmony to it. In the immediate neighbourhood of Calcutta, at Kalighat, stands the celebrate temple of Kali, the energy of Siva in his destructive character of Kal, or Time, on whose altars myriads are annually sacrificed. To this temple the collected crowds, from miles round the Indian metropolis, pour, like a living stream of frantic bacchanals, and till recently exhibiting in their progress sights of which the imagination of those who have not witnessed them could scarcely form a conception. On this occasion they practised the most painful self-inflicted tortures, piercing their tongues and sides, and sticking in the holes heavy pieces of iron, arrows, canes, living snakes, &c., &c., with which they dance with indecent gestures, to the obscene songs of the surrounding multitude. Mr. Ward says that in one year, a man thrust his finger through the tongue of another, and they thus proceeded dancing with much indecency together through the streets ; and that another had his breast, arms and other parts stuck entirely full of pins, as thick as nails or packing-needles. In Madras, in 1849, a little boy was led through the crowd with a wooden skewer transfixing both cheeks. These acts are devotional, and are considered proofs of holiness and merit. The tortures, however, thus inflicted are temporary : but some of these religious mendicants impose upon themselves others which are of a more durable description; such as carrying the arm erect over the head till it become so fixed that the miserable devotee is unable to bend it : sitting in the same manner with both the arms or legs similarly placed, clinching the hand, and allowing the nails to grow through it to a considerable length from the back, sliding backwards and forwards on their bellies, from which position they will not stir, preserving a sitting posture, from which they never move; dwelling surrounded by fires, and beneath a scorching sun in the summer, and exposed to the rigours of the seasons in the winter. These and many other self-inflicted tortures, might formerly be daily witnessed in the streets of the Indian cities and their neighbourhoods. The wretched fanatics were covered with filth and ashes, and, even until the close of the 19th century, go entirely naked, except a small piece of cloth between the thighs, fixed round the waist with a cord. Many of them are robust, powerful, sleek-skinned men in no way indicative of ascetic lives. On the day of the charakh, or swinging ceremony, posts about thirty-feet in height are erected in the suburbs of a town, across the upper part of which are loosely suspended long bamboos, so as to enable them to traverse freely. To one end of the bamboo two hooks are fixed by ropes, which are run through the fleshy parts or the back, near the shoulders. A rope is also fastened to the other end of the bamboo, which, as soon as the party who is to swing is secured to the hooks, is pulled by several men, who thus raise the other end somewhat higher than the post. They then go round with it, with considerable velocity, by which means the man at the other end describes a circle of about thirty feet in diameter. Sometimes a cloth is tied round the body and secured to the hooks, to prevent, if the flesh should be torn away, the man from being dashed to pieces, but such is frequently not the case, and the party falling is often killed upon the spot. Some of these men, while swinging, often amuse themselves in smoking and throwing fruit and flowers (which they take up on purpose) among the spectators. Mr. Ward relates a story of a man who had a monkey's collar run through his hinder parts, in which state the man and monkey whirled round together, and on another occasion, of a man who took a large log of wood in his mouth, and swang for a considerable time, without having any cloth round him to preserve him from falling. He also states, that in the year 1800, five women swung with hooks through their backs and thighs in the neighbourhood of Calcutta. The parties sometimes swing for a con-

siderable time, and make very light of the business. A gentleman, in Calcutta, missed, on one of these festivals, one of his bearers or palanquin carriers, and, as he was going out, left home without him. On his return he found him carrying his palanquin, and when he arrived at his home, questioned him where he had been? The man coolly answered, "he had only been performing charakh," that is, had been swinging, and, on his master inspecting his back, the spots, pierced by the hooks, were conspicuous enough. The wounds are very simply treated. The parts are first well-pressed with the flat palm of the hand, or trodden on with the sole of the foot, to cause their re-union. Clarified butter is then spread over on a leaf, and the place is bandaged, this dressing is renewed two or three times. In 1849, in Madras, on the second day after the swinging, a lascar of the Medical Store Depôt who had swung, was seen contentedly at work, in the Depôt. To judge by the number of shrines dedicated to the only form under which Siva is worshipped, that of the Linga, his worship appears to be the most prevalent and popular of all the modes of adoration. Yet these temples are little resorted to by votaries, they are regarded with comparatively little veneration by the hindoos, and flowers and fruit are thrown with little solemnity before the image. The only exception to this is the temple of Visweswara at Benares, which is thronged with a never-ceasing crowd of admirers. Along the banks of the Ganges the worship of Siva is not the prevailing nor the popular condition of the hindoo faith, and it is only in the south of India that the people possess popular legends regarding him. His worship in northern India, is confined to the brahmans, and those who practise the rites of the Vedas, or who profess the study of the Sastras, who receive Siva as their tutelar deity, wear his insignia, and worship the Linga, either in temples or in houses, or on the side of a sacred stream, providing in the latter case, extempore emblems kneaded out of the mud or clay of the river-bed. And this example of the brahmans, and the practice of ages, maintain the veneration usually offered to the type of Siva.

Siva, from his destruction of the three cities of a demon, is thence named Tripura or Tripurasura, the supposed origin of the modern Tippera. Siva is represented with three eyes; hence is title of Trinitira and Tri-lochun, and in this form he is the Tri-opthalmic Jupiter of the Greeks. From the fire of the central eye of Siva is to proceed Pralaya, or the final destruction of the universe: this eye placed vertically, resembling the flame of a taper, is a distinguishing mark on the foreheads of his votaries. The eye in the forehead is one peculiar characteristic of Siva and of his consort when armed with his terrors. The second of Vishnu's ten grand avatars, or incarnations, was in the form of a tortoise, and hence called the Kurma avatara, the principal incident in which was churning the ocean with the mountain Mandara, the huge serpent Sesha serving as a rope to whirl the mountain round withal, and Vishnu, in the shape of a tortoise, sustained the vast load. The result was fourteen precious articles, called gems, or chaoda ratni, (more classically Chatur desa ratna), and one of the fourteen was poison; but,

> "To soften human ills dread Siva drank
> The poisonous flood that stain'd his azure neck."

It might perhaps have been more in character, if the preserving power had averted from mankind the calamities incident to the production of this "poisonous flood," but the legend, which is very popular, gives the action to Mahadeva, whence the epithet Nilakantha, or blue throated, is a name of Siva. With the saiva sect it is now not an uncommon name, usually pronounced, as is that of the deity, Nilkant. The opposing worshippers of Vishnu and Siva, long desolated India with wars and persecutions. Siva is gratified by severities. He gave Arjuna a weapon, Krishna appears to have been opposed both to the Siva and Indra sects. If any credit could be given to the hindoo legends, Ravan, who reigned over Ceylon and the southern part of the peninsula at the time of Rama's invasion, was the head of a civilised and powerful state; but, by the same accounts, he was a hindoo and a follower of Siva. The hindoos who worship both Siva and Vishnu are of the sect of Bhagwat Sampradai or devotees of a two-fold deity, these being ordinarily the lingam and yoni as emblems of Siva and his sâkti (devi) and of Krishna, of the Yadu form, with Lakshmi. Vaishnava brahmins will never worship Siva nor any emblem of that deity, nor even enter his temple, nor fast on the days of Siva's fast days. Saiva people generally worship all deities; they are in truth, polytheists, but Vira-Saiva Lingaets and Smarta brahmins and those who recognise the Rig Veda do not worship at the vaishnava temples. The period of sectarian intolerance is now past; and as far as observation goes, the ministers of Vishnu, Siva, and Budha, view each other without malignity; which feeling never appears to have influenced the laity of either sect, who are indiscriminately respectful to the ministers of other

religious, whatever be their tenets. It is sufficient that their office is one of sanctity, and that they are ministers of the Divinity, who, they say, excludes the homage of none, in whatever tongue, or whatever manner he is sought; and with this spirit of entire toleration prevailing, the devout missionary of the christians or moolla of the mahomedans would in no country meet more security or hospitable courtesy than among the hindoo races. They must, however, adopt the toleration they would find practised towards themselves, and not exclude, as some of them do, the races of Surya and Chandra from divine mercy, who, with less arrogance, and more reliance on the compassionate nature of the Creator, say, he has established a variety of paths by which the good may attain beatitude.

Every hindoo has a sect mark on his forehead, of white earth, red ochre or sandal wood. The worshippers of Vishnu place the mark perpendicularly, and two perpendicular lines and a dot between denotes a worshipper of Vishnu as Rama or Krishna. The worshippers of Siva mark horizontally. Any conical or triangular mark is a symbol of the linga. About 500 years B.C. the pantheism of the Vedas became transformed into the idolatry of symbolical embodiments of Siva or Vishnu. In the sixth century B.C., there sprung up a school of religious philosophy called the philosophy of the Vedanta or Mimansa, the search after Wisdom, (the end of the Vedas —the aim of learning.) It was in direct opposition to the Sankhya philosophy (deliberation—contemplation—knowledge derived from pure reason.) The vedanta or mimansa philosophy is treated as a scholastic philosophy which basing itself on the sacred books and the popular religion seeks for unity of thought only as a means of introducing order amid the divine personages and legends, and has sought to give a spiritual import, a sort of new birth, to the gods of brahmanism. In the Vedanta philosophy, Brahma is placed in the foreground as the soul of the universe. The Primal Being which alone has true Existence. To this school not matter only, was a semblance,—even the soul was a transient phenomenon. The Sankhya philosophy is contrasted with it, as an atheistic or purely pantheistic system. In this view this philosophy has broken completely with the popular creed, and with the doctrines of the Vedas and the Brahmans. The Sankhya philosophy occupies itself more with life in manifestation, therefore especially with the life of the individual spirit connected by its body to the outward world. Both of these leave the Vedas unassailed, nay, the whole brahmanic religion in so far as it concerns rites and customs. The Sankhya philosophy is no more atheistic, than the system which culminates in Brahma, as the Primal Being. Both are alike pantheistic with a sense of a universal presence of god in all things which produces a mental intoxication gradually destructive of all healthy religious perception. The priesthood did not declare war on the Sankhya philosophy.

One distinguishing mark of the faith of Siva is a crescent on the forehead: with his ascetic devotees the hair is braided and forms a tiara round the head, and with its folds a chaplet of the lotus-seed is often entwined. They smear the body with ashes, and use garments dyed of an orange hue. They bury their dead in a sitting posture; and erect tumuli over them, which are generally conical in form. At a cemetery of these, each of very small dimensions, which may be described as so many concentric rings of earth, diminishing to the apex, crowned with a cylindrical stone pillar, as Colonel Tod looked on, one of the disciples of Siva was performing rites to the manes, strewing leaves of an ever-green and sprinkling water over the graves. Col. Tod says it is not uncommon for priestesses to officiate at the shrines of Siva. Siva is represented with his person powdered with the greyish white ashes of burnt cow-dung, termed nibhuti, which is consequently used in a similar way by all the saiva and by many of the vaishnava ascetics. The season of autumn, or that following the rains, is said to be invested with a similar whiteness, from the kasa grass, or Saccharum spontaneum, with which the country along the Ganges, and the banks of rivers in general, are overspread at this period. This grass grows from ten to fifteen feet high, and the base of the flowers is surrounded with an immense quantity of bright silver-coloured wool, which whitens all the fields. Part of Siva's scanty raiment is the skin of an elephant, or more properly of an Asura or Titan killed by him under that form, and thence named Gajasura.

Inferior enjoyment in heaven is not an object of desire to the more enthusiastic of the hindoos, as it is but finite, and after its cessation the individual is born again in the world, and exposed to the calamities of a frail existence. The great aim of devotion is union with the supreme and universal spirit, in which case the soul no more assumes a perishable shape. The character of the benediction to this effect in the drama of the Hero and the Nymph corresponds with that of Sakuntala and the Malavikagnimitra, and indicate the author's belonging to that modification of the hindoo faith in which the abstract deism of the

Vedanta is qualified by identifying the supreme, invisible, and inappreciable spirit with a delusive form, which was the person of Rudra or Siva. It is of a more practical character, therefore, than pure Vedantism, and it is equally different from both the metaphysical and theistical Sankhya. It is, in fact, the doctrine of the Saiva Puranas (*As. Res., Vol.* xvii). The brahmans of the south and west are mostly of this sect; and whatever Sankara Swami may have taught, it is that of his descendants the Das-nami Gosains. The sect is probably the oldest of all now existing in India. To Siva, are dedicated the Jonesia asoca, Cæsalpinia pulcherrima, *Sw.*: Jasminum undulatum: Guettardia speciosa, Calophyllum inophyllum: Origanum marjorana; Ixora van lhuca; Artemissia austriac., Nerium odorum: and Chrysanthemum indicum. The last eight are also dedicated to Vishnu. The sects of the hindoos merge into each other; for, in consequence of the interposition of Vishnu to appease a physiological difference between Mahadeva and Parvati, or the worshippers of the Linga and Yoni, his (Vishnu's) navel, says Major Moor, came to be considered as the same with the Yoni, confounding the yonija with the vaishnava. The saiva sect are all worshippers of Siva and Bhavani conjointly; and they adore the linga, or compound type of this god and goddess, as the vaishnava do the image of Lakshmi-Narayana. There are no exclusive worshippers of Siva besides the sect of naked gymnosophists, called Lingi; and the exclusive adorers of the goddess are the Sacta sect. The saiva and sacta delineate on their foreheads three horizontal lines with ashes obtained, if possible, from the hearth on which a consecrated fire has been maintained; they add a red circlet which the Saiva make of red sanders, and which the sacta, when they avow themselves, mark either with saffron, or with turmeric and borax. The left-handed path, or indecent mode of worship of the several sects, especially that of the sacta, is founded on the Tantra, which are, for this reason, held in disesteem. The worshippers of Vishnu, Siva and the Sakti, are not to be confounded with the orthodox adorers of those divinities; few brahmans of learning, if they have any religion at all, will acknowledge themselves to belong to any of the popular divisions of the hindoo faith, although, as a matter of simple preference, they more especially worship some individual deity as their chosen or Ishta Devata. They refer also to the Veda, the books of law, the Purana, and Tantra, as the only ritual which they recognise, and regard all practices not derived from those sources as irregular and profane. Vishnu and all other of the hindoo deities have their different avatars or incarnations, in all of which, except that of the sacti themselves, they have their sactis or energies of their attributes. These have again ramified into numerous names and forms. The great point of difference amongst the sectaries is as to the claims of respective deities to be regarded as the First Cause. Some assert that as Vishnu (the preserving spirit of God) was sleeping on the serpent Ananta, or eternity, on the face of the waters, after the annihilation of a former world, a lotus sprung from trisula, the trident of Siva. It is considered to be in continual motion over the face of the universe to guard and preserve its creatures. To oppose its course would be to incur immediate death. Its motion would appear to be regular, but varying according to the days in the week. Thus it is imagined that it is unlucky to proceed towards the westward on Sundays and Fridays, to the northward on Tuesdays and Wednesdays, to the eastward on Saturdays and Mondays, and to the southward on Thursdays. The trisula or trident symbol of Siva was once used on a copper paisa weighing 98¼ grains for circulation in the province of Benares only. Siva, as Mahadeo is often represented sitting on a tiger's-skin, with a Nag-snake around his head. In the different terrific forms of Siva and Durga, a necklace of skulls, forms, an invariable decoration, as does the crescent or half-moon on the forehead; and the moon is considered to be the peculiar reservoir of Amrita or the beverage of immortality. Aghoraghanta, invoking Chamunda, says of Durga, a sacti of Siva,

The elephant hide that robes thee, to thy steps
Swings to and fro; the whirling talons rend
The crescent on thy brow; from the torn orb
The trickling nectar falls, and every skull
That gems thy necklace laughs with horrid life.

Siva is said to have five faces, his designation Trimurti is said to relate to his three eyes.—*Cole., Myth., Hind., pp.* 66 *to* 70; *Tod's Rajasthan, Vol.* i, *p.* 517; *Hind. Theat., Hero and the Nymph, Vol.* ii, *pp.* 59, 195-196; *Prinsep's Indian Antiquities; Major Moor's Oriental Fragments*; *Major Moor's Hindoo Pantheon.* See Hindoo.

SIVA-BAKHT, see Hindoo.

SIVA-CHIPAGA-WANLOO of Bellary, are worshippers of Siva. The Siva-chipegeree or Nagaleka-balji wanloo, worship Siva in the form of a snake.

SIVA-DUTA, messengers of Siva.

SIVAGNABODHA, a small celebrated saiva work.

SIVAJI a celebrated chieftain of the Mahrattas, and founder of the mahratta empire, which lasted until the year 1817. The

Mahrattas remained almost wholly unnoticed in Indian History until the reign of Aurungzeb; probably prior to the time of Sevajee, the mahratta country, like other parts of the Dekkan, was divided into little principalities and chiefships, many of which were dependant on the neighbouring mahomedan princes, but never completely brought under subjection. Sivajee, the first Mahratta commander who combined the efforts of these discordant chiefs and tribes, was born in A.D. 1626, and died in 1680. His genealogy being obscure, his adherents were at liberty to invent the most illustrious, and accordingly traced his origin from the ranas of Odeypoor, (the purest of the Khetri caste), who claim a descent, from Nowshirwan the just, but towards the close of the 18th. century, they suddenly started on a career of conquest during which they obtained the control over a great portion of British India, and established governments of shorter or longer duration at Poonah, Sattarah, Gwalior, Nagpore, Indore, Gujerat and Travancore.—*Moor, p.* 241; *Cole., Myth., Hind, p.* 285. See Mahratta government, Sevajee.

SIVALAYA, a temple of Siva, from Siva, and alaya, an abode. The Sivalaya in old Burdwan consists of 108 temples in two large amphitheatrical circles, one within the other.—*Tr. of Hind., Vol.* i, *p.* 157.

SIVA LINGA, see Inscriptions, Kala, Priyanath.

SIVA NARAYANA, a unitarian sect of the people of India who do not worship or regard any object of hindoo or mahomedan veneration. They admit alike hindoos, mahomedans and christians, as proselytes. Their cardinal virtues are truth, temperance and mercy. Polygamy is prohibited; the founder was Siva Narayana, a Rajput, who flourished about A. D. 1735, in the reign of Mahomed Shah. See Hindoo.

SIVA-RATRI, or Maha Shiva-ratri, the great night of Siva, the festival of the nights of Siva, is held about the 11th March by saivites in honour of Siva, during which they worship the lingam, the priapus of the Romans and phallus of the Greeks. The 14th of the dark half of Magha is so held. On the 29th of each month the lingam is worshipped by all saivites, but in the worship on the Maha Shiva-ratri, the thousand different names of Siva are repeated over the lingam and a leaf of the Ægle marmelos dropped on it at each name. Siva seems to have been a warrior who came to India towards Guzerat bringing with him the physiological worship of the phallic emblem, with the Tak or snake spreading its hood over the lingam, or he may have been a Scythic warrior who added the snake to the lingam. Vishnu and his nine avatars are deified warriors, with distinct heroic acts, generally exercised to destroy oppressors and root out oppression.

SIVA'S SACTI, see Linga.

SIVA SITA, see Inscriptions.

SIVATHERIUM, a gigantic fossil, four-horned, ruminant like animal, discovered by Dr. Falconer in the Sewalik hills, which he considered had been furnished with a trunk like the Tapir. He also discovered fossil apes. The term Sivatherium is from Siva, an Indian deity. It is a genus of extinct animals belonging to the family Elephantidæ. The remains of species of this remarkable genus were found by Dr. Falconer and Colonel Cautley in the valley of Mackanda, in the Sewalik hills of the Himalaya. Two species of this genus, S. giganteum and S. perimense, have been described. A cranium, lower jaw and teeth, and bones of the extremities of S. giganteum are now in the British Museum. The skull of this animal is nearly as long as that of the elephant, the neck was shorter and stronger than in the Giraffe. The posterior portion of the skull is greatly developed, and formed of cellular cavities, as in the elephant. The face is short, and the nasal bones are remarkable for the manner in which they are prolonged into a pointed arch above the external nostrils, indicating a trunk, or proboscis. The very inclined direction of the front of the face in relation to the triturating surface of the teeth imparts a physiognomy altogether peculiar. Two horns arise from the brow between the orbits, and diverge from each other, and it is probable that the posterior protuberances of the forehead also supported a pair of short massive horns. When living, the Sivatherium must have resembled an immense Gnu, or antelope, with a short thick head surmounted with two pair of horns. The front pair of these horns were small, whilst those behind were probably palmated. The eyes were small, and it had a nasal proboscis, an organ unknown amongst the Ruminantia.—*Mantell, Petrefactions and their Teachings; Journal of the Asiatic Society; Eng. Cyc.; Falconer's Palæzoic remains.*

SIVA-VAKYA, the name of a well-known work treating of Siva as the supreme being.

SIVION, or Sivum, or Sivun, HIND., MAHR. Gmelina arborea.

SIVIRA, or Seoree, a race in Ghazepur, Gorukpur, Behar, Benares and Mirzapur, whom Buchanan thinks identical with the Kol and the Cheru.—*Elliot.*

SIVITE, or Saiva, a follower of the hindoo god Siva.

SIV-PURANA, see Surya.

SIWAL, also Kali siwal, Lal siwal, and Siwalara, HIND. Amarantus anardana.

SIWALIK HILLS. Low down, on the southern slopes of the Himalaya mountains, at an elevation of from 8,000 to 1,500 feet, there are found uplifted stratified rocks, consisting of hornblende rock and slate, limestone, sandstone, great beds of quartz, clay, mica, chlorite, and talc slates, resting on the gneis and granite; and lower still at altitudes of 3,000 to 2,500 feet above the level of the sea, gravel, boulders, marl with coal, recent clays and sandstone form the Siwalik, or sub-Himalayan mountains. It is in these hills that extensive fossil remains were discovered, and the low alluvial tract known as the Terai, is the valley formed by the junction of the Siwalik with the Himalayan inclined rocks. The term Siwalik is restricted by A. Cunningham to the lowermost range of the Himalaya, composed of sandstone. Siwalik hills were shown by Messrs. Cautley and Falconer, to form the tertiary strata, of which the Subathu beds constitute the base. The Siwalik tract, includes the range so called by Europeans, lying under and external to the Himalaya at from 1,000 to 2,500 and occasionally rising to 3,000 feet. Many of the trees, shrubs, &c., which grow in that tract extend to some distance within the Himalaya in the valleys of the great rivers to a similar height, and where a similar climate prevails to that of the Siwalik.

SIWARJI, See Cairn, Hindu, Kelat.

SIWIN, HIND. Vermicelli.

SIYAH, HIND. Black, hence

Siyah bhor, HIND., the colour of the black humble bee, "bhor."

Siyah chob, HIND. Fraxinus, *sp.*

Siyadanah, PERS. Nigella indica.

Siyah Musli, HIND. Anilema tuberosa.

Zira siyah, Carum carui.

Siyahi, HIND. Ink, lamp black.

Siyahi, HIND. Smut of Triticum æstivum.

SIYAKA, see Inscriptions.

SIYUL, HIND. Sil, a slate, a slab.

SIZE.

Sirus, GUZ. | Sirisht, HIND.

A gelatinous substance, obtained from parchment, shavings, fish skin, and several animal membranes. It is less adhesive than glue, and is used by book-binders, paper-hangers and painters.—*Waterston, Faulkner.*

SIZGAI, HIND. Brassica griffithii.

SJARANK, EGYPT. Ganjah.

SJERIA SAMSTRAVADI, MALEAL. Barringtonia acutangula.

SJO-COMPASS, SP. Compass.

SJOVANNA AMELPODI — ? Ophioxylon serpentinum.

SJOVANNA-POLA-TALI — ? Crinum latifolium.

SKAMMONIEN, GER. Scammony.

SKANDA, a name of Subhramanya. See Saraswati.

SKANDA GUPTA, see Buddha, Inscriptions.

SKANDA PURANA, a holy book of the hindoos: it is read through once a year in the temples of Siva. See Purana.

SKANDA SHASTHI, a fast and festival observed in honor of Skanda.

SKANDA SIVA, see Linga.

SKANNA BHATTA, see Inscriptions.

SKAR, HIND., PUSHTU. Crude soda, transmutation of Khar.

SKARDO, 35° 20′ 2″; 75° 44′ 0″, in Balti, the capital of the province, on the left bank of the Indus. Level of the Indus at the rock 'Mendok Kar' 7,255 feet. It is also written Iscardo. Skar-ma-m-do, means the starry place, one of its name is Balolo. Little Tibet, is called Skardo by the people, as also Iskardo. It was conquered in 1840, for the rajah Gholab Singh, by his general Zorawar Singh, with his Dogra troops. The people grow corn, irrigating the land, and using manure and are fond of out-of-door or manly games. Skardo, or Iskardo, or Little Tibet, is a Bhot tract, but the people are mahomedans. Skardo is also designated Bulti, Bultiyul, Balor, Palolo, and Nang Koa. The people are strong and hardy, they grow corn and cut watercourses like the people of Rongdo. Skardo is called by the Lamas of Ladak, Skar-ma-m-do, meaning the enclosed place or the starry place. Iskardo, is the Arab-mahomedan pronunciation, who fail in all attempts to pronounce the double consonant beginning with S, requiring to prefix an I. The double consonants in S and V form a shibboleth for the mahomedans.—*Latham's Descriptive Ethnology; Adolphe Schlagentweit.* See Balti, Gylpo, India, Iskardo, Maryul or Lowland.

SKECHO, HIND. Iris, *sp.*

SKEEN, HIND. Male of Capra ibex Himalayana, *Blyth.* See Skeen, Skyin.

SKENJEHIL, PERS. A beverage, in use with the native hakims, a syrup of vinegar, diluted with water.

SKIMMI, JAP. Illicium anisatum; Star anise.

SKIMMIA LAUREOLA.

Limonia, *Wall.*

Ner	of Jhelum.	Shalangli	of Ravi.
Burroo	of Ravi.		

A common small plant of the Himalaya. It has been introduced into English gardens, from the north-west Himalaya, and is greatly admired for its aromatic, evergreen foliage,

and clusters of scarlet berries. It is a curious fact, that this plant never bears scarlet berries in Sikkim, apparently owing to the want of sun ; the fruit ripens, but is of a greenish-red or purplish colour.—*Hooker's Him. Jour.*, *Vol.* i, *p.* 187 ; *Dr. J. L. Stewart.*

SKIMMIA REEVESIANA, *Fortune.*

Skimmia japonica, *Lindley.*

On the same stage, with an Azalea Fortune says, he observed a fine new shrub, which he mistook for a holly. It turned out to be a species of Skimmia, and Dr. Lindley described it as Skimmia japonica. It is, however, quite a different plant from that known by the name in the gardens of England, and he proposed to call it Skimmia reevesiana.—*Fortune's Districts*, *p.* 329.

SKIMMIA JAPONICA, *Thbg.* A tree of Japan.

SKINNERIA CŒSPITOSA, *Choisy.* One of the convolvulaceæ, a plant of Bengal, Assam and Penang.

SKIN, also Skeen, Skyin, Sakin, Iskin, TIB. Capra sibirica, *Meyer*, Ibex ; *Blyth.*

SKINANG, HIND. Equisetum debile.

SKINS.

Peaux,	FR.	Charm,	PERS.
Felle,	GER.	Pelles,	PORT.
Chamro,	GUZ.	Charma,	SANS.
Chamra,	HIND.	Pieles,	SP.
Pelli,	IT.	Tol,	TAM.
Kulit-balulang,	MALAY.	Tolu,	TEL.

This term is applied in commercial language to the skins of calves, deer, goats, lambs, &c., which, when prepared, are used in the lighter works of book-binding, the manufacture of gloves, parchment, &c.; while the term hides, is applied to the skins of the ox, horse, &c., which, when tanned, are used in the manufacture of shoes, harness, &c. Salted and tanned hides, and also sheep and goat skins, are exported from Bombay to London and Liverpool, and after the middle of the 19th century, the trade from Calcutta, Madras and Bombay more than doubled. The greatest portion was from Calcutta, after which comes Bombay. The following were the values from all India :—

1851-52...£ 303,089	1856-57 ...£ 572,530
1852-53... „ 337,849	1857-58... „ 639,702
1853-54 .. „ 402,365	1858-59... „ 544,680
1854-55... „ 402,386	1859-60... „ 444,537
1855-56... „ 431,729	1860-61... „ 656,629

In India, the hides of the bison, sambre, bullock, horse, cow, sheep, goat, kid, dog and iguana are all tanned. Iguana skins are tanned and dyed black, or are left of their natural colour. They are thin, even, soft, tough and granular, green-like in external appearance. From the absence of gloss, the appearance of this leather is not much in its favour, but it bids fair to be a durable article for light slippers, and a good covering for the commoner kinds of instrument boxes, such as are still done over with shagreen. In the manufactures of Madras, tanned and coloured skins for book-binding purposes and boot-linings, are even, soft and pliant. Some of the coloured leathers are very brilliant. Sheep and kid skins are tanned white, for the better kinds of gloves, and for the purpose of the apothecary. Parchment skins take ink very well.

Wash leather skins are prepared with oil, in imitation of chamois or wash leather, excellent, so far as thickness, softness, pliancy and colour are concerned, they bear comparison with the European article, and suitable for cleaning brass and harness. As potass, soda, and dry pure deodorizing air are abundant in British India, a very little additional care would ensure the production of a perfectly inodorous chamois leather. Buff leather for accoutrements, are good in quality very economical leathers for manufacturing purposes. The best tanned leather from buffalo, bullock and cow-hides at the Madras Exhibition of 1855, were contributed from the Horse Artillery tannery at Bangalore, along with specimens of leather prepared from the hog, calf, goat and sheep skins, of unexceptionable quality. Python skin, when tanned, makes excellent boots, much prized in England for their strength, pliability, and great beauty, as they are handsomely marked. Boots made from snake's skin are pliable and easy to fit ; perhaps owing to the accommodating nature of the snake's skin when in a live state. Boots of Norwegian manufacture, are made from the skin of a salmon. In certain of the southern States of America the skins of young alligators are tanned, converted into leather, and the leather manufactured into boots. Skins were exhibited at the Lahore Exhibition from the hills around Kangra and Simla ; a few of them had been imported, such as the sable from Russia, and the Karakuli lambskins of Bokhara. Karakuli are so called from Karakul, a province 20 cos south of Bokhara ; as much as 10 lacs worth of these lambskins with the hair on, are exported to Persia, Tartary, Kabul and India ; other districts of Bokhara produce them, but all are called Karakuli. The religious hindoo student sits on the skin of an antelope or tiger, and in the south of India the same is used for weddings. The soft black lambskins of Karakul are immensely prized for making postins and for coats ; they are prepared by taking the skins of the young lambs immediately on their being born : this of course is an expensive method, and the skins are proportionately high-priced.—*Cat. of M. E.* ;

Cat. London Exhib. of 1862; *McCulloch's Commercial Dictionary, p.* 651; *Davies' Report, Appendix* xxii; *Powell's Hand-book of Econ. Prod., Punjab, p.* 155; *Faulkner*; *Madras Exhibition, Juries' Reports.*

SKIOCH, HIND. Euonymus fimbriata.

SKIPIDAR, RUS. Turpentine.

SKIPPETARIAN, the old Eperotic and Illyrian. The language is still well-known. It is the Skippetarian or Albanian or Arnaut. It is a distinct Indo-European idiom, and is one of the great Asiatic-European stock of languages.

SKIRRET, ENG. Sium sisarum, *Wight.* One of the umbelliferæ, the sisaron and the elaphoboskon of Dioscorides, the siser of Pliny.

SKODZE, HIND. Allium, *sp.*

SKORODON, GR. Garlic.

SKREI TORSK, DAN. Cod.

SKRIPIZII, RUS. Fiddle.

SKUANDI, SINGH. Amethyst.

SKURU, TIB. A praying cylinder of wood, four or five inches long, revolving on an iron spindle, on which are wound written prayers and interjections. The lower end of the spindle forms the handle by which the cylinder is twirled. It is of the same character as the praying drums of China.—*Cunningham.*

SKY-BLUE IPOMÆA, Ipomæa cærulea.

SKY-CLAD JAINS. The Jains are at present divided into the Digambara or sky-clad, *i. e.*, naked, and Swetambara, *i. e.*, the white-robed, the former of which is the widest diffused, and seems to have the greatest claim to antiquity. All the Jains in the Dekkan and in western India appear to be Digambara Jains. Indeed the term Jain seems a later appellation, for in the early philosophical writings of the hindoos, they are styled Digambara or Nagna, but in the present day, the Digambara do not go naked except at meal time, but wear coloured garments. The Digambara assert that the women do never attain Nirvan, but the Swetambara admit the fair sex to final annihilation. There are clerical as well as lay Jains, or Yati or Jati and Sravaka, the former of whom lead a religious life and subsist on the alms which the latter supply. The Yati are sometimes collected in maths, called by them Pasala, and even when abroad in the world, they acknowledge a sort of obedience to the head of the Pasala, of which they were once members. The Yati never officiate as priests in the temples, the ceremonies being conducted by a member of the orthodox priesthood, a brahman duly trained for the purpose. They carry a brush to sweep the ground before they tread upon it, never eat nor drink in the dark, lest they should inadvertently swallow an insect, and sometimes wear a thin cloth over their mouths lest their breath should demolish some of the atomic ephemera, that frolic in the sun-beams. They wear their hair cut short or plucked out from the roots. They profess continence and poverty, and pretend to observe frequent fasts and exercise profound abstraction. Some of them are engaged in traffic, and others are proprietors of maths and temples, and derive a comfortable support from the offerings presented by the secular votaries of Jina.

SKYIN, TIB. Wild goat or ibex, Cabra-ibex, of Ladak, with horns 4 feet, 3 inches in length. It frequents the most inaccessible rocks, but about one and two hundred are killed in Balti every winter, when they are forced to descend into the valleys. In Ladak they are snared at night and shot in the grey dawn of the morning when they venture to the streams to drink. Their hair is black, long, coarse and useless, but the soft under-fleece, called Tus, or in Kashmir Asl-Tus, is an exceedingly fine soft wool of a light brown colour, used in Kashmir as a lining for shawls, woollen stockings and gloves. It is also woven into a very fine cloth, called Tusi, of a soft and delicate texture, much prized for its warmth. The term ibex is given in India to several animals of the genus Capra or goats, but, Capra-ibex Himalayana, *Blyth*, is the Himalayan-ibex, the Skeen, Skyn, Sakeen or Sikeen of the Himalaya, the Kyl of Kashmir. These are the names of the male, that of the female, in Tibet, is L'damuo. It inhabits Ladakh and Kashmir. A wild species of ibex, called 'Paseng' by the Persians, occurs in Middle and North Asia, but it belongs to the genus Ægagrus. See Capreæ, Skeen, Skin.

SLAMBOOGHA-POO, or Shamboogha-poo, TAM. Michelia champaca, *Linn.* Its flower.

SLATE.

Ardoise,	FR.	Pizarra,	P.
Schiefer,	GER.	Kalpalagi,	TAM.
Sil,	HIND.	Rati palaka,	TEL.
Lavangna, Lastra,	IT.		

A laminated rock, of which there are many kinds; though the only one of commercial importance is clay slates employed for roofing, and as writing slates. The principal slate quarries in Britain, are in Wales, Cumberland, Southampton. True slate is capable of almost infinite division, thin plates or slabs splitting with tolerably even surfaces of considerable size, the Kurnool slabs and the same material found in other parts of India are incapable of this infinite division, &c. The Kurnool slabs are unfitted for sloping roofs; they cannot be procured in slabs dividing naturally of such size and thickness as

would adapt them for roofs; sawing them would, even if practicible, be too expensive; the slabs thus procured would be either too thin to give the requisite strength, or if of sufficient strength, would be too heavy and thick for economical or effective use. But for flat roofs and floors, they may be used with advantage. Mr. Oldham adds, stone slab floors, where the proper material can be procured with a moderate amount of carriage, and at a fairly reasonable rate, will prove much more durable, economical, and more cleanly in every respect. Slates are occasionally brought down from the Himalayas and will be so more frequently as the roads are improved and the quarries worked more cheaply; they are of excellent quality. Slates from the Dalhousie quarries are deemed medicine by natives, and called Sang-i-Musa, "Moses' stone." These slates are the products of the hilly tracts of the Sonah, Pali and Firozpur pergunnahs of the Gurgaon district.—*Powell's Hand-book, Econ. Prod., Punjab, p.* 38; *McCulloch's Com. Dict., p.* 1042; *Dr. Oldham's Report on Kurnool Slates.*

SLATE-PENCIL, writing-slates, and the slate-pencil for writing on them are imported into the East Indies from Europe. The materials used in the Indies in lieu of writing-slates are slabs of wood, and thick slabs of paper, for which pencils of soapstone are used. In Cuttack, "kharee" is used for the manufacture of pencils and balls, for writing on the ground or floor, in all rural schools, and by native accountants.—*Cat. Ex.* 1863.

SLAVE.

Das; Dasa,	Hind.	Pullukai,	Tam.
Ghulam,	Hind., Pers.		

Slavery, in one form or other exists throughout the East Indies; Okkalu Jamadalu. In Coorg is a predial slave attached to the revenue-lands. They are the personal property of the proprietors and may be sold or mortgaged at pleasure. The Bhumi Jamadalu slaves are attached to the land and transferable with it.

The Badava-hrita, is a man who becomes a slave that he may marry a female slave in the family. By the custom of the mahomedan countries, a servant marrying a slave becomes also a slave. Slave-dealing, from immemorial times has been practised in the northern provinces of Persia. Among all nations, slavery, with its accompanying horrors, was the lot of a weaker neighbour; but even in the case of an enemy conquered in battle, it was by the Egyptians sometimes allowed to stand in place of the more triumphant cruelty of slaughter. The Israelites had learned the evils of slavery, from having groaned under it themselves; and they forbad it in every possible case. Exodus, xxi, 16: 'He that stealeth a man,' says the Law, 'or selleth a man, or hath one found on his hands, shall be put to death.' Nevertheless, slavery was a recognizant condition amongst the Hebrew races, as may be observed from reading Matthew xviii, 25, where the Lord Jesus illustrated his sermon by the remark that as he had not to pay, his lord commanded him to be sold, and his wife and children, and all that he had, and payment to be made. The hindoo law recognises 15 kinds of slaves:—1. Grihajata, the child of a female slave; 2. Krita or purchased; 3. Labdha or gifted; 4. Dayadupagata or inherited; 5. Anakalabhrita, taken in time of famine; 6. Ahita, pledged; 7. Rinadasa, voluntarily a slave in payment of a debt; 8. Yuddprapta, taken in a war; 9. Panejita, won in a wager; 10. Tavavaham, voluntarily; 11. Pravarajyavasita, an apostate; 12. Krito, voluntarily for a time; 13. Bhakta-dasa, a slave for his food; 14. Varavahrita, one who by marrying a female slave, becomes a slave; 15. Atmani krayi, one who sells himself as a slave.

In Malabar the Kanakan or Kanaka charma are predial slaves, supposed to be a sub-division of the Palayar.

Charumar are predial slaves whose name Wilson derives from 'Chera" Malyalam, the soil. They follow 'the rule of Maruma-katayam. They are very diminutive with a very black complexion and not unfrequently woolly hair.

The Mukkavan is a fisherman caste of Malabar, also called Makwa and their women Makoti.

The Toddy-drawer of Malabar is called Katti Karan.

The Ashary, in Malabar, is the carpenter caste. In common with the brass-founder, gold and iron-smiths, they there continue the practice of polyandry, but in civil inheritance follow from father to son, and not the old Italian practice of maternal descent, descensus ab utero. The elder brother marries and the wife is common to all the brothers. If a junior wish to marry he must live apart and set up business apart, but if any of his younger brothers reside with him, his wife is common to them.

The Panui Malayan are a servile caste of Malabar.

The Adiyan of Malabar is a slave, serf or vassal who lives under the protection of a rajah or religious establishment.

The Mulayan of Malabar, seem to be the same as the Palayan.

The Nair are the ruling race of Malabar, they profess to be sudras. They were for-

merly accustomed to duelling. The practice was called Ankam, and hired champions were often substituted; they have many slaves.

The Pulichi is a forest tribe in Malabar, who are deemed so unclean that they are not allowed to approach other castes.

The Uradi or Urali of Malabar are a servile race.

The Tiyar race in Malabar are toddy-drawers and agriculturists.

The Pulayan or Pulian of Malabar is a servile caste, often slaves, and is doubtless identical with the Pullar.

A writer of the 17th century when noticing the races of Cochin says, the slave castes, the members of which belong to individual masters, are:—

The Cannekaa, who gather the cocoanuts;

The Bettoa, who make saltpans and collect the salt: these two are the most honourable of the slave castes;

The Pulleah who are again sub-divided into several classes: the Collamary or smiths; the Weltoe Caren, the Beltoe Pulleah, and the Canna Pulleah, whose occupation is agriculture, sowing, planting and cutting the Nely, for which they receive both from their proprietors and from strangers one sheaf out of every ten they cut. There was then a dispute between the Cannekaa and the Pulleah as to which is the higher caste; the first maintaining that their caste ranks first, whilst the Pulleah aver that they enjoy more privileges, as for instance that they may employ barbers, and may wear a fillet on their heads and a long garment reaching to the knees, which the Cannekaa may not do.

Alandadey, TAM. A class of slaves in the Tamil country.

Anakala bhrita, SANS. One of the fifteen kinds of slaves allowed by Hindoo Law: a man who has become a slave voluntarily, for the sake of sustenance at a season of famine.

Balute, in the Mahratta countries means the village officers, several of whom are predial slaves, as the Mahr Holeyar or Dher. The Chakili, or Chamar; the Talari; the Mang.

Badava hrita, is a female slave, also a man who becomes a slave that he may marry a female slave in the family.

Bandah, a mahomedan slave: Bandi, a slave girl.

Barda or *Burdu*, HIND., PERS. A slave.

Ana-kala-bhrita, is a person who has voluntarily become so, at a season of famine. In the Tamil countries about Chingleput the Alandadey are a class of slaves. The slaves of the Brahui are of two classes, negroes brought from Muskat, and the descendants of captives made in war, with the people of the western provinces of the country, as Kej, Turbat, &c.; some have, at various times, been brought from Cashmir and the eastern provinces of Persia. These, in colour and features, in no respect vary from their masters, and some of the females are remarkably handsome. They are better treated than their negro associates in bondage, and less onerous duties are assigned to them. Few of the negroes, and those only who are really useful, are even decently clad, and it is common for them so to multiply, that their masters, from inability to clothe and feed them, dismiss them to provide for themselves in other lands. Until the early part of the 19th century, Great Britain permitted her colonies to retain slaves, but from the efforts of Wilberforce, Clarkson and others, Britain then abolished slavery in her colonies as had already been done in the British Islands. Until after the middle of the 19th century, the United States of America held in slavery about five millions of the African races and their descendants of mixed blood, but the slave law was then changed after a civil war in which a multitude of men were slain. During the 19th century Britain made vast and costly efforts to suppress the slave trade from the West Coast of Africa, but till the year 1873 it continued in great force on the east side of Africa, principally carried on through Arabs and hindoo natives of India. Mathoordas Khetsee, a hindoo merchant of Zanzibar, who visited Europe and resided at Zanzibar and other slave-trafficking districts of Africa for a period of seven years for the purposes of trade, at the close of the year 1872, gave the following account in the 'Rast Goftar' of his experience of the slave-trade. "Kilva and the surrounding districts are the principal seats of the slave-trade. In Zanzibar and the neighbouring places the trade has been monopolized by Arabs, as British subjects are restrained there. Mozambique, Veeboo, and the Gooja territories being under the Portuguese rule, the trade flourishes in them. On the north, the trade is still moderately carried on between Burawa and Central Madagascar and down to Soffala. British influence has succeeded in making this trade a matter of risk. The traders proceed with strict secrecy into the interior of Africa to catch slaves. Ivory being a commodity commonly received on the coast and on the islands from the interior, these traders carry on the slave-trade under cover of the ivory trade. The inhabitants of India mostly Bhattia, Bunnia, Khoja, and Borah, had the greatest share in the slave-trade. Although Borah merchants are not known to be slave-traders, a large number of them reside at the principal towns. Vessels

from Bombay proceed by the coast near Burawa as far as Soffala. The native merchants go to Samoo, Mombasa, Zanzibar, Kilva, Queelowa, Mozambique, Madagascar, Soffala and Kurmani. In 1872 there were only from five to ten Khoja, about seventy-five Bhattia and a very large number of Damaun and Div Bunnia in Mozambique. Madagascar, called Bookin by the natives, contains about a thousand Borah and Koja. Up to 1872, they had their families with them. In Zanzibar and such other ports the number of the Bhattia, Bunnia, and Khoja, are nearly equal. There were about five Parsees in Zanzibar, about the same number in Mozambique, two or three in Veeboo, and one or two others here and there. They are all inhabitants of Damaun and Div. They put on Parsee dress, and although they appear not to have anything to do with slave-trade, they are strongly suspected of having some participation in it. The Cutchee Bunnia generally reside in Mombasa and Lamoo, while the Damaun, and Div Bunnia live in Mozambique and the southern territories. The vessels from Damaun and Div proceed direct to the African Coast with these merchants. These latter go there from their infancy and spend their lives in Africa. They live for about thirty to thirty-five years, collect money and return to their native country to get married. The Cutchee Bunnia and Bhattia also go to Africa without their wives or families, but they keep African mistresses with them in their houses. These women generally come from Bookin and other central towns of Africa, where they are to be had for a hundred or a hundred and fifty dollars. They have white skins and handsome complexions. At Zanzibar and other well-known places the merchants keep their mistresses concealed in their houses, but in smaller towns they take them out for a walk. In Mozambique, Veeboo, and other Portuguese towns, Portuguese women, and sometimes even European women, live with these hindoo merchants. The western coast of India has a close mercantile connexion with these places. Grey goods, sugar, ghee, wheat, spices, false pearls, utensils, and iron are the principal commodities imported into the coast towns of Africa by large native firms there. These firms correspond with hindoo and Khoja firms in Bombay. Parents send their children in their minority to Zanzibar to get an insight into the intricacies of trade. A poor person at first obtains a living of say 40 dlrs. a year as cook or menial in some firm. After some years he trades on his own account. An intelligent man who can read and write is more appreciated and gets better pay. Indian merchants have pushed in so far that not a single town is without at least one of them. From ten to twenty thousand slaves are said to pass yearly through Kilwa on their way to the various parts of the Sowahili and to Arabia. The hindoo races have been settled as traders on the east coast of Africa from the most ancient known times. When the Portuguese first doubled the Cape, they found Banya traders established at every great port, and it was from them that Vasco de Gama and his successors learned the secret of the easy approach to India, by the aid of the monsoons. They have held in their hands the trade of the east coast of Africa, and are still to be found as far south as Delagoa Bay. All the trade between that coast and Europe, America, or Asia, passes through the hands of some branch of the Banya community, purchasing goods wholesale from the European or American importer and selling them in retail for the interior. For many years, Dr. David Livingstone, a native of Scotland, devoted himself to travelling in the interior of eastern Africa, for geographical discoveries and to suppress the slave trade, and actuated with the same noble motives, Sir Samuel Baker moved southwards along the banks of the Nile river. Lord Brougham's Bill 5, George IV, c. 113, had made it felony for any subject of Great Britain to engage openly or secretly in the slave trade, and at the close of the year 1872, a party under the leadership of Sir Bartle Frere went to the east coast of Africa to put it down. The Zanzibar dominions there extend for 350 miles from the equator to ten degrees south latitude and include the islands of Momfia, Pemba and Zanzibar. The last is the seat of government, and is separated from the mainland by a channel about twenty-five miles wide. There is an internal traffic along the coast line from Zanzibar, but by far the greater portion of the traffic is with the coast of Arabia, a certain amount with Persia, and to a smaller extent with Madagascar. Nearly all the slave caravans come from the interior to the port of Kilwa, on the southern border of the Zanzibar dominions, where the slaves are embarked in dhows for the market in Zanzibar. These dhows are from 30 to 120 tons and carry from 100 to 250 slaves packed so extremely close, that many die in the voyage. In the year 1870, about 20,000 slaves were annually re-exported from Zanzibar. The watch of British cruisers, though unable to prevent, has made the trade hazardous and the slaves have been carried more secretly, with a corresponding increase of mortality, a whole shipload have died of small-pox, and as the dhows when chased are run ashore, many slaves are drowned. In April 1855 a treaty was entered into with the

Somali. The 4th Article, April 1855, runs thus:—"The traffic in slaves throughout the Habr Owel territories, including the port of Berbera, shall cease for ever; and any slave or slaves who, contrary to this engagement, shall be introduced into the said territories, shall be delivered up to the British, and the commander of any vessel of Her Majesty's or of the Honorable East India Company's Navy shall have the power of demanding the surrender of such slave or slaves, and of supporting the demand by force of arms, if necessary." The treaty itself was obtained from them under pressure of a blockade instituted in consequence of an outrage on Captain Burton's party, and the murder of Lieutenant Stroyan, and, when compared with similar agreements, made with other native tribes, it will be seen that powers equal to those exacted in this instance were never before demanded, or if demanded never conceded. Moreover, any person well-acquainted with the constitution of the Somali tribes knows full well that the ten elders who signed this treaty no more represented the aggregate of the people than any ten old men in Bombay, respected merely for their age and wisdom, could be justly regarded as a national representation of that island presidency. The 'Lady Canning' returned from Berbera on the 18th April 1869, bringing eighty liberated slaves from that place; mostly young boys of the Galla and other inland tribes. In all, upwards of 135 boys and girls were rescued in two trips of the 'Lady Canning,' and if the traffic is thus largely carried on only 120 miles from Aden, there can be no doubt that it flourishes with impunity along the more eastern and southern parts of the same coast. In the first instance, which occurred chiefly at Bunder Siyara, a number of slaves were known to be secreted on shore, and the elders refusing to surrender them, a shot from the steamer was fired wide of the fort, which soon led to their being brought and delivered up to Captain Playfair, the Assistant Political Resident, who directed the expedition. In the last instance a party of armed seamen from the 'Lady Canning' landed at the same place, and seized a herd of sheep and camels, which were detained as "hostages" (so they were described), until the slaves collected in the locality were given up to the commander of the steamer. One seizure made consisted mainly of marriageable Somali girls. Another seizure was of boys, and these were sent to Bombay. It got abroad among the natives of Aden that they are to be brought up as christians, make them Abyssinians, said a respectable mussulman, but they are Gallas, and the Gallas are not christians. Neither are they mahomedans." Two small screw steamers to watch the whole line of the opposite coast during the trading season, with power to search every native craft which left it, and each carrying a person competent to decide whether any of the individuals on board were bonâ fide slaves for a season or two might not prevent the transport of slaves from the interior to the coast; but there would be no buyers, and the market would soon cease to be supplied.

Through the depopulation of the line of the coast the slave trade has extended further and further inland till in 1870, slaves were being brought from the west of Lake Nyasa, on which the Arabs had dhows to carry their captives across traversing a distance of 500 miles, a three months' journey, during which the sick are left behind to die, and any hesitation is met with instant death. The Manyema, a cannibal nation, are constantly attacked by the Arab slave-traders. The Manyema are honest, industrious cultivators. Their women do not partake of the cannibal feasts, many of them, far down Lualba are very pretty, bathe three or four times a day and are expert divers for oysters. The men are fine tall fellows, not like negroes, they use long spears and are only conquered by the Arab fire-arms.

A firman issued in 1854 by the emperor of Turkey recognized "man as the most noble of all the creatures God has formed; in making him free, selling people is contrary to the will of the Sovereign Creator." The pasha of Egypt described slavery as "a horrible institution inconsistent with civilization and humanity, and therefore, it must be abolished." Six of the chief moollah of Persia delivered to the king their decision that "selling male and female slaves is an abomination; according to the most noble faith, the worst of men is the seller of men: God it is who knows," and the shah of Persia then issued a firman to the governor of Fars, and another to the governor of Ispahan and Persian Arabia, reciting, at the request of Great Britain, that "with a view to preserve the existing friendship between the two exalted States, a decree should be issued from the source of magnificence, the shah, that hereafter the importation of the negro tribes by sea, should be forbidden, and this traffic forbidden; pledging that no negro slave shall be imported in the vessels of the Persian government. Treaties to the same effect were concluded between the British government and the Arab chiefs, and with the imam of Muscat and the sultan of Zanzibar. The sultan of Muscat engaged to prohibit under the severest penalties, the export of slaves from his African dominions and their importation into

his dominions from any part of Africa and to use his influence with all the chiefs of Arabia, the Red Sea and the Persian Gulf, in like manner, to prevent the introduction of slaves from Africa into their respective territories: and he permits the seizure and confiscation by British cruisers of all vessels carrying slaves, except between the allowed limits of the internal trade in the port of Lamoo to the north of Keeluhu or Kilwa to the south." Lamoo has long been a centre of the African slave-trade, and, the former importers of slaves into British India were called the 'Lamau.'

The East African slave-trade by the year 1872, had depopulated much of the sea coast line. To the south of Pangani is the territory of the heathen Wasegua tribe and the great centre of the traffic. The Arabs of Zanzibar come here, and for muskets, powder and shot, purchase the slaves from the Wasegu chiefs. In the Netherland possessions in India, slavery was abolished about the middle of the 19th century. Slavery still exists in China, and in all the countries surrounding British India. In British India slavery is illegal, but there are many slaves in the feudatory States, and the non-hindoo races in many of the villages of British India, the pariah and tanner races are predial slaves. The Abid, is a slave, of which the mahomedan law recognizes only two kinds, viz., infidels made captive in war and their descendants: in practice, however, a title to slaves may be acquired by purchase, donation or inheritance. The Adavi slave of Canara is a serf, an unpaid labourer. The Tamil and Malealam Adima or Udima, means any slave; a predial slave attached hereditarily to the land and only transferrable with it. In Malabar, amongst the Nair, it means a feudal dependency.

The Malealam Adiyan, pl. Adiyar, is a slave, serf or vassal in Malabar, a low-caste man under the protection of a rajah or a religious establishment.—*Wilson's Glossary*; *Masson's Narrative*, *p.* 50; *Times of India*; *Dr. Livingstone*, *Mr. H. A. Fraser*, *Dr. Kraff*, *Col. Rigby*, *Mr. Allington*, *Rev. Horace Waller*, *Hon. C. Vivian*, *in the House of Commons Report*, 1872; *Sharpe's History of Egypt*, *Vol.* i, *p.* 84; *Vigne's a personal Narrative*, *p.* 145.

SLAVONIAN and Slavonic are terms applied to races and their languages now found in the east of Europe and all Turkestan eastwards to the China Sea. The Slavonian and Sarmatian dialects comprehend the languages of eastern Europe, Russian, Polish, Bohemian, and the dialects in the greater part of Europe subject to the Turkish empire. Of the Slavonic languages, properly, so called, the eastern branch comprehends the Russian with various local dialects; the Bulgarian and the Illyrian. It is one of the Aryan tongues.—*Muller's Lectures*, *pp.* 187-8. See India, Sanscrit.

SLEEMAN, Colonel, of the Bengal Service, was long Resident at Lucknow, having previously been Political Agent at Gwalior. He wrote Rambles and Recollections of an Indian Official, Lond., 1843, 2 Vols. 8vo. See Cal. Rev. of 1845, No. v.—*Dr. Buist.*

SLEEPERS for railways in India, are now of iron; wooden-sleepers utterly failed, their production bared the country, and their purchase impoverished the Companies. Iron-sleepers are a great success. Every wooden-sleeper on an Indian railway cost from three to four rupees, and required to be renewed every six years, and cost twelve and a half lakhs of rupees annually on the East India line alone. The difficulty of finding wood, at once cheap, durable and in sufficient quantity, led to experiments with iron sleepers, the rails being laid above iron supports like inverted saucers. The earliest railways in England were laid down on stone blocks by the Stephensons, but wood was soon found to be so much more elastic, that stone was not persevered with. Mr. Lackland, a civil engineer, took out a patent for certain improvements to the ordinary railway chair and to the rail joint, whereby that rail is held firmly in its position without the use of wooden keys.—*Friend of India, Oct.* 2.

SLEEPING HOUSES for the unmarried young men and girls, the lads apart and the lasses apart, are in use amongst the Bor and Bor Abor and others of the races in Assam, Sirgoojah and in the Eastern Archipelago. In Fiji there are two kinds; those in which the men sleep (Bure ni sa), and those dedicated to the gods (Bure kalow.) The sleeping bure may aptly be compared to the European clubs. In buildings or bure like these, all the male population, married, sleeps. The boys, until they have come of age, erect a bure of their own, often built on raised stages over the water, and approachable only by a long narrow trunk of a tree. The women and girls sleep at home, and it is quite against Fijian etiquette for a husband to take his night's repose anywhere except at one of the public bure of his town or village, though he will go to his family soon after dawn.—*Galton's Vacation Tourists*, *pp.* 253-4.

SLEINANACHD, Gaelic. The mahomedans in India often cast lots, and in Sind is a practice similar to that of the mountaineers of Scotland, called Sleinanachd, or, "reading the speal-bone," or the blade-bone of a shoulder of mutton. The poet Drayton alludes to the practice of this "divination strange" amongst

the "Dutch-made English," settled about Pembrokeshire, in his Polyalbion, Song 5. Camden notices the same superstition in Ireland.—*Richard F. Burtons' Sind, p.* 404; *Tod's Rajasthan, Vol.* i, *p.* 71.

SLENDER LEMUR, Eng. Loris gracilis, *Jerdon.*

SLEVOGTIA VERTICILLATA, *D. Don.* Syn. of Cicendia hyssopifolia, *Adams.*

SLIPPERS.

Juti; Jora,	Hind.	Papoos,	Tam.
Pai-posh,	Pers.	Supata,	Tam.

In Turkey, Egypt, amongst the Persians, and throughout British India, slippers are removed as a mark of respect just as the hat is in Europe. To enter a room with slippers on, would be like wearing one's hat in a London saloon. The Persians and all mahomedans and all hindoos always take off their boots or slippers when they enter into a mosque or temple, or visit the shrine of their holy men, the mahomedans giving as a reason, that Moses was commanded by God to leave his slippers on approaching the burning bush, because he was treading on holy ground: In Persia, a native never enters a room in boots or slippers; and when a foreigner attempts any transgression of this usage, it is looked upon as the height of ill-breeding, if not quite a premeditated insult. In some cases, where it has been intimated, reasons of policy have compelled an apparent toleration of the objection, by providing the expedient of receiving such visitors in the open air, but the necessity is always remembered with repugnance to the exactors. The custom of leaving the outward covering of the feet at the door, is of very ancient practice all over the east, and especially so, when the place to be trod on, is connected with any religious ideas. We find it recorded, so far back as in the book of Exodus, (iii, 5,) at the account of Moses turning aside to observe the burning bush where it is written: "The Lord called to him, and said, Put off thy shoes from off thy feet, for the place whereon thou standest is holy ground." And again, we read in the book of Joshua, that when that great captain of Israel was encamped in the plain of Gilgal, the same Divine Being appeared to him, and said to him also, "Loose thy shoe from off thy foot; for the place whereon thou standest is holy. And Joshua did so." These two notices of the custom, are selected on account of their antiquity, from many others which it is needless to add. In British India about A. D. 1850, the richer hindoos and mahomedans who visited amongst Europeans, began to wear patent leather shoes or boots to obviate the necessity of taking off their slippers, but at native Courts, and at their places of worship, the visitor enters either on his bare feet or on his stockings. It is a part of the customs of eastern races, from which they never deviate, amongst themselves. Similarly, no person changes his position without first shaking his raiment, and no man can quit the ground from which he has risen until he has, in the words of Nehemiah, "shook his lap," and thrown out the impurities he could not but have collected from his manner of sitting down. As the slippers are always left at the outer door, it is very common to strike them two or three times on the pavement before putting in the feet, and thus shake off the dust.

In the Zend Avesta itself there is nowhere any particular statement made regarding the propriety or impropriety of taking off the shoes, when entering a room. The word for 'shoe' is in Zend 'aothra,' and of comparatively rare occurrence in the sacred texts. In a vocabulary to the Zend texts, he found the words in the following passages only. In the Vendidad, fasgard 13, verse 39, the dog is said to have been created by Ahuramazda as "ga aothra, *i. e.*, having his own (natural) shoes on.

In the Aban Yasht, which is devoted to the praise of Anahit, the celestial water, this angel is said (in verses 64-78) to appear before her worshipper in the shape of a beautiful girl "aothropaitis mukhta," *i. e.*, having tied up her shoes. Paitis mukhta really means "tied up," and not "loosened," taken off, as some scholars perhaps might be inclined to explain, starting from the original meaning of the root "much" to shake off, to liberate, (whence comes the celebrated Sanscrit word "mukti," final liberation from re-birth, the everlasting bliss of the hindoos) is shown by the Vedic sister language (being nothing but another dialect of the Zend language). In the White Yajurveda (6, 8), we find in a formula recited up to this day by one of the sacrificial priests previously to carrying the sacrificial goat to the slaughter tva pacena pratimunchami, *i. e.*, I bind thee with a cord. The commentator to this passage informs us, that the root "much" "to loosen," if the preposition prati, (which is identical with paiti, paitis in Zend) is joined to it, means "to tie." In the Ram Yasht we find (verse 57) the angel Mino Ram invoked as Zaranyoaothrem, *i. e.*, having on golden shoes.

In the Aban Nyayish (the prayer, which the Parsees generally repeat at evening time when standing before the water) the dative plural (in the sense of an instrumental) aothrabyo "with shoes" occurs; but is very difficult to decide from the context which appears to be disturbed, as to whom this expression

refers, whether to the worshipper, or to the angel invoked. According to the present state of the text it is more advisable to refer it to the worshipper. The meaning then is, "I will worship Anahit with the shoes on."

From all these passages no other fact is to be established but the existence of the custom to wear shoes in ancient times, and to tie them with a cord or thread. Although we nowhere find direct precepts given as to the necessity to have always the shoes on, it is decidedly against the spirit of the Zoroastrian religion to walk barefooted, or even to appear, without having one's shoes on, before anybody. The reason is, that everything coming from the human body, like such as the breath, sweat, &c., is regarded as unclean, and polluting the pure elements. The priest, when standing before the sacred fire, must even cover his mouth with a cloth in order to prevent the pure element from becoming polluted by the breath. The earth is sacred, and regarded as an archangel who would be defiled by being touched with the naked foot.—*Burton's Scinde, Vol.* ii, *p.* 16 ; *Barron C. A. De Bode's Travels in Luristan and Arabistan, p.* 374 ; *Porter's Travels, Vol.* i, *pp.* 239-40 ; *Skinner's Overland Journey, Vol.* ii, *p.* 51 ; *Times of India, April* 24 ; *Essays by Dr. Martin Haug, Ph. D ,pp.* 170, 194.

SLIPPER PLANT, Euphorbia thymaloides.

SLOKA, a Sanscrit word, a couplet from a Shastra. A stanza or verse ; the Malays probably derived the term for their poetry styled "Shair" from the Arabs, and that of "Sloka" from the hindoos. The origin of the Malay word Pantun is not so easily decided from its name, one word used is Bar-beit which is from the Arabic bait, a couplet, but perhaps pantun itself is a Malayan word.—*Jour. Ind. Arch., Vol.* v, *No.* 11.

SLOTEN, Dut. Socks.

SLOTH BEAR, Eng. Ursus labiatus, *Blain, Bly., Ell.*

SLOTH OF MADRAS, Loris gracilis, *Jerdon.*

SLOW-PACED LEMUR, Eng. Nycticebus tardigradus, *Jerdon.*

SMADIKA, Sans. Boerhaavia diandria.

SMALT, Fr. Smalte.

SMALL ALOE, Eng. Aloe litoralis, *Kœn.*

SMALL DATE PALM, Phœnix farinifera, *W.*

SMALL FENNEL FLOWER, Nigella sativa, *W.*

SMALL FOX-BAT, Eng. Cyropterus marginatus, *Jerdon.*

SMALL-FRUITED DOLICHOS, Dolichos catjang, *W.*

SMALL-FRUITED KIDNEY BEAN, Phaseolus mungo, *Linn.*

SMALL HIMALAYA SQUIRREL, Sciurus maclellandi, *Horsf., Bly.*

SMALL-LEAVED ELM, Ulmus campestris, *L.*

SMALL-POX.

Mata ; Sitla, Hind. | Amoor, Tam., Tel.

Small-pox is regarded by the hindoos as a manifestation of the hindoo goddess called Devi, Mata and Sitla, who is supposed by them to be a form of Kali, the wife of Siva. In India as in Europe, the mortality from small-pox is great. By way of impressing the ravages of small-pox in the pre-Jennerian period on people's minds in a manner more picturesque than that of ordinary statistics, Dr. John Gairdner mentions the history of a few Royal Houses. Thus, of the 42 lineal descendants of Charles I of Great Britain, up to the date 1712, five were killed outright by small-pox—viz., his son Henry, Duke of Gloucester, and his daughter Mary, wife of the Prince of Orange and mother of William III ; and three of the children of James II—viz., Charles, Duke of Cambridge, in 1677 ; Mary, Queen of England, and wife of William III, in 1694; and the Princess Maria Louisa, in April 1712. This does not include, of course, severe attacks not fatal, such as those from which both Queen Anne and William III suffered. Of the immediate descendants of his contemporary, Louis XIV of France (who himself survived a severe attack of small-pox), five also died of it in the interval between 1711 and 1774—viz., his son Louis, the Dauphin of France, in April of 1711 ; Louis, Duke of Burgundy, son of the preceding, and also Dauphin, and the Dauphiness, his wife, in 1712 ; their son, the Duc de Bretagne, and Louis XV, the great-grandson of Louis XIV. Among other Royal deaths from small-pox in the same period were those of Joseph I, Emperor of Germany, in 1711 ; Peter II, Emperor of Russia, in 1730 ; Henry, Prince of Prussia, 1767 ; Maximilian Joseph, Elector of Bavaria, December 30, 1777.—*British Med. Journal.*

SMALL PURSLAIN, Portulaca oleracea, *H. S.*

SMALTE.

Smalt,	Fr.	Lasor,	Rus.
Schmalz,	Ger.	Esmalte, Azul-azur,	Sp.
Smalto azzurro, Smaltino,	It.		

An oxide of cobalt, melted with siliceous earth and potash. It is a sort of glass, of a beautiful deep blue colour ; and being ground very fine, is known by the name of azure or blue powder. It is in great demand for the painting of earthenware, in the colouring of paper, and for other purposes in the arts.

Smalt is principally manufactured in Germany and Norway. The Chinese use it for painting on porcelain and glazed copper vessels; the consumption, which was never very great, has fallen off, and the price declined the last few years.—*Morrison* ; *McCulloch's Com. Dict.*, *p.* 1051.

SMALTO, IT. Enamel.

SMALTO AZZURRO, also Smaltino, IT. Smalte.

SMARA, see Krishna.

SMARAGD, GER. Smaragdus, LAT. Emerald.

SMARTA, a sect of the brahman race of India, followers of Sancara Achari. They are generally called saivites, but are in fact free-thinkers, equally willing to adore Siva and Vishnu. Their creed may be found in the Mahabharata, the Bhagavat and the Ramayana, all of which are entirely rejected by the disciples of Basava. There are indeed, some few Siva brahmins who officiate as priests in the saiva temples, the Smartas refuse to receive the holy water and rice (tirtha prasad) from their hands. The Smarta sect regard Brahma and Vishnu, as manifestations of Siva, and Siva or Para-brahma, the supreme, or rather the universal, spirit, and they mark their forehead with three (sometimes only one) horizontal lines of pulverized sandalwood with a reddish or blackish round spot in the centre. Smarta brahmins never perform Chakrankitum or burning on the two arms.

SMART-WOOD, Liu CHIN., is the Polygonum amphibium, an acrid plant, with seeds acrid, emetic and stimulant: the seeds are applied to scald head and to wounds.

SMASAN, SANS.

Shudu-ka-du, TAM.	Smasbanam, rudra bhumi, SANS., TEL.
Smashanam, SANS., TAM., TEL.	

The place of incremation of the hindoo dead, the place where bodies are burnt; temples of Durga in some of her terrific forms are usually erected in or near it, and monuments of stone or brick are not unfrequently reared where the funeral pile has stood.—*Hind. Theat.*, *Vol.* ii, *p.* 55.

SMELLING SALTS, ENG. Carbonate of Ammonia.

SMERALDO, IT. Emerald.

SMERGLIO, also Smeregio, IT. Emery.

SMILACEÆ, *R. Br.* The Smilax tribe of plants comprise 11 gen., 61 sp., viz., 1 Trillium; 1 Paris; 1 Stretopus; 1 Smilacina; 9 Polygonatum; 27 Smilax; 4 Tupistra; 2 Stemona; 4 Teta; 10 Liriope; 1 Bulbospermum. They are found in all parts of the world, and species of Smilax are useful as medicinal plants.

SMILACINA, is a pot-herb growing in Tibet, north of Kinchinjunga. This beautiful plant grows from two to five feet high, and has plaited leaves and crowded panicles of white bell-shaped flowers, like those of its ally the lily of the valley, which it also resembles in its mucilaginous properties. It is called 'Choklibi,' and its young flower-heads sheathed in tender green leaves, form an excellent vegetable.—*Hooker's Him. Jour.*, *Vol.* ii, *p.* 47.

SMILAX, a genus of plants which gives its name to the natural order Smilaceæ. The name occurs in the Greek authors, Theophrastus and Dioscorides, but was applied to several different kinds of plants, as the yew-tree, a species of Phaseolus or Convolvulus Σμίλαξ τραχεῖα is Smilax aspera, which belongs to the present genus. The species form evergreen climbing shrubs, of which a few, as S. aspera, are found in temperate, but the majority in warm and tropical regions of both hemispheres, and extend south to Australia, and north to Japan, North America, and the south of Europe, those celebrated for yielding the different kinds of Sarza or Sarsaparilla are natives of South America. But S. aspera still continues to be employed for medicinal purposes in the south of Europe, where it is called Sarsaparilla italica. Smilax china, has a tuberous root abounding in fecula, and therefore probably useful as a demulcent, though the Chinese esteem it invigorating, and ascribe to it other virtues. It is remarkable that two Indian species, which, like the Chinese species, have tuberous roots, should be called in Sylhet Hurina-Shook-China and Gootea-Shook-China. These are Smilax glabra and S. lanceæfolia, and their roots cannot be distinguished from the China-root, or Chobchinee, as it is called in India. A similar species is common in the southern parts of North America, and has been called Smilax pseudo-China, though there is reason to believe that more than one species may be confounded under this name. S. glycyphylla is an Australian species, which has received its specific name from the sweetish taste of its leaves, and has been called Sweet Tea from its employment in the form of infusion, and is probably alterative and diaphoretic, as well as slightly tonic. It is probable that some of the species found in the Old World will be discovered to be possessed of virtues equal to the American species.

S. anceps, *Willde*, Mauritius.
S. bona-nox, *Linn.*, Carolina.
S. elegans, Dehra Dhoon.
S. glabra, *Roxb.*, Garrow Hills, Sylhet.
S. randifolia, *Linn.*, Concans, Dekhan, Bengal.
S. grandis, *Wall.*—?
S. herbacea, *Linn.*, North America.
S. lanceæfolia, *Roxb.*, Sylhet.

S. maculata, *Roxb.*, Nepal, Kumaon, Missuri.
S. ovalifolia, *Roxb.*, Concans, Bengal.
S. prolifera, „ Rajmahal, Bengal.
S. pseudo—China, *Linn.*, Virginia, Jamaica, Garrow Hills.
S. retusa, *Roxb.*, Bengal.
S. roxburghiana, *Wall.*, Garrow Mts., Khassya Mts.
S. sarsaparilla, *Linn.*, Virginia, introduced in India.
S. stipulacea, *Bojer*, Mauritius.
S. villandia, Morung Hills.
S. zeylanica, *Wight*, Ceylon.

Together with these may be noticed, S. Roxburghiana, or "Koomare shook China," and S. oxyphylla, or "Chotee or small koomaree ;" S. rigida and ferox, are Nepaulese species. S. elegans, extends to the Dehra Doon, and S. maculata is found in Nepaul, Kumaon, and Missourie. S. prolifera occurs very generally, and S. Villandia on the Morung hills. Dr. Royle also mentions a root sold in the bazaars under the name of Ashoba mugrabee. This is translated sarsaparilla in dictionaries, and the root much resembles that drug. Its origin is unknown. The natives of India use the roots of the S. glabra in venereal and leprous ulcers, and they also employ the S. lanceæfolia very extensively for the same purpose, and in the treatment of rheumatism. Both these species deserve attentive examination. It seems, however, that the Ununtamol (Hemidesmus indicus) is likely to supersede all the varieties of sarsaparilla not only in Indian but in European practice. There are two or more species of smilax in Tenasserim jungles, one of which is used by the natives as medicine, to supply the place of a species of sarsaparilla, whose dried roots are sold in the bazaars. —*O'Shaughnessy, pp.* 645-46 ; *Eng. Cyc., Dr. Mason.*

SMILAX ASPERA, syn. of Hemidesmus indicus, *Rheede, R. Brown, W. Ic. contr.*

SMILAX CHINESIS, *Linn., Ains.*

Smilax china, *Linn.*

Shook-china,	BENG.	Rasna, Sugandamula,	SANS.
Tsein-apho-ta-roup,	BURM.	China-alla,	SINGH.
Tu-fu-ling,	CHIN.	Poringay,	TAM.
China root,	ENG.	Gali chakka,	TEL.
Chinese smilax,	„	Pirangi chakka,	„
Chob chini,	HIND.		

Dr. Smith, in his Chinese Materia Medica, applies the above Burmese and Chinese names to the tuberous root of Pacbyma cocos.

The Roots.

Shook-china,	BENG.	Chob-chinee,	HIND.

Grows wild in China, from which it is exported to Burmah and to India ; the rhizome is hard, large, woody, knotty, brown or blackish externally, white in substance. The root is one of the China roots of the bazaars, it is much, and it is believed advantageously, employed as a substitute for sarsaparilla. It is largely imported into Calcutta from the eastward, and much employed by native practitioners. The China root which comes to Ajmere viâ Bombay : is a largish, insipid, whitish root, in slices : is taken as restorative and aphrodisiac in milk, one tola is a dose : used also in mesalihs : one seer costs two rupees. Natives suppose that this is the root of the "hazari," marygold Tagetes erecta, after being in the ground three years.—*O'Shaughnessy, p.* 645 ; *Gen. Med. Top., p.* 131 ; *Smith, p.* 198. See Sarsaparilla.

SMILAX GLABRA, *Roxb.*

Gooteea shook China, BENG.

A climber with a large tuberous rhizome, a native of Sylhet, the Garrow Hills and the adjacent country. The stem and branches are thornless, leaves lanceolate, pointed, pale green beneath. Flowers umbellate, axillary, sessile and solitary. The root is identical in appearance with the China root of commerce. The natives use the large tuberous fresh root in decoction for the cure of sores and syphilitic eruptions.—*O'Shaughnessy, p.* 645.

SMILAX LANCEÆFOLIA, *Roxb.*, not S. lanceolata, *Wall and Loureir.*

Hurria shook China, BENG.

Much resembles the former, the leaves are lance-shaped and three-nerved, umbels stalked. Its large tuberous roots are much used by the natives of India, in medicine.—*O'Shaughnessy.*

SMILAX OVALIFOLIA. *Roxb., W. Ic.*

Koomarika,	BENG.	Konda tamara,	TEL.
Ku-ku,	BURM.	Kistapatamara,	„
Wild sarsaparilla,	ENG.	Konda gurava tige,	„
Kari vilandi	MALEAL.	Kummara baddu,	„
Krin koddy nar,	TAM.	Konda dantena,	„
Sitapa chettu,	TEL.		

A plant of Bengal and the Concans, used for tying bundles ; is indigenous at Dapoorie, and possesses perhaps the virtues of the genuine sarsaparilla.—*Mason* ; *Spry's Suggestion, p.* 68.

SMILAX PAPYRACEA, S. Pseudo-China, S. Syphilitica, S. Sarsaparilla, see Sarasaparilla.

SMIRGEL, GER. Emery.

SMIRIS, LAT. Emery.

SMITH, Colonel W. Baird, an officer first of the Madras, and subsequently of the Bengal Engineers. He established a Museum of Economic Geology for N. W. Provinces, of which see Bl. As. Trans., 1841, Vol. x, p. 779.—Was author of Memoir on Indian Earthquakes, Ibid, 1841 and 43 ; and Edin. New. Phil. Jl., 1842, Vol. xxxiv, p. 107.—Wrote an account of the delta of the Ganges, Cal. Jl. Nat. Hist., Vol. iii.—And on the Irrigation of the N.W. Provinces, Pamphlet, 8vo., 1849.

SMITH, Lieut.-General Sir Harry George Wakelyn Smith, Bart., G.C.B., died 1860, at the age of seventy-two. He was born in 1788 at Whittlesea, in the Isle of Ely where

his father was a surgeon, he entered the army in 1805 as second-lieutenant in the Rifle Brigade, and took part in the siege, storming, and capture of Montevideo under General Sir Samuel Auchmuty, and in the attack on Buenos Ayres under Brigadier-General Crawfurd. He was also present at the capture of Copenhagen, under the Earl Cathcart, and afterwards employed in Spain under Sir John Moore, he took an active part in the leading engagements of the peninsular war, from the battle of Vimiera down to the embarkation of the troops at Corunna. Returning to the peninsula again in 1809, he took an active part in the action on the bridge of Coa, near Almeida, where he was severely wounded, and commanded a company in pursuit of Massena, from the lines of Lisbon, and in one or two subsequent engagements of lesser importance. Having been appointed brigade major to the 2nd light brigade in the Light Division, he was present at the battle of Fuentes d'Onor, and at the sieges and storming of Ciudad Rodrigo and Badajoz, the battles of Salamanca, Vittoria, Orthes, and Toulouse, and in several lesser engagements, indeed, in every important battle throughout the war, with the exception of Talavera. He was present at the capture of Washington under General Ross, where he was assistant adjutant-general. His next battlefield was New Orleans, whither he proceeded as military secretary under Sir Edward Pakenham, who fell in his arms mortally wounded. He was soon afterwards appointed military secretary to Sir John Lambert, under whom he took part in the siege and capture of Fort Bowyer. He acted as assistant quarter-master general to the sixth division of the army at Waterloo, next serving as Deputy Adjutant General successively at Halifax, Nova Scotia, and in the West Indies, whence he was transferred in 1827 to the Cape of Good Hope, and commanded a division under the late Sir B. D'Urban, throughout the operations against the Caffre tribes in 1834 and the following year. In 1839-40 he was appointed adjutant-general to the forces in India, and was present in that capacity at the battles of Gwalior and Maharajpore, for his gallantry in which action he was nominated a K.C.B. Subsequently he took a leading part in the Punjab campaign of 1845-6; he was in command of a division at Moodkee, and of the reserve at the battle of Ferozepore, where he nobly supported the late Sir John Littler in his charge upon the guns of the enemy. A few days later the Sikh forces, crossed the river Sutlej, near Loodianah, and took up their position at Aliwal. Lord Gough immediately despatched Sir Harry Smith, with 7,000 men and twenty-four guns to relieve Loodianah, and this object he succeeded in effecting. On the 28th of January 1846, Sir Harry Smith led the main charge in the battle of Aliwal, carrying that village at the point of the bayonet, and capturing all the enemy's guns, to the number of sixty-seven—a success which enabled him to come to the assistance of the Commander-in-chief, and to join in the final and crowning victory of Sobraon (February 10), which crushed the last hopes of the Sikh leaders and their troops, and secured the possession of the Punjab to the British forces. For his conduct on these occasions, Sir Harry Smith was highly commended in the despatches of Lord Gough, who attributed the victory of Aliwal mainly to his valour and judgment. The Earl of Ripon in the House of Lords, proposed the formal thanks of that House to Sir Harry Smith for his distinguished services in India, and it was supported by the testimony of the Duke of Wellington. At the same time Sir Harry was presented with the freedom of the city of London and the thanks of the Hon'ble East India Company, and not long afterwards was created baronet, and further rewarded by being advanced to the dignity of a G.C.B. He had not long returned to England when he was appointed to the colonelcy of the Rifle Brigade, and in September 1847, he was nominated to the Governorship of the Cape of Good Hope, together with the command of the forces in that colony. There he conducted with great ability all the operations of the Caffre war of 1851-2, until succeeded by Sir George Cathcart. In 1854 Sir Harry Smith was promoted to the rank of Lieut.-General, and in the same year was appointed to the military command of the northern and midland districts, which he held for the full term. He married in 1814, a Spanish lady, the Donna Juana Maria de los Dolores de Leon, by whom he had no issue; and the baronetcy became extinct by his death.

SMITH, Sir James Edward, author of Notes on Indian Plants in Rees' Cyclopædia.

SMITHIA SENSITIVA, *Ait., Roxb.*

Kul Kushanda, BENG. | Muyyaku ponna, TEL.

An annual with small yellow flowers, makes good hay.—*R. Brown.*

SMOLA GESTA, POL. Tar.

SMOLA-GUST AJA, RUS. Pitch.

SMOOTH-LEAVED HEART PEA, Cardiospermum halicacabum, *Linn.*

SMOR, DAN. Butter.

SMUT or Dust Brand, Uredo segetum, is a disease produced in wheat by a fungus, and is said to infect chaff, straw, seeds and leaves.—*Hassell.* See Siahi.

SMRITI, SANS. Is the body of the re-

corded or remembered hindoo law, the ceremonial and legal institutes of the hindoos, tradition, profane literature.—*Wils.*

SMRUTI, see Tidya.

SMRUTI CHANDRIKA, see Hindoo.

SMURU or Smara, SANS. From smree, to remember.

SMURU HURU or Smara Hara, SANS. From smara, Cupid, and rhee, to destroy.

SNAHUH, SANS. See Oil.

SNAKE.

Shie,	CHIN.	Ouph,	HEB.
Serpent,	ENG.	Afah,	"
Schlange,	GER.	Serpens,	LAT.
ἑϛπων,	GR.	Serpa,	SANS.
Ophis, οφις,	"	Ahe,	"
δϛακων,	"	Pambu,	TAM.
Python,	GR., LAT.		

Snakes or Serpents are alluded to in the most ancient of the writings and traditions of the world. They are very numerous in many parts in the south of Asia, admired but dreaded by many, but protected and worshipped by other, of the races. The colours of the backs of such as creep on the ground are generally of a brownish hue, much resembling the soil on which they move. The colours of the dendrophidæ or tree snakes are of various shades of green: so that, aided by their quiet gliding motion, snakes though numerous unless looked for are seldom seen by any person. But a search in the least promising places, will always produce to the naturalist some specimens. The backs of the water-snakes, the Hydridæ are also usually of a brownish colour, from which in the green sea-water or in that of quiet lakes or tanks they are detected as readily as the tree and land snakes escape observance. It has long been known that though the non-scientific world regard all snakes as poisonous and though many deaths do occur from snake bite, the numbers of poisonous snakes are not great. Of 43 species examined by Dr. Russell, only 7 were found with poison fangs, Dr. Davy in Ceylon, found 4 poisonous out of 20 species, and the fatal accidents which follow from bites are the results of the deadly character of the poison with which the poisonous kinds are provided. The difficulty of detecting and avoiding them is known to all. Amos, v. 19, says a man may flee from a lion and be met by a bear, but leaned his hand on the wall, and a serpent bit him. Snakes are very frequently found in old unplastered walls, built of bricks, and fatal accidents are not uncommon in such houses, as well as in those built only with mud. In the district of North Canara, in the Taluk of Cumpta, is a place called Naga Tirtha. There is a small well-built tank around which are small artificial caves containing thousands of serpent images. Throughout all the south of India south of the Vindhya mountains, the cobra snake is everywhere worshipped, both alive and as stone images and many stories are told by the people relating to their beliefs. Two guests, says an author, came once on a time to the house of a Shrawuk Waneeo. The master of the house was at the market, and his wife, after she had made her friends sit down, was obliged to go away to the well for water. While the guests sat waiting for the master of the house a large snake made its appearance. One of them jumped up and pinned it to the ground with a stick, while the other set to work to find a split bamboo, which people keep ready in their houses for securing snakes. Meanwhile the woman came back with the water, and seeing the snake pinned to the ground, cried out, 'let him go; let him go; he is our Poorwuj Dev; he used to get into my mother-in-law's head, and set her a-trembling, and then he would mention the name of my father-in-law, who died sometime ago, and say that it was he. He said also that his soul had been wrapped up in his property, on which account he had become a snake and was going to live in the house. One day he bit a neighbour of ours, and the Jutee came to cure the man. Poorwuj Dev then set the neighbour a-trembling, and said he had bitten him because he fought with his son, and that he would quit him when he got security that there should be no more quarrelling. In this way he quitted him. From that day forth if the snake go to our neighbours houses no one molests him. If at any time we were to set him down at a place twenty miles off he would come back to this very spot. He has often touched my foot, but he never bit me; and if I happen to be gone to draw water, and the child cries at home, he will rock him in his cradle. This I've seen him do many a time.' In this way she prevented their interfering with the snake, and, releasing him, paid him obeisance. The guest, too, who had seized him, took off his turban, and said, 'O! father snake, forgive my having pinned you to the earth. I am your child!' after a short time, a cat having killed the snake, the people of the house took the pieces of it and burned them on a pyre, offering, in fire-sacrifice, a cocoa-nut and sandal-wood, with clarified butter.' This was to perform the snakes funeral rites and it was customary till the end of the 19th century. A brahmin, having purchased premises in the ancient town of Dholka, set to work to make excavations for a new building, and, in so doing, came upon a subterranean chamber, which contained a great deal of property. There was, however, a large snake stationed there to protect the treasure, which snake ap-

peared to the brahmin by night in a dream, and said to him, 'this property is mine, and I live here for its protection; therefore you must not injure the chamber nor covet the treasure which it contains. If you do so, I will cut off all your posterity. In the morning, the brahmin poured a vessel of hot oil into the chamber, so that the snake died. He then destroyed the chamber, having first removed the treasure, and burned the body of the snake in due form in the yard of his house. With the treasure he had thus obtained he erected splendid buildings, but he never had a son, and his daughter remained childless, and whoever received any part of the property, or became his servant, or acted as his agent or as his family priest, was childless too. These things happened, it is said, about forty years ago. Similar stories are very common in Guzerat, and it is the general belief in India, that serpents are always to be found wherever a hoard is buried.

In Ceylon, the rat snake's domestication is encouraged by servants, in consideration of its services in destroying vermin. One day says Sir J. E. Tennent had an opportunity of surprising a snake that had just seized on a rat of this description, and of covering it suddenly with a glass shade, before it had time to swallow its prey. The serpent appeared stunned by its own capture, and allowed the rat to escape from its jaws, which cowered at one side of the glass in the most pitiable state of trembling terror. The two were left alone for some moments, and on his return to them the snake was as before in the same attitude of sullen stupor. On setting them at liberty, the rat bounded towards the nearest fence; but quick as lightning it was followed by its pursuer, which seized it before it could gain the hedge, through which he saw the snake glide with its victim in its jaws. In parts of the Central Province, of Ceylon, at Oovah and Bintenne, the house-rat is eaten as a common article of food. The Singhalese believe it and the mouse to be liable to hydrophobia.

The land snakes often enter the water of lakes and tanks and quest round their borders for frogs and other prey. The true sea snakes are seen around the coasts within soundings, a water snake (Hypotrophis jukesii), mentioned by Macgillivray as four feet two inches long, was caught several miles off the land at Keppell's island. Snakes breed in captivity. A Russell's Viper (Daboia elegans) which Dr. Shortt had kept for some seven weeks, measuring three and a half feet in length, on the 30th July 1872, produced thirty-nine young. Each little one measured eight and a half inches in length, and one out of these when about six hours old, in an experiment, killed in ten seconds a young partridge weighing nine and a half tolahs or 1710 grains. This proves how prolific these deadly snakes are. Snakes lay from 11 to 15 eggs, and, as a rule, all these perfect, but allowing for destruction by man and animals, nearly half the brood attain maturity. The Tangli snake of Assam causes much anxiety from its fierceness, a pair of them in possession of a bamboo clump in the rear of a house, kept the whole family in a state of great alarm for days. Unable to move about their house, but with the greatest precaution, they applied for relief, which was afforded by shooting the pair. The Tangli is quite as active in the water as on dry land. Whilst pursuing in a canoe over inundated ground, a large deer happened to pass, one of these snakes when first noticed, must have been at least thirty yards off, but raising his head, he made for the canoe with such velocity that though it was paddled by four strong men, it overtook the canoe and would inevitably have been aboard, if it had not been prevented by a shot. The Hydridæ or sea snakes are venomous. They appear to live on sea-weed. They lay their eggs on the shore and coil themselves up on the sand. They are found at sea all along the coast, within soundings, and their appearance always marks the approach to land. They are often thrown ashore by the surf and they are occasionally carried up rivers by the tide, but they cannot live in fresh-water. Fishermen greatly dread these snakes. The following genera and species occur in the south and east of Asia;

Pelamis bicolor, Pacific Ocean.
„ ornata, Borneo.
Lapemis curtus, Madras.
„ hardwickii, Borneo.
Aturia belcheri, N. Guinea.
„ ornata, Indian Seas.
Microcephalophis gracilis, kadel-nagam of Madras.
Enhydrina bengalensis, Madras.
„ valakadyen, Madras.
Hydrophis obscura, the sun shooter, Madras.
„ lindsayii, China.
„ fasciata, Indian Ocean.
„ nigrocincta, the kerril, Bengal.
„ doliata, the black-headed kerril, Austr.
„ subcincta, Shaw's chittul, Ind. Ocean.
„ sublævis, the chittul, China & Ind. Ocean.
„ mentalis, the pale chittul, Indian Ocean.
„ ocellata, the eyed chittul, Australian Seas.
„ spiralis, the shiddil, Indian Ocean.
„ subannulata, the ringed sea snake, India.
„ aspera, the rough sea snake, Singapore.
„ cærulescens, the bluish sea snake, Bengal
Chitulia inornata, Indian Ocean.
„ fasciata, Indian Ocean.
Kerilia jerdonii, the kerilia, Madras.
Hydrus major, the sea snake, India & Australia.
„ annulatus, the ringed sea snake, Singapore.
Tomogaster eydouxii, Indian Ocean.
Stephanohydra fusca, Juke's hypotrophis, Darnley.
Chersydrus annulatus, Madras.
„ granulata, the Madras chersydrus.

Acrochordus javanicus, Java.
Erpetonina erpeton,
„ tentaculus, the erpeton.
Cerberus cinereus, the karoo bokadam, India.
„ acutus, Borneo.
„ unicolor, Philippines.
„ australis, Australia.
Homalopsis buccata, Java.
„ hardwickii, India.
Phytolapsis punctata, India.
Tropidophis schistosus, the chittee, Ceylon.
Myron richardsonii, Australia.
„ trivittatus, India.
Hypsirhina plumbea, Borneo.
„ hardwickii, Penang.
„ Aer, the Ular Aer, Borneo.
„ bilineata, China.
„ chinensis, China.
„ benettii, China.
Fordonia leucobalia, Timor.
„ unicolor, Borneo.
Raclitia indica, India.
Miralia alternans, Java.
Xenodermus javanicus, the Gonionote, Java.

But, fortunately for the fishermen, who sometimes find them unexpectedly among the contents of their nets, sea snakes are unable, like other venomous serpents, to open the jaws widely, and in reality they rarely inflict a wound. Dr. Cantor believes, that they are blinded by the light when removed from their own element; and he adds that they become sluggish and speedily die. Those found near the coasts of Ceylon are generally small, from one to three feet in length, and apparently immature, and it is certain that the largest specimens taken in the Pacific do not attain to greater length than eight feet. In colour they are generally of a greenish-brown, in parts inclining to yellow, with occasionally cross bands of black. How numerous the reptiles of India are is well illustrated by a writer of "*Trifles from Ceylon,*" *in All the Year Round.* The centipedes, scorpions, a stranger in Ceylon soon learns to take it for granted that they may be found wherever there is shelter for them. Although, however, there are reptiles in almost every house, accidents are comparatively rare. I have been a good many years in Ceylon, and yet I have only once been bitten by a centipede. He fell on me while asleep in a bed without curtains, and nipped me in the arm. The pain was sharp for a time, but subsided before long. Some persons suffer agonies from the bite. A stiffish whip is the best thing to use, as it is pliable, and bends over a snake or other creature, while a stick can only touch them in one part. Every one can speak of some narrow escape. Twice, on nearly the same spot, did I drive over a deadly snake. It was near a coral wall at Point Pedro. One snake was a cobra, the other a tic polonga. My wife one day opened a drawer, and was going to put in her hand, when she saw a venomous snake lying coiled up in a basket. She remained quiet, and I despatched it with a stick. Some years previous, when still unmarried, she and another young lady, climbing about the rocks at Trincomalle, at a pic-nic, found their feet within the coils of a python, which they had inadvertently disturbed in his sleep. The narrowest escape I ever had was at Point Pedro, where I placed my foot on a cobra-de-capella, and actually stood on him for an instant, while I could hear him beating the ground with the rest of his body. After the house had been closed for the night, when I was going to bed, I saw a snake coiled up near a door. I went for a stick and despatched a cobra, between four and a half and five feet long. Evidently it had taken refuge within the house after I had trodden on him, and lay quiet behind the door. He had remained there without moving, while my wife and myself had been drinking some lemonade at a table within a few feet of where he lay. He had remained quiet and unnoticed when the servant shut the door, although he must have been exposed to light. And there he still was when my eye fell on him. The rat-snake, a harmless creature, very like the cobra, but without a hood, is a very active snake, and moves away with great rapidity. A house which we occupied a few months ago was much infested by snakes. Standing on the verandah one afternoon I saw a cobra deliberately move towards the house. Of course I at once put an end to him. Remembering what Sir Emerson Tennent says about snakes of this kind being generally found in couples, I was not surprised by the breathless announcement my little girl made on my return home some days afterwards. There was a fine banyan-tree in front of the house, into which the children used to climb and regale themselves with imaginary breakfasts—sumptuous curries of all kinds, sambals of delicious flavour, and other luxurious dishes, really made of gravel and served up in cocoanut shells. It appeared that as they were regaling themselves on one of these gorgeous repasts, Fanny had spied a cobra: on which they scrambled down the tree and alarmed the household, and the cook valiantly broke a door-bar over the cobra, and then dragged him by the tail out of a hole into which he was creeping ; after which he was (I suppose from the natural love cooks have for roasting and boiling) cast into the fire and burnt. His head was, however, raked out of the ashes, in corroboration of their story, and triumphantly shown me. A groom and his wife were sleeping in the stable of a friend of mine, when a cobra bit the woman

in the head. Probably the reptile had coiled himself near her for warmth, and the woman had, in her sleep, disturbed him. Immediately the man carried her into his master's house; but before she had been in the room five minutes, death ensued. I have seen snake-charmers bitten and have seen the snake stone applied, but there was no evidence of a satisfactory nature that the poison of that particular snake had not been extracted. I remember one evening striking with my shoe at a cockroach, and bringing it down within a few inches of a deadly snake which I had not before observed. Two men in the civil service of the island were out shooting together. A herd of deer were seen a short way off, and they commenced stalking them. One of the two, an old sportsman, wished to give his friend the first shot: so he whispered to him to advance first, while he followed a few paces in the rear. The foremost of the two, with eyes intently fixed on the deer, advanced on tiptoe. His friend behind, to his intense horror, saw him put down his foot exactly over one of the most deadly snakes in the island, as it lay across his path. It was too late to warn him; but providentially, walking as he did on tiptoe, he trod so that the heel did not press on the reptile; he passed on, and so, unknown to himself, escaped deadly danger. A Singhalese toddy-charmer was once bitten in the finger by a deadly snake; on which he laid the finger against a tree, raised his sharp bill-hook, and with one blow severed the finger from the hand. Snakes, remarks Viscountess Falkland, are really sensible to the charms of music. Educated snakes, who have been for some-time in the hands of a snake-charmer, are, of course, more susceptible than wild ones, and manifest their pleasure with less reserve, possibly, because they have become used to the musician's appearance, and are less inclined to try to escape, which would probably be the first impulse of the wild one. But all the family have naturally a taste for music, which may be proved by any one who has kept one of the harmless English snakes as a pet. The animal will always pay attention to any rather monotonous tune played on a flute or flageolet. This taste, by the way, is shared by many of the lizard tribe, by some pigeons, and very generally by hedgehogs; at least, she says, I have known three or four instances of it on the part of a hedgehog, kept in the lower story of a house, as an exterminator of blackbeetles and cockroaches. If after nightfall, when the hedgehog generally awakes and runs about in search of prey, he heard the sound of a violin or piano, he would always endeavour to make his way to the place whence the sound came, and if admitted into the room where the instrument was, he would stand entranced as long as the music continued. I mention this merely as a proof that several of the lower animals are attracted by music. But as regards Indian snakes, I have, she says, seen cases in which I had no room to doubt that the charmer, by his monotonous piping and drumming, did tempt really wild snakes from their hiding places. It is not often, however, that the charmer trusts entirely to his music. I have known them, when sent for to catch a large, and apparently very dangerous cobra, which had a hole in a dry stone wall, inconveniently near a gentleman's house, come provided with a tame cobra, whose fangs had been extracted. The cobra was carried in a bag, very cleverly concealed under the arm of one of the charmers. The musician commenced piping, and all the spectators naturally directed their attention to him. He walked along the wall, and when he got near the supposed hole, piped more vigorously than before, and directed his own eyes and those of the spectators to a particular spot. On a sudden his accomplice gave a loud cry, and on looking at him, he was seen on the ground, grasping the neck of a large cobra, which he appeared to have seized as it was in the act of issuing from a hole in the wall, and whose tail was twisting round the man's arms and body. The other charmers came to his aid, and the snake was at length duly deposited in a basket, and covered with a cloth The imposture was discovered by a gentleman who owned the house insisting on the shooting the snake. The charmers remonstrated, said ' it was their god, had come out in consequence of their invocations, and would, if killed, haunt and ruin them, &c. The gentleman was obstinate, but at last told the charmers he would spare their snake, if they confessed the cheat he suspected. This they did, and showed him the bag in which the reptile had been concealed under the arm of one of their number, and satisfied him that the snake was destitute of fangs, and must therefore have been previously caught, and deprived of his weapons of offence. There is no doubt, she says, that there are particular individuals who are very little obnoxious to snake bites; just as there are particular people whom bees will never sting. She learned two very decided and well authenticated instances of this. One was a half-witted boy of the wild tribe of Bheels, in Candeish. He was found by his relations playing with wild snakes, and had the power of attracting and taming them. He had numbers of all kinds of snakes in the jungle, near the hut where his parents lived, and these

snakes would come to him and allow them to handle them with impunity. After some months he began to be known to the people round about as a prodigy, but as the part of the country where he lived was very remote, it was long before his fame spread to any distance ; and soon after he had been heard of by the government officials, and official enquiry had been made to an extent sufficient to verify the main facts of the story, the poor boy was bitten by one of his favourites and died. The other case occurred in the Sattara territory, about twenty-five years ago (about A.D. 1815.) It was noised abroad that the son of a brahmin, not far from Waee, had the power of attracting the most venomous snakes and handling them with impunity. Numbers visited him, and seeing the story was true, spread his fame, and his relations finding that his reputation was likely to be profitable to them, added all sorts of marvels to the current tales. He was one of the promised avatars of the God Krishna, which are yet to come. He was to restore hindooism in its purity, and re-establish brahminical superiority in the Deccan. Thousands flocked to see him, and pay their respects, and bring oblations ; and so great was the excitement, that the raja of Sattara and the English government officials got alarmed. The poor boy, however, like the Candeish Bheel, was not permanently proof against snake bites, and was bitten and died just when his village had become the point to which every devotee in the Deccan was hastening, and the excitement subsided as quickly as it arose. In the Madras Presidency with about thirty millions of inhabitants, the deaths from snake bite in 1866 were 1,894, and in 1867, 1,810. It may be mentioned that a snake visiting a house is always looked on as a sign of luck ; and when a snake discovers how to get at the eggs and milk in the larder, no native will on any account, kill what he regards as the good genius of the house. The cobra or hooded snake, is often personified in Indian stories. In many parts of western India, after killing a cobra, the non-Aryan races give it all the honours of a cremation, assuring it, with many protestations that they are guiltless of its blood, that they slew it by order of their master, or that they had no other way to prevent its biting the chicken or the chickens. The possession of a poisonous salivary secretion is confined to a few kinds of snakes, and most of these are very rare. Out of the twenty-one families into which Indian snakes are at present divided, there are four families of venomous snakes. These twenty-one families include about 90 genera, of which 20 are venomous, but only 13 of these are land snakes. The species now number about 400, of which about 80 are venomous, but as 43 of these are sea snakes, we may reduce the proportion to 37 venomous land snakes, out of a total of about 360 species ; but by far the greater number of these are either very rare or confined to some particular part of the East Indies. All snakes have a long bifid tongue, which, usually retracted in a sheath below the windpipe, is capable of rapid and vibrating protrusion through a chink in the rostral shield ; it is moved by means of two long elastic bones extending along the greater part of its length in the form of a long V with the tongue rising perpendicularly from the angle of the V, muscles convert these bones into levers which jerk the tongue up and down with great celerity and freedom of play. This tongue is not peculiar to snakes; the large water lizards (Varanus) for instance have this bifid organ still more developed. Harmless snakes have a row of about six to sixteen teeth in each upper jaw, besides generally two rows of palate teeth. In the venomous kinds the maxillary teeth are generally replaced by a single tubular tooth of variable length, but hardly exceeding a quarter of an inch in an adult cobra, and half an inch in an adult chain-viper (Daboia elegans.) The often mentioned erection of the fang takes place to a very slight extent in the cobra, which is unprovided with any special erective apparatus ; the fang is always recurved backwards at an angle of about forty-five degrees and received into a depression in the lower lip. In some of the vipers there is a special erective muscle, but in every case the uncovering of the fang is a passive act as regards the snake, being effected by the gingival envelope being pushed up mechanically by the object bitten. The fang is at the anterior extremity of the upper jaw-bone while the poison gland is situated on the cheek behind the eye ; the poison on being ejected either by direct muscular action or by a reflex nervous action similar to that excited in the human mouth by the idea of eating lemon, proceeds along a duct which passes below the eye over the jaw-bone and terminates at the bottom of the gingival envelope of the fang, and just in front of the superior orifice of its canal. There is no continuity between the orifice of the poison duct and that of the poison fang. They are merely in opposition, and the poisonous salivary secretion is directed into the fang by the retraction of the gingival envelope round the fang in the act of biting. Every tooth in the snake's mouth, whether simple tooth or poison fang, is enveloped more or less in a gingival envelope which contains at its base the matrix of a

series of other teeth ; these young teeth are constantly growing, and the eldest of them periodically replaces the fixed tooth and becomes fixed until it is shed in its turn. This shedding is a gradual process compared to the shedding of the epidermis, but the two operations coincide in time and take place about once in two months. The common exceptions are the cobra, and the Bungarus. In India, the usual snake of the latter genus is Bungarus arcuatus, the white-arched bungarus ; it has a white belly from which pairs of white arches cross the black back. In Burmah this is replaced by Bungarus fasciatus, the yellow and black-banded bungarus ; it has alternate complete rings of black and yellow. The Hamadryad, Ophiophagus elaps, a member of the Elapidæ family, is extremely rare ; it resembles a huge cobra. This family is also distinguished from the rest of the shield-headed or harmless colubrine snakes by the absence of the loreal-shield, a small shield usually separating the antocular shield from the posterior nasal, so that there are but two shields instead of three between the eye and the nostril. The sea-snakes which have shielded heads are also an exceptional family, being all or nearly all venomous. They are known from other acquatic snakes by their perpendicularly flattened tail. A scaly head (that is, the crown covered with scales as on the rest of the body) is generally the sign of a poisonous snake. The scaly-headed snakes are usually vipers. The Viperidæ have usually a high flat head, very distinct at the neck and broad behind the jaws. They have long, more or less erectile fangs, with an erect pupil. The only one fatal to human life is the chain-viper, Daboia elegans, known by a triple chain of oval black links and an indistinct yellow on its head. The green tree viper, Trimesurus, is a short stout snake, very different in build from the long slender green tree-snake ; it is venomous in a very slight degree. As exceptions to these general remarks however, the Erycidæ and Acrochordidæ have also scaly heads ; a common sand snake, Eryx johnii, might possibly be mistaken for a viper, but its small head is very different from that of the vipers. It is a popular belief that the male and female cobra are very different in appearance. The origin of this error appears to be as follows : The Ptyas (mucosus or korros), dhaman in Hindustani, sarai or sara pamboo in Tamil, chera pamboo in Malayalum, lem-we in Burmese, is generally supposed by natives of the South of India and of Burmah, to unite with the cobra, producing a very venomous hybrid offspring, of doubtful identity ; hence it is frequently called the male cobra. Pytas, the dhaman, is indifferently known as the whip snake, the rat snake, the rock snake, in Madras ; whilst in Bengal the name rock snake is usually given to the Python. Any snake found near or in the water is usually called a water snake, from ignorance of the fact that nearly all snakes can swim and will readily take to the water if necessary. Indeed a snake which rejoices in the highly terrestrial name of Psammodynastes pulverulentus, the dusty king of the desert, was captured whilst it was swimming across the Rangoon lake. Also, if any word could be more inappropriate and deceptive than another, it is the term 'hood' as applied to the broad expansion produced by the elevation of the cervical ribs of Naga tripudians and Ophiophagus elaps. The native terms used to describe it, putum in Tamil and Malayalum, meaning a cloth, a picture, a map, and phun in Hindustani, both give an idea of breadth and expansion entirely wanting in the terms 'capella' and 'hood' ; So cautiously do serpents make their appearance that the surprise of persons long resident is invariably expressed at the rarity with which they are to be seen. Mr. Bennett, who resided much in the south-east of Ceylon, ascribes the rarity of serpents in the jungle to the abundance of the wild pea-fowl, whose partiality to young snakes renders them the chief destroyers of these reptiles. It is likely, too, that they are killed by the jungle-fowl ; for they are frequently eaten by the common barn-door-fowl in Ceylon. This is rendered the more probable by the fact, that in those districts where the extension of cultivation, and the visits of sportsmen, have reduced the numbers of the jungle-cocks and pea-fowl, snakes have perceptibly increased. The deer also are enemies of the snakes, and the natives who have had opportunities of watching their encounters assert that they have seen deer rush upon a serpent and crush it by leaping on it with all its four feet. As to the venomous powers of snakes, Dr. Davy, whose attention was carefully directed to the poisonous serpents of Ceylon, came to the conclusion that but four, out of twenty species examined by him, were venomous, and that of these only two (the tic-polonga (Daboia elegans, *Daud*) and cobra-de-capello), (Naja tripudians, *Merr.*) were capable of inflicting a wound likely to be fatal to man. The third is the carawala, (Tringonocephalus hypriale, *Merr.*) a brown snake of about two feet in length ; and for the fourth, in like manner, the tic-polonga, particularised by Dr. Davy, is said to be but one out of seven varieties of that formidable reptile. The word 'tic' means literally the 'spotted' polonga, from the superior clear-

ness of the markings on its scales. Another, the nidi, or 'sleeping' polonga, is so called from the fact that a person bitten by it is soon prostrated by a lethargy from which he never awakes. These formidable serpents so infested the official residence of the District Judge of Trincomallee in 1858, as to compel his family to abandon it. In another instance, a friend of Sir J. E. Tennent going hastily to take a supply of wafers from an open tin case which stood in his office, drew back his hand, on finding the box occupied by a tic-polonga coiled within it. During Tennent's residence in Ceylon, he never heard of the death of a European which had been caused by the bite of a snake; and in the returns of coroner's inquests made officially to his department, such accidents to the natives appear chiefly to have happened at night, when the animal, having been surprised or trodden on, inflicted the wound in self-defence. For these reasons the Singhalese, as indeed the natives of all India, when obliged to leave their houses in the dark, carry a stick with a loose ring, the noise of which as they strike it on the ground is sufficient to warn the snakes to leave their path.

There is a belief in Ceylon that the bite of the rat-snake, *Coryphodon blumenbachii*, though harmless to man, is fatal to black cattle. The Singhalese add that it would be equally so to man were the wound to be touched by cowdung. Wolf, in the interesting story of his Life and Adventures in Ceylon, mentions that rat-snakes were often so domesticated by the natives as to feed at their table. He says: "I once saw an example of this in the house of a native. It being meal-time, he called his snake, which immediately came forth from the roof under which he and I were sitting. He gave it victuals from his own dish, which the snake took of itself from off a fig-leaf that was laid for it, and ate along with its host. When it had eaten its fill, he gave it a kiss, and bade it go to its hole." Major Skinner, writing to Sir J. E. Tennent on 12th December 1858, mentions the still more remarkable cause of the domestication of the cobra-de-capella in Ceylon: "Did you ever hear," he says, "of tame cobras being kept and domesticated about a house, going in and out at pleasure, and in common with the rest of the inmates? In one family, near Negombo, cobras are kept as protectors, in the place of dogs, by a wealthy man who has always large sums of money in his house. But this is not a solitary case of the kind. I heard of it only the other day, but from undoubtedly good authority. The snakes glide about the house, a terror to thieves, but never attempting to harm the inmates. The Egyptian juggler is said to take up in his hands the Naga or small viper, and pressing a finger on the nape of its neck, puts it into a catalepsy, which makes it motionless and stiff like a rod; and when it regains its power of motion, the cheated by-standers fancy that the magician's rod has been changed into a serpent.

Snakes cast their skins periodically, and the Chinese and hindoo physicians use the skins medicinally. Snakes are said to avoid the fennel plant as well as all places where the fennel seed (Nigella sativa) is strewed. —*Macgillivray's Voyage, Vol.* i, *p.* 66; *Madras Mail, August* 2, 1872; *McCulloch's Records, G. I. F. D., pp.* 31-2; *Eng. Cyc.*; *Tennent's Sketches of the Natural History of Ceylon, pp.* 311, 395-99; *Sharpe's History of Egypt, Vol.* i, *p.* 59; *Ward's View of the Hindoos, Vol.* ii, *Tod's Rajasthan, Vol.* i, *p.* 535; *Forbes Rasamala*; *Davy's account of Ceylon, Ch.* xiv; *Once a Week.* See Serpents.

SNAKE BITE. Dr. Shortt, M.D., a medical officer of the Madras Army recommends Liquor Potassæ internally, for the cure of persons wounded by poisonous snakes and several persons have recovered with whom it was used. Surgeon J. Fayrer of the Bengal Army recommends Liquor Ammoniæ. In the year 1866, so many as 1,894 persons died from snake bite in the Madras Presidency, and in 1867 the deaths were 1,810; all stimulants are useful, spirits and the essential oils of cinnamon, peppermint, &c.

SNAKE EATER, Capra megaceros, *Hutton.*

SNAKE GOURD, Trichosanthes anguina, a curious contorted gourd, peculiar to India, and in very general demand for vegetable curries. The plant is of easy culture on trellises around the doors of the native cabins, and the fruit often grows two feet long, beautifully striped, small, and tapering, so that streaming down from the trellis, they immediately remind one of striped snakes suspended from the foliage of trees.—*Mason.*

SNAKE FRUIT, Eleagnus conferta.

SNAKE RACE. The Snake race, or the Takshac race, was one of the most extensive and earliest of Higher Asia, and celebrated in all its extent, and the Ramayana relates that the sacrificial horse was stolen by "a serpent (Takshac) assuming the form of Ananta." The snake race of India, were the foes of the Pandu. The Mahabharat records constant war from ancient times amongst the children of Surya (the sun), and the Tak or Takshac (serpent) races, and mentions that the horse of the sun, liberated preparatory to sacrifice, by the father of Rama, was seized by the Takshac, literally rendered, the snake. The

successor of Janmejaya carried war into the seats of this Tak or serpent race, and is said to have sacrificed 20,000 of them in revenge; but although it is specifically stated that he subsequently compelled them to sign tributary engagements (penameh), the brahmins have nevertheless distorted a plain historical fact by a literal and puerile interpretation. The Paratacæ (Mountain Tak) of Alexander were doubtless of this race, as was his ally Taxiles, which appellation was titular as he was called Omphis till his father's death. It is even probable that this name is the Greek, in which they recognized the tribe of the Tak or Snake. Taxiles may be compounded of *es*, 'lord or chief,' silla, 'rock or mountain,' and Tak, 'lord of the mountain Tak,' whose capital was in the range west of the Indus. We are indebted to the emperor Baber for the exact position of the capital of this celebrated race, which he passed on his route of conquest. We have, however, an intermediate notice of it between Alexander and Baber, in the early history of the Yadu Bhatti, who came in conflict with the Tak on their expulsion from Zabulist'han and settlement in the Punjab. How soon after the flood, the Surya, or sun-worshippers, entered India proper, must ever remain uncertain. It is certain that they were anterior in date to the Indu races who trace their descent from the moon (Ind); as the migration of the latter from the central lands of Indo-Scythia was antecedent to that of the Agnicula, or fire-worshippers, of the snake race, claiming Takshac as their original progenitor. The Surya, who migrated both to the east and west, as population became redundant in these fertile regions, may be considered the Celtic, as the Indo-Getæ may be accounted the Gothic, races of India. To attempt to discriminate these different races, and mark the shades which once separated them, would be fruitless; but the observer of ancient customs may, with the imperfect guidance of peculiar rites, discover things, and even names, totally incongruous with the brahminical system, and which could never have originated within the Indus or Uttuc, the Rubicon of Gangetic antiquarians, who fear to look beyond that stream for the origin of tribes. The Sauromatia, or Sarmatians of early Europe, as well as the Syrians, were most probably colonies of the same Suryavansi, who simultaneously peopled the shores of the Caspian and Mediterranean, and the banks of the Indus and Ganges. Many of the tribes described by Strabo as dwelling around the Caspian, are enumerated amongst the thirty-six royal races of India. One of these, the Sacaseni, supposed to be the ancestors of the Saxon race, settled themselves on the Araxes in Armenia, adjoining Albania.—*Tod's Rajasthan, Vol. i, pp.* 536, 556-58, 580-81.

SNAKE ROOT. Polygala senega.

SNAKE'S HEAD LILY, Amaryllis frittilaria.

SNAKE-STONE.

Pambu kallu, TAM.

Snake stone is a term employed in tropical countries to various absorbent substances applied to snake bites. That in use in Ceylon, is charred bone. The bezoar and magnesian limestones, and chalk are also used. The virtues of these depend on their absorbent qualities, and earth has been recommended. Dr. Davy's belief was that a piece of charred bone is filled with blood perhaps several times, and then carefully charred again. Evidence of this is afforded, as well by the apertures of cells or tubes on its surface as by the fact that it yields and breaks under pressure, and exhibits an organic structure within. Dr. Davy, on the authority of Sir Alexander Johnston, says the manufacture of them is a lucrative trade, carried on by the monks of Manilla, who supply the merchants of India, and his analysis confirms that of Mr. Faraday. Thunberg was shown the snake stone used by the boers at the Cape in 1772, which was imported for them "from the Indies, especially from Malabar," at so high a price that few of the farmers could afford to possess themselves of it; he describes it as convex on one side, black, and so porous that "when thrown into water, it caused bubbles to rise;" and hence, by its absorbent qualities, it served, if speedily applied, to extract the poison from the wound. Mr. Hardy furnished Sir J. E. Tennent with an account of the piedra ponsona, the snake-stone of Mexico:—"Take a piece of hartshorn of any convenient size and shape; cover it well round with grass or hay, enclose both in a thin piece of sheet copper well wrapped round them, and place the parcel in a charcoal fire till the bone is sufficiently charred. When cold, remove the calcined horn from its envelope, when it will be ready for immediate use. In this state it will resemble a solid black fibrous substance, of the same shape and size as before it was subjected to this treatment. The wound being slightly punctured, apply the bone to the opening, to which it will adhere firmly for the space of two minutes; and when it falls, it should be received into a basin of water. It should then be dried in a cloth, and again applied to the wound. But it will not adhere longer than about one minute. In like manner it may be applied a third time; but now it will fall almost immediately, and nothing will cause it to adhere any more.

SNAKE-WORSHIP. In all mythological language the snake is an emblem of immortality ; its endless figure, when its tail is inserted in its mouth, and the annual renewal of its skin and vigour, afford symbols of continued youth and eternity, and its supposed medicinal or life-preserving qualities may also have contributed to the fabled honours of the serpent tribe. In hindoo mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. Ingenious and learned authors attribute this universality of serpent forms to the early and all-pervading prevalence of sin. The allegories of sin and death, and the end of their empire, contain allusions to the christian dispensation in the traditions of the hindoos. Krishna crushing, but not destroying the type of sin, has been largely discussed. Garuda, the vahan of the hindoo god Vishnu, is also the proverbial but not the utter, destroyer, for he spared one, they and their archotype being, in reference to created beings, eternal. His continual and destined state of warfare with the serpent, a shape mostly assumed by the enemies of the virtuous incarnations or deified heroes of the hindoos, has been supposed to be a continued allegory of the conflicts between vice and virtue so infinitely personified. In this view, Garuda, appears the coadjutor of all virtuous sin-subduing efforts, as the vehicle of the chastening and triumphant party, and conveys him on the wings of the winds, to the regions of eternal day. But, the accepted explanation of the traditions of the Garuda and his victories over the snakes, is that Garuda is the type of the religion of Vishnu and the snakes alluded to are the naga, or snake-race who followed the budd'hist faith of Sakya Muni. There is ample reason to believe that at one time the ophite or snake-worship extended all over India ; and everywhere throughout the peninsula and Ceylon snakes are to this day worshipped. In the holy books of the hindoos, the destruction of the entire serpent-race by the rajah Janamejaya, the son of Paricshit, is chronicled as a historical event, but probably it is merely a typical and emblematical shadowing forth of the actual fact, *i. e.*, that the faith of the Vedas was founded on the ruins of the original and local superstition of the Nagas, when Janamejaya subverted the ancient Ophite worship. At all events, there is no doubt whatever that this singular superstition existed originally in Cashmere, as snakes and snake-deities play an important part in the legendary history of the valley. Abul Fazl (alluding to an epoch about 350 or 400 years B.C.) mentions "that there are seven hundred places where carved snakes are worshipped in in the province," and up to the close of the 19th century, in every town in the south of India the cobra snake, both alive and in the form of carved images is worshipped. The hindoo races worship three classes of deities, the gramma devata or village god ; the kula devata or household god, and the ista devata; the personal or patron god. Snake-worship is general throughout peninsular India, both of the sculptured form and of the living creature. The sculpture is invariably of the form of the Nag or Cobra, and almost every hamlet has its serpent deity. Sometimes this is a single snake, the hood of the cobra being spread open. Occasionally, the sculptured figures are nine in number, and this form is called "nao-nag," and is intended to represent a parent snake and eight of its young, but the prevailing form is that of two snakes twining in the manner of the Esculapian rod. Some hindoos who have been educated in the schools established by the British hold that the living snake is not worshipped as a devata, by any hindoo sect, but is reverenced in commemoration of some ancient event. Others however maintain that it is as a devata, the snake is worshipped. But whatever be the origin of the adoration, the living snake is worshipped everywhere throughout Southern India. On these occasions, the worshippers resort to the snake's residence, called in Urdu the samp-ki-hut, which they ornament with streaks of vermillion, and daubs of turmeric and of wheat flour mixed with sugar, and they hang garlands of flowers near, strung on white cotton thread and placed over wooden frames. Also, in the month Sravan, which occurs in the rainy season, the nag-panchami festival occurs, on which hindoos go in search of snakes or have them brought to their houses by the "Sampeli," the snake-charmers, who snare them. The snakes are then worshipped and offerings are made to them of milk, and nearly in every house are figures of snakes drawn on wood or on paper, and these are fixed on the walls and worshipped. Those who visit the snakes' hut, plant sticks around the aperture and wind white cotton thread around and over the sticks. The Mahratta women go a number together to the snakes' "hut," and, joining hands for five times, circle round and round it, singing songs, praying for their desires and then prostrating themselves. Alike in the several Vihara and the Chaitya at Adjunta, are sculptured figures of snakes. The gramma devata of Assaye, where Sir Arthur Wellesley defeated the Mahrattas, is a figure of Hanuman with a lingam, and the Nanda, or Basava,

the vahan bull of Saiva and the tulsi plant growing near, but on its western wall, a cobra snake is sketched, in white colours, in the wavy form which snakes assume when moving on the ground. The worshippers believe that it is travelling to Lanka (Ceylon), but they smiled on it being remarked to them that it would be a long time on its journey. Figures of the cobra snake are often drawn on paper and in sculpture with the hood spread, like a canopy over the lingam, the emblem of Saiva or Mahadeo; and this deity is often represented sitting on a tiger skin with a cobra snake wound around his head. Vishnu, in his prolonged sleep, while passing from one avatar to another, is shaded by the canopy of a cobra's head. Saiva is fabled to have drank up the poison produced in the churning of the ocean, and, in his agony, to cool himself to have wrapped snakes around his neck.

In Southern India, the deity under whose name the snake is worshipped is Subramani, whose shrine is said to be in the western part of Mysore, and the image there is described as a shapeless lump of earth. The editor has only once seen living snakes in the form of the Esculapian rod. It was at Ahmednuggur, in 1841, in a clear moonlight night. They dropped into the garden, from over the thatched roof of the house, and stood erect on their tails. They were all cobras, and no one could have seen them without at once recognising that they were in congress. Captain Havelock, to whom the editor showed these remarks, mentioned in reply that he once in broad day-light, in the jungles, saw pythons in the attitudes here described, in the singular form of the Esculapian rod, but many natives of India mention having seen this sight and recognise it as the serpent's "Laq." Natives of India believe that it is most fortunate to witness snakes so engaged, and that if they can throw a cloth at the pair to touch them with it, the cloth becomes a representative form of Lakshmi, of the highest virtue, and is taken home to their houses and preserved as such. No hindoo ordinarily will kill a snake but turns aside, on seeing it. Young men who have been educated at English schools, however, have no such great reserve, and a Mahratta brahman so educated, informed the editor that he had killed three of them. Snakes are kept in houses in Ceylon and Guzerat, partly, seemingly, as objects of worship and partly to destroy rats, but no similar practice prevails in the S. E. of the peninsula. In Guzerat no one will kill a snake but it is taken outside the town and released. Esculapius, amongst the Greeks and Romans, was the god to whom the care of medicine and health pertained. Esmun, the snake-god of the Phœnicians, is identified by Bunsen with the Egyptian Hermes, called Tet and Tanutes in Phœnician. Esmun Esculapius is strictly a Phœnician god. He was especially worshipped at Berytus. At Carthage, he was called the highest god, together with Astarte and Hercules. At Babylon, Bel corresponded with him. According to Jamblicus and the Hermetic books, the Egyptian name of Esculapius was Kameph. The Aswini-Kumara, the sons of Surya, amongst the hindoos, correspond with the western Greek and Roman Esculapius. The Esculapian Rod has been supposed by some to be the stem of a Bauhinia plant. It is more probably, however, the form that serpents assume when in congress and which is represented in every hindoo serpent shrine. The idea of the medicinal virtues of these snake forms is very old in India : a hindoo attacked by fever or other disease, makes a serpent of brass or clay, and performs certain ceremonies to its honour, in furtherance of his recovery. Such ceremonies are particularly efficacious when the moon is in the nakshatra (mansion, sign, or asterism,) called Sarpa, or the serpent ; called also Ashlesha. The snakes when in congress rise on the tips of their tails and approach each other not twining as represented in the esculapian rod, though, at a little distance, they seem to be twining. Mr. James Fergusson wrote on the 6th March 1868, acknowledging notes on snake-worship, which the Editor sent from Hingolee and Omraoti, which have since been published as appendix D to his work on Tree and Serpent-worship. In his letter he expresses his belief that serpent-worship mixed with buddhism must have prevailed all through the Nizam's country and Berar or rather Nagpore, from at least the 4th to the 10th or 12th centuries, and that there must be temples of the Ophite budd'hism still existing especially about Warangal and its neighbourhood. A great serpent is said to have been worshipped at Sumbulpore on the Mahanuddy ever since the world began. The snake-worship of the Tacshac travelled from Scythia to Cashmere and thence to Hindustan.—*Bunsen's Egypts place in Universal History, Vol.* iv, *pp.*256-7-9 ; *The Editor in Appendix D, of Fergusson's Tree and Serpent Worship* ; *Ras Mala Hindoo Annals, Vol.* ii, *pp.*389-90 ; *Adventures of a lady in Tartary, &c., by Mrs. Hervey, Vol.* iii, *pp.* 156-58 ; *Travels in the Interior of Mexico, published in* 1830, *R. W. H. Hardy, Bath,* 30*th January* 1860; *Tennent's Sketches of the Natural History of Ceylon, p.* 42, 317 ; *Thunberg, Vol.* i, *p.* 155. See Pandu, Surya.

SNAKE-WOOD, Letter or speckled wood, is the wood of Piratonera guianensis of South

America, also of the Strychnos colubrina of the E. Indies. A wood bearing this name is used at Demerara, Surinam, and along the banks of the Orinoko, for the bows of the Indians. The colour of the wood is red hazle, with numerous black spots and marks, which have been tortured into the resemblance of letters, or of the scales of the reptile; when fine it is very beautiful, but it is scarce in England, and chiefly used for walking sticks, which are expensive; the pieces that are from 2 to 6 inch diameter, are said to be the produce of large trees, from three to four times those diameters, the remainder being sap. Dr. Bancroft says, "Bourra courra, as it is called by the Indians, by the French Bois du lettre, and by the Dutch Lettre hout, is the heart of a tree growing 30 feet in height with many branches," &c. The *Canjica paise*, No. 64, in Mr. Morney's collection of Brazilian woods, is somewhat like snakewood, but less beautiful; it is much less red, and the marks are paler and larger. If not an accidental variety, the wood would be worth seeking. The above must not be confounded with the snake-wood of the West Indies and South America, the Cecropia, of which there are three species all furnishing trees of straight and tall growth, and a wood of very light structure, presenting sometimes distinct and hollow cells. The Balsas, or floats, used by the Indians of South America for fishing, &c., are very commonly constructed of this wood.—*Holtzappfel.*

SNAKE WOOD TREE, Eng. Syn. of Strychnos colubrina, *Linn.*

SNANU, Sans., from sna, to purify.

SNAP DRAGON, Eng. Antirrhinum majus, *Linn.*

SNATHAKA VARATTAM, see Hindu.

SNAPS, Dan.

Toster,	Ger.	Kisslys chtxhy,	Russ.
Quass,	Russ.		

Secale cereale.

SNEEZE WORT, Artemisia sternutatoria.

SNIPE. The snipes, so well known to all sportsmen, are birds belonging to the family Scolopacidæ, sub-family Scolopacinæ, viz.:—

Fam. Scolopacidæ, 16 gen., 32 sp.
4 Ibidorhynchus; 4 Totanus; 3 Actitis; 6 Tringa; 1 Terekia; 2 Limosa; 2 Numenius; 1 Eurinorhynchus, 1 Calidris; 1 Philomachus; 1 Strepsilas; 1 Phalaropus; 1 Scolopax; 1 Macrorhamphus; 6 Gallinago; 1 Rhynchæa.

The solitary snipe is the Gallinago solitaria. It is found throughout India, northwards to the Himalaya where, in the lonely glen, by the side of the mountain-torrent, where the pine grows tall and dense and the sun's rays seldom penetrate, may be found the great snipe (Gallinago solitaria), from the lower to the upper ranges of the forest region. The painted species, the Rhynchæa bengalensis, belongs to a different genus from the true snipes, far more diverse than the closely akin one of the woodcocks. Sportsmen acknowledge this when they refuse to allow it to count in the game-bag. It is not a migratory bird, and both eggs and young have been obtained in the vicinity of Calcutta. Indeed, Mr. Blyth has taken the egg from the oviduct of a bird brought to the bazaar. Its flight is not in the least like that of a real snipe, and has been aptly compared to that of a huge moth fluttering over the ground. One remarkable peculiarity of the painted snipe consists in the dissimilarity of the sexes, the female being the larger and more finely coloured bird of the two; while the young in their first plumage resemble the mature male. The same has been observed of the Australian painted snipe (R. australis), which externally differs little from the Indian except in having shorter toes. Nevertheless, the female only of the Australian painted snipe has an extraordinary prolongation of the trachea or windpipe, as described by Gould, which is not the case with that sex of the Indian species. Whether it occurs, also, in that of South Africa (R. capensis) is not known, but so curious a difference of structure existing in two species which externally are so much alike as the painted snipes of India and Australia, is a most remarkable fact.

The Macrorhamphus combines the form and exact bill of the snipes, with the plumage and seasoned changes of colouring of the godwits, knot, &c., becoming rufous in the breeding season. Blyth once obtained this bird in the Calcutta provision bazaar, and the specimen was preserved in the Asiatic Society's museum. A second example was obtained in the Madras presidency; and it is a bird that should be looked for on the sea coast. 'Shore snipe' should indeed be its popular name. Whether the species be identical with that common in North America, and now and then met with in Europe, is a disputed point; the late prince of Canino (a high authority) considered them to be the same, but we presume, without having seen an Indian specimen; nevertheless, being familiar with M. griseus, he could estimate the value of the alleged distinction of the Indian bird, upon which the name M. semipalmatus was founded, and he is probably right therefore in assuming the specifical identity.

Gallinago scolopacinus, (Scolopax gallinago,) the 'common snipe' of Europe, Asia, North Africa: is very common in India.

Gallinago gallinula, (Scolopax gallinula) the 'jack snipe' of Europe, Asia, Barbary, is common in India.

These are migratory, coming over the Himalaya in October, but the Gallinago stenura snipe precedes them, though few sportsmen discriminate it from the common British snipe which makes its appearance somewhat later. G. stenura is nevertheless a different bird, at once distinguished by having a set of curious pin-feathers on each side of its tail, whereas the British snipe, which is equally abundant in India, has a broad fan-shaped tail, as unlike that of the other as can well be. The pin-tailed is the common snipe of the Malay countries ; and is unknown in Europe, excepting as an exceedingly rare straggler from its proper habitat, the East. The 'double snipe' is the Gallinago major of Europe, distinct from the two species of large or 'solitary snipes' of the Himalaya, G. solitaria and G. nemoricola. The snipes may be thus shown :—

Fam. Scolopacidæ.
Sub-fam. Scolopacinæ ; snipes.
Scolopax rusticola, *Linn.* The woodcock, all India.
S. saturata, *Horsfield*, Java.
S. minor, *Gmelin.*
Gallinago nemoricola, *Hodg.* Wood snipe, all India.
G. solitaria, *Hodg.* Solitary snipe, Himalaya.
G. stenura, *Temm.* Pin-tailed snipe, all India.
G. scolopacinus, *Bonap.* Common snipe, all northern latitudes.
G. gallinula, *Linn.* Jack snipe.
Rhynchæa bengalensis, *Linn.* Painted snipe.

SNOW.

Mo-bwing,	Burm.	Barf,	Hind.

Snow is not known to fall in any part of British India south of the Himalaya. In every part of the Himalaya, and of Western Tibet, wherever the mountains attain a sufficient elevation to be covered with perpetual snow, glaciers are to be found. In the lofty chain of the Cis and Trans-Sutlej Himalaya, and of the Kouen-lun, whose peaks rise to a very great height and collect in winter enormous depths of snow, they are of great length. In the central parts of Tibet which are often lower, and even in their loftiest parts are less snowy than the bounding chains, the glaciers are of inferior dimensions where the snow-bed is at once cut off abruptly in an ice cliff, which can hardly be said to be in motion or rather whose motion must be almost entirely from above downwards. Moraines, which, on the larger glaciers and among mountains of easily decaying rocks, are of astonishing dimensions, form the margins of each glacier, and also occur longitudinally. The annual rising of the rivers Indus and Ganges depend to a great extent on the melting of snows on the mountains. The permanent flooding of the Euphrates is also caused by the melting of the snow in the mountains along the upper part of its course. This takes place about the beginning of March, and it increases gradually up to the time of barley harvest, or about the last days in May, when it is usually of its greatest height. In the report of the Proceedings of the Magnetic Survey it is mentioned that the phenomenon of the illumination of snow-clad mountains after sunset (analogous to the glowing of the Alpine snows) was seen several times in those nights when there was no moon. It was seen particularly well near Chibra, to the north of Karakorum. Judging of it, as seen there, it was thought to be quite independent of a spontaneous development of light from snow, and evidently caused by an illumination of the snow-fields from the west-north-western parts of the sky. This illumination is only visible after a certain time after the sun has set, namely, when the projection of the earth's shade has reached an angular height exceeding that of the mountains, and when the atmospheric light has decreased so much that the atmosphere behind the mountains reflects less light than the snow-clad slopes of the mountains exposed to the west-north-west. The Lachen valley, says Hooker, remains almost level for several miles, the road running along the east bank of the Lachen. Shoots of stones descend from the ravines, all of a white fine-grained granite, stained red with a minute conferva, which has been taken by Himalayan travellers for red snow ; a phenomenon Dr. Hooker never saw in Sikkim. Red snow was never found in the Antarctic regions during Sir James Ross's South Polar voyage ; nor does Dr. Hooker know any authentic record of its having been seen in the Himalaya.—*Hooker's Him. Jour., Vol.* ii, *p.* 118 ; *Report on the Proceedings of the Magnetic Survey of India, p.* 8.

SNOW BEAR, Eng. Ursus isabellinus, *Hor.*

SNOW LEOPARD, Eng. Felis uncia, *Schreber*, *Bly.*, *Hodg.*

SNOW PHEASANT, Tetraogallus himalensis.

SNOW LAND, see Lhassa, Balti.

SNUFF.

Tabac en poudre,	Fr.	Tobacco da naso,	It.
Schnupftaback.	Ger.	Nosowoi tabak,	Rus.
Nas,	Hind.	Tabaco de polvo,	Sp.

Snuff is tobacco in a powdered state, and in general use as an errhine. Other articles are sometimes added to vary its pungency, scent, &c. The snuff of Masulipatam used to be found throughout the peninsula of India where many hindoos and mahomedans use it. Snuff is very little used by the inhabitants of the Punjab plains, but the Biluchi and Hill tribes of the Derajat use it more frequently. It is preserved in small egg-shaped boxes, with a little ivory stopper, some of them are very prettily carved out of the fruits of Feronia elephantum.—*Powell's Hand-book*

Vol. i, *p.* 291; *McCulloch*; *Faulkner.* See Tobacco.

SNUHI, see Serpent.

SOA, Hind. Hordeum hexastichum.

SOA, Hind. Morus serrata.

SOA, Jhotak or Shiroka of Ladak.

SOA GANDAL, Hind. Asparagus punjabensis.

SOALUM, Tam. Sorghum vulgare.

SOAM, a river near Billaspoor in the Umballa range.

SOANE, a river near Kuttesur in Patna, the Hyraniabhya of the ancient Magadha and Prachii, and the Erranaboas of Arrian and Pliny. Palibothra was situated as stated by Megasthenes at the junction of the Ganges and Erranaboas.—*Tr. of Hind, Vol.* i, *p.* 225.

SOANJNA, Hind. Moringa pterygosperma.

SOAP.

Sabun,	Ar., Guz., Hind.	Sabun,	Malay.
Fan-kien,	Chin.	Sabun: Sujah,	Maleal.
Zip,	Dut.	Sabao,	Port.
Savon,	Fr.	Mulo,	Rus.
Seife,	Ger.	Sep,	Scotch.
Sapone,	It.	Jabon,	Sp.
Sapo,	Lat.	Natsowcaram,	Tam.

The manufacture of soap was known to the Romans, and has long been practised in India, but the identity of its names in different regions shows that its manufacture was learned from one source. Hard or Castile soap is made by beating together olive oil and a solution of caustic soda. Chemists conceive that at the time when soap is formed, the elaine and margarine are, by a re-arrangement of their elements, converted into two acids, called elaic and margaric acids, and that these combine with the soda forming eleates and margarates of soda. But with the formation of the acids, a new substance, glycerine, is also produced, and becomes dissolved in the water which forms one of the constituents of soap. Some oils and animal fats contain stearine, a substance closely allied to margarine: in that case some stearic acid is also formed. All soaps are slightly alkaline, feel soft and slippery, and are detergent. The watery solution is readily decomposed by acids, also by earthy and many metallic salts, hence, when water holds any of them in solution instead of dissolving, the soap becomes decomposed. Such waters are called hard, while those which are comparatively pure are called soft waters. Castile soap is composed of. 9· to 10·5 of Soda, 76·5 to 75·2 of Oleic and Margaric acids, and 14·3 to 14·5 of water. Common soap made of tallow and soda, and yellow soap of tallow, resin, and soda, are not so well adapted for medical use. The soaps of Europe, a mixture of an alkali with some oily or fatty substance, are not known to the Chinese who use the native soda (Kan; Kien): or the pods of the Acacia concinna (Fei-tsau-toh). Soap seems to have been introduced by the mahomedans into India, though the hindoos have long used alkaline leys, obtained from the ashes of plants, for many of the purposes of soap; and they have a substitute for soap in several berries. Soap is made at Dacca, of fine shell lime, 10 mds.; saji muttee, impure carbonate of soda, 16 mds.; common salt, 15 mds.; sesamum oil, 12 mds.; goat's suet, 15 seers. It is made of good quality at Saharunpore; and some marine soap, of excellent quality though in small quantity, was sent to the Exhibition of 1851 from Calicut. The soap made at Dacca, is considered. the best in India; and like the soap of Tranquebar, which is also of an excellent quality, it was formerly an export to Mauritius, Pinang, Sumatra, and the islands of the Indian Archipelago. The manufacture of this article is carried on by the mahomedans, by whom it appears to have been introduced into India. The Arabic word saboon indeed, is the origin of the names given to soap in many countries, as that of sabun in the Crimea, and savum at Genoa. At the Madras Exhibition of 1855, several samples of soap were exhibited. The best appeared to be a cake of castor oil soap, exhibited by Dr. G. W. Flynn, for which the Jury awarded a 2nd Class Medal.

Soft soap, as used in the arts, is made with caustic potash and fish-oil and tallow; is semi-transparent, of the consistence of honey, brownish coloured, and nauseous, that referred to by the British Colleges is made with potash and olive oil, Dr. Pereira was unable to meet with it and found on inquiry that common soft soap is usually substituted in making Ung. Sulphuris comp.—*Dr. Clarke's Travels in Russia and on the Don*; *Royle's Arts., &c., of India, p.* 484; *Dr. Taylor*; *M. E. J. R.*; *Smith's Mat. Med.*

SOAP ACACIA, the Acacia rugata, *Buch.* The dried pods of this plant are sold in the bazaars of all the East Indies, and used as a substitute for soap in cleansing the hair—*Mason.*

SOAP-BEAN TREE, see Dyes.

SOAP NUT, Emarginated.

Buro ritah,	Beng.	Arishta, Phenila,	Sans.
Soap berry,	Eng.	Puvandie oottay,	Tam.
Emarginated „	„	Manay pungung-kai,	„
Rita, Aritah,	Hind.	Kumutti ghinzalu,	Tel.
Rarak,	Malay.	Kunk kaia,	„
Bindak-i-hindi,	Pers.		

The Sapindus emarginatus *Vahl.*, yields this product. The capsules contain black seeds, which have a singular sweetish bitter taste, and a smell not unlike that of an over-ripe mango. They are used medicinally by native practitioners; and form, when bruised and

agitated in water, a kind of sud, like that of common soap, which is extensively used by the natives in India for washing the hair of their heads; and by washermen for cleaning silks. The pounded seeds are said to be a valuable remedy for epileptic paroxysms and other diseases. Soap nuts are procurable in most bazaars.

The Oil.

Ritbay-ka-tel,	HIND.	Poongum kai yennai.	TAM
Poovanday kotte-yennai,	TAM.	Kooncoodi nunay,	TEL.

The semi-solid oil is used medicinally by the natives, and is extracted from the kernel of the soap-nut. Its cost prevents its general use.

The Tree.

Rit'he ka jhar,	HIND.	Koonkoodoo manu,	TEL.
Poovanday maram,	TAM.		

The soap-nut tree grows all over the East Indies.—*W. Ic., Useful Plants*; *M. E. J. R.*

SOAP-STONE.

Hwah-shih,	CHIN.	Sunkjiri,	HIND.
Hwah-shwiu,	,,	Sunkjeeroo,	,,
Pot-stone; Steatite,	ENG.	Bulpam,	TAM., TEL.
Sunkjiri,	GUZ.		

This mineral has a soft and greasy feel; is of a yellowish white or greenish gray colour: sometimes spotted or veined; with little lustre or transparency. It is composed of silica, alumina, oxide of iron, and water, in various proportions, according to the variety and the place whence obtained, in many parts of India, and is constantly for sale in the bazaars, being used to write with on black boards, as Europeans use chalk. In Burmah it is abundant.—*M. E. J. R.*

SOAP-WORTS. The Soap tree of China, Sapindus chinensis, is a large tree bearing round berries resembling the fruit of the Melia. The tree is called by the Chinese Wa-hwan-tsze and Fei-chu-tsze. The berries are sometimes used in making rosaries, and when roasted are eaten by the Chinese, notwithstanding their apparent acridity. In the form of tincture of the berries, they were used in skin-diseases. The followers of the Tau faith, employ sticks of this tree to exorcise demons. The soap-wort, soap-fruits and soap-nuts in tropical climates furnish substitutes for soaps, of a more or less useful character, and the dried berries are to be found in almost every bazaar, being used throughout India for washing silk, or hair, or woollens and cloths of various kinds. The soap-berries of the W. Indies and the continent of America are from the Sapindus saponaria, and in Java, Sapindus rarak. In India, several species, as Sapindus laurifolius, Sapindus acuminatus, Sapindus emarginatus, and Sapindus detergens, yield berries, used similarly. The fleshy part of these sapindus berries is viscid, and when dry and rubbed with water, they form a lather like soap, and the bark and roots have similar properties, though it is said that articles washed by the root and bark rapidly corrode. Hindoo physicians deem the endocarp a useful expectorant, and it is said the seeds, pounded with water and a small quantity put into the patient's mouth often put an end to the epileptic paroxysm. The tincture or extract, of the soapy matter of the capsules of S. saponaria has been used in chlorosis. The berries, which are about the size of cherries, inclose black shining nuts which take a fine polish, and were formerly much used in England for making buttons after having been tipped with gold, silver or other metal. They are also made into beads, necklaces, &c. The kernel contains an edible oil, which is sometimes used for burning. In India the nuts of the rheeta, S. emarginatus, are eaten by young people, and in the West Indies, the fruits of S. senegalensis and S. esculentus are deemed as palatable as the hazel nut and almond. S. rubiginosus has a close-grained, hard wood, and forms an excellent timber. Saponaria vaccaria, is well known in India, and is identical in its properties with S. officinalis, a decoction of the root, frothing like a solution of soap. Kritz, kris, or kreess, the root of some parasitical plant, but of unknown origin, is used in Cashmere to wash the shawls, soap being used only for the white shawls. It is used also medicinally, and for dyeing the colour called na-furmanee.—*Smith, p.* 199; *Symonds.* See Sapindaceæ.

SOBANJAN ? HIND. Clitorea ternatea.

SOBHAVATI-NAGARA, the birthplace of the Buddha Kanaka-muni, identified with Subhaypursa.

SOBRAON, battle of, on the 10th Feb. 1846, was fought by the British Indian army against the Sikhs.

SOCCUS GRANOSUS, *Rumph*, and Soccus lanosus, *Rumph*, are varieties and synonyms of Artocarpus incisa, *Willde.*

SOCHUL, HIND. See Bit laban.

SOCIANKA also Socian RUS. Barilla.

SOCONUZCO—? Chocolate.

SOCOTORA, or Soktra Island, extends nearly 71 miles E. and W., and its greatest breadth is 22 miles. It is high and mountainous with granitic peaks. The town of Tamareed, on the north side of the island, is in lat. 12° 39′ N., long. 54° 0½′ E.—*Horsfield.* See Abdul Koory, Nicolo-di-Conti, Neibuhr.

SOCRATES, a Greek philosopher, known to the eastern races as Socrat.

SOD, HIND. Anethum sowa.

SODA, DUT. Barilla.

SODA, TEL. Panicum paludosum, *Roxb.*

SODA, a Rajput race, scattered over the

desert, some are mahomedans. The Sumaicha is a mahomedan proselyte from the Soda. Alore, an ancient city on the Indus was the capital of the Soda dynasty. The Soda tribe is an important branch of the Pramara (Puar) race. The Soda tribes over whom the emigrants of the Ganges obtained the mastery, dwelt from the Jumna to the Indus, and the Garah river to the Aravalli hills. First, on the east, the Cuchwaha, under Milaisi, whose father, Rao Pujoon, was killed in the war of Canouj, Ajmir, Sambhur, and the best lands of the Chohan, fell rapidly to the mahomedans, though the strongholds of the Aravalli yet sheltered some, and Nadole continued for a century more to be governed by a descendant of Beesuldeo. Mansi, rana of the Eendoh tribe, a branch of the Purihar still held Mundore, and the various Bhumia around paid him a feudal subjection as the first chief of the desert. Northward, about Nagore, lived the community of the Mohil (a name now extinct), whose chief place was Aureent, on which depended 1,440 villages. The whole of the tracts now occupied by Bikaner to Bhatnair were partitioned into petty republics of Gete or Jit. Thence to the Garah river, the Johya, Dya, Cathæ, Laugaha, and other tribes whose names are now obliterated, partly by the sword, partly by conversion to mahomedanism. The Bhatti had for centuries been established within the bounds they still inhabit, and little expected that this handful of the Rahtor was destined to contract them. The Soda princes adjoined the Bhatti south, and the Jharejah race occupied the valley of the Indus and Cutch. The Solankhi Rajputs intervened between them and the Pramara of Aboo and Chandravati, which completed the chain by junction with Nadole. Various chieftains of the more ancient races, leading a life of fearless independence, acknowledging an occasional submission to their more powerful neighbours, were scattered throughout this space; such as the Dabey of Eedur and Mehwo; the Gohil of Kherdhur; the Deora of Sanchore; the Sonigura of Jhalore; the Mohil of Aureent; the Sankla of Sindli, &c., all of whom have either had their birthrights seized by the Rahtor race, or the few who have survived and yet retain them, are enrolled amongst their allodial vassals. The Soda, who has retained the name of hindoo, has yet so far discarded ancient prejudice, that he will drink from the same vessel and smoke out of the same hooka with a mussulman, laying aside only the tube that touches the mouth. With his poverty, the Soda lost his reputation for courage, retaining only the merit of being a dexterous thief, and joining the hordes of Sehrae and Kossa who prowled from Daoudpotra to Guzerat. The arms the Soda used chiefly, about A. D. 1820, were the sword and the shield, with a long knife in the girdle, which served either as a stiletto or a carver for his meat: few had matchlocks, but the primitive sling was a general weapon of offence, and they were very expert in its use. Their dress partakes of the Bhatti and mahomedan costume, but the turban is peculiar to themselves, and by it a Soda may always be recognized. The Soda is to be found scattered over the desert, but there are offsets of his tribe, now more numerous than the present stock, of which the Sumaicha is the most conspicuous, whether of those who are still hindoo, or who have become converts to Islam. General Cunningham is of opinion that the Sodræ or Sogdi, or Massanæ, of Alexander's historians, are the same as the Soda Rajput. He says that on leaving the confluence of the Punjab rivers, Alexander sailed down the Indus to the realm of the Sogdi, Σόγδοι, where, according to Arrian, "he built another city." Diodorus describes the same people, but under a different name:—"Continuing his descent of the river, he received the submission of the Sodæ and the Massanæ, nations on opposite banks of the stream, and founded another Alexandria, in which he placed 10,000 inhabitants." From these accounts, General Cunningham considers it evident that the Sogdi of Arrian and the Sodræ of Diodorus are the same people, although the former have been identified with the Soda Rajputs by Tod and M'Murdo, the latter with the servile Sudras by Mr. Vaux. The Soda, who are a branch of the Pramara, now occupy the south-eastern district of Sindh, about Umarkot, but according to M'Murdo, generally a most trustworthy guide, there is good reason to believe that they once held large possessions on the banks of the Indus, to the northward of Alore. In adopting this extension of the territory formerly held by the Soda Rajputs, General Cunningham is partly influenced by the statement of Abul Fazl, that the country from Bhakar to Umarkot was peopled by the Soda and Jhareja in the time of Akbar, and partly by the belief that the Massanæ of Diodorus are the Musarnei of Ptolemy, whose name still exists in the district of Muzarka, to the west of the Indus below Mithankot. He would identify the Sogite or Sodræ with the people of Seorai, which was captured by Husen Shah Arghun on his way from Bhakar to Multan. In his time, A. D. 1525, it is described as "the strongest fort in that country." Now in this very position, that is about 8 miles to the north-east of Sabzalkot, the old maps insert a village named Sirwahi, which may possibly represent the Seo-

rai of Sindhian history. It is 96 miles in a direct line below Uchh, and 85 miles above Alore, or very nearly midway between them. The most frequented ghat for the crossing of the Indus towards the west, viâ the Gandava and Bolan Pass lies between Fazilpur on the left bank, and Kasmir on the right bank.

Sir H. Elliot writes the name Sodha, and says that amongst this tribe, the Wairsi was the chief clan, and a cognate clan was called Waisa. The Sameja tribe is a branch of the Sodha. The Sodha or Soda tribe is an offshoot of the Pramara, and for many centuries has been an occupant of the desert tracts of Western India, into which they have been driven forward from the banks of the Indus by more powerful neighbours. They may, he says, possibly be the Sogdi of Alexander's time, and the Sodræ of Diodorus. The Sodha at one time held possession of Amarkot, from which they were expelled by the Talpur dynasty of Sind. The present representative of the Sodha family still retains the title of rana. He resides at Chor, a few miles N.E. of Amarkot, but shorn of all power and hard-pressed for the means of subsistence. The Sodha Grassia are Rajputs of the Sodha tribe, whose women are famed for their beauty and are much sought for by surrounding mahomedans and Rajputs. They sell their female children to the mahomedans. A Sodha father reckons his wealth by his number of daughters. Sodha Rajputs occupy Parkur, engage in cultivation.—*Tod's Rajasthan, Vol.* ii, *p.* 12; *Cunningham's Ancient Geog. of India, p.* 253–4; *Elliot's History of India, pp.* 531-2.

SODA.

Sagimen,	AR.	Neter,	HEB.
Jund chenee,	ARAB.	Sajji-noon,	HIND.
Sujscara,	CAN.	Charum,	MAL.
Kan kien,	CHIN.	Sajee-khar, Papud-khar,	PERS.
Hydrate de Soude,	FR.	Sarjica, Sarjikashara.	SANS.
Astz-natron,	GER.	Karum, Ponbeer ka-rum,	TAM.
Sedjee Mittee. Sajee-khar (impure carbonate) Papudkhar (sub-carbonate,)	GUZ., HIND.	Savittie-munnoo-oop-poo,	TEL.

The substance known in commerce by the name of soda is a carbonate of soda, but mixed with various impurities, according to the source whence it has been obtained; that is, either from the Natron lakes, from the soda soils, from the burning of sea-weeds, or from the decomposition of other salts of soda. *Barilla* is the ash obtained by burning plants on the shores of the Mediterranean, of the Red Sea, and Indian Ocean. Kelp used to be prepared on the coasts of Scotland and its islands, also on those of Ireland and Wales, and on that of Normandy in France, by burning a great variety of sea-weeds. In its original state, soda is of a grey colour, and fracture vitreous: it is an article of the greatest importance in the soap-glass, and other manufactures. The Arabic name, sagimen, seems to be derived from the hindoo saji-noon, that is, sajji salt, or soda salt. Dr. Taylor gave the following as Asiatic salts of soda:—

Soda, from ashes of species of salsola and salicornia, on the Coromandel coast.
Sujjee or carbonate of soda, in Tirhoot.
Oosur salt, Mirzapore, &c.
Lanee kharee, Sind.
Natron, from Lonar Lake, in lat. 20°, and long. 76° 30′.
Mineral alkali, Bombay.
Salt, common, (chloride of sodium,) Tumlook, Balasore, Tanjore, Bellary.
„ or Samur, Samur or Samur Lake.
„ Rock salt, Salt Range of Punjab.
Borax, Kemaon and Gurhwal from Tibet.
Khara noon, (sulphate of soda,) Gyah, Tirhoot, &c.—*Royle's Arts, &c., of India, p.* 463.

SODA BIBORAS.

Boorak,	AR.	Hydrated bi-borate of Soda,	ENG.
Let-khya,	BURM.	Boraxsaures natron,	„
P'ung-sha,	CHIN.	Borax; Borate de Soude,	FR.
P'ang-sha,	„	Sohaga,	HIND.
Yueh-shih,	„	Sodæ biboras; Borax,	LAT.
P'wan-shah,	„	Sodæ boras,	„
Borate of Soda,	ENG.	Catteri; Pijar,	MALEAL.
Borax,	„	Tankar,	PERS.
Biborate of Soda,	„	Tincana,	SANS.
Tincal,	„	Velligaram,	TAM.
Crude borax,	„		

Borax is supposed to have been known to the Greeks and Romans, and to have been the chrysocolla of Pliny. The hindoos have long been acquainted with it; it is their sohaga, Sanscrit tincana, and one of the kinds of Booruk of the Arabs. Its nature was first ascertained by Geoffroy in 1732. It is produced by spontaneous evaporation on the shores of some lakes in Tibet, in the same country, with Musk and Rhubarb; is brought across the Himalayan Passes into India, and imported into other countries by the names of Tincal and Crude Borax. It is also obtained by saturating the Boracic Acid of the lagoons of Tuscany with Carbonate of Soda. Crude Borax is in pale greenish pieces, covered with an earthy coating, and feels greasy to the touch. The natives of Tibet are said to cover it with some fatty matter, to prevent its destruction by efflorescence. It is purified by calcining, which destroys the fatty matter, or by washing with an alkaline ley, which converts it into a kind of soap, then dissolving and re-crystallizing. Sp. Gr. 1·35. It is colourless, transparent, somewhat shining. It has an alkaline reaction on turmeric. The crystals efflorescent slightly in the air, are soluble in 12 parts of cold and 2 of boiling water. When heated, they lose

water, swell up into a porous substance called Borax usta v. calcinata, and at a red heat run into a transparent glass called Glass of Borax, much used as a flux. Another variety, more useful in the arts, crystallizes in octohedra, which are permanent in the air. Borax increases the solubility of Cream of Tartar, and converts mucilage of Lichen and of Salep into a thick jelly.—*Royle's Materia Medica* ; *Smith's Materia Medica*, *p.* 41.

SODA, Carbonate of

Kan ; Kien,	CHIN.	Chowr ke phool ka namak,	HIND.
Neutral carb. of soda,	ENG.	Khar,	,,
Mono-carb. of ,,	,,	Sajji noon,	,,
Carbonate of ,,		Sodæ nitrum ; Carbonas impurus,	LAT.
Fossil alkali,	,,	Sodæ sub-carbonas,	,,
Impure carb. of ,,	,,	Sodæ sesqui-carbonas,	,,
Barilla,	,,	Sargica,	SANS.
Ærated mineral alkali,	,,	Choutoo munnoo,	TAG.
Soudes de commerce,	FR.	Karum,	TAM.
Soudes brutes,	,,	Punhir-karum,	,,
Zwei-fach-kohlensaures natron,	GER.	Ovar-munnoo-karum,	,,
Kohlensaures natron,	,,	Poong karum,	,,
Neter,	HEB.	Saviti munnoo ooppoo,	TEL.
Soud ; Soudoo,	HIND.		
Chowr ki matti,	,,		

This was formerly obtained from kelp or barilla, ashes obtained from burning sea weeds and species of salsola. In Europe it is now almost entirely made from common salt, by its conversion first into a sulphate with sulphuric acid, afterwards resolving the salt into a sulphuret, and then a carbonate by combustion with small coal and chalk. This is one of the kinds of Nitrum of the ancients, and is the neter of the Hebrews. It was known to the early hindoos, and is by them now called Sajji-noon, (*i. e.*, Sajji salt or soda salt) ; it is the Sagimen vitri of Geber. The natron lakes of Egypt were known to the ancients, and it was early employed in glass-making, &c. Carbonate of soda is a very valuable article of commerce being largely used not only in medicine but in arts and manufactures ; but it is made from common salt on a large scale in England, and so cheap that the Indian article, though a natural product, could not compete with it in the market. Plants mostly of the natural family of Chenopodeæ, and chiefly of the genera Salsola, Salicornia, Suæda and Chenopodium, are burned on the shores of the Mediterranean, the Red Sea and the Indian Ocean, to obtain the ash. This is barilla, and contains 25 to 40 per cent. of carbonate of soda. The soda is no doubt derived by the plants from the soil. Sajji is produced in Sirsa and Gugaira, &c., by burning various saline plants of the Salsola tribe, which abound in the 'thals' or deserts during the rainy season ; it is exported principally to the other districts within the province.

Mineral Carbonate of Soda.

Dhoby's earth,	ENG.	Chouroo munnoo,	TAM.
Soud,	HIND.	Ovarmunnoo,	,,
Soudoo,	,,		

The earth so called occurs in many parts of India, in marshy places. It occurs in a whitish soil over granitic rocks or over alluvium. The earth is collected and used by washermen instead of soap for washing cloth. There is from 5 up to 30 per cent. of dry carbonate of soda, obtainable : but in the earth this is mixed with muriate of soda and other salts. It is very abundant in some places. It is a sesquicarbonate and occasionally used in baking.

Pearl ash is obtainable from potashes.

Barilla,

Soudes brute,	FR.	Karum,	TAM.
,, de commerce,	,,	Poonhir,	,,
Natron,	GER.	Poong-karum,	,,
Kohlensaures natron,	,,	Ovar-munnoo karum,	,,
Khar,	HIND.	Saviti-munnoo ooppoo,	TEL.
Sargica,	SANS.		

is the ash obtained by burning plants, on the shores of the Mediterranean, of the Red Sea, and Indian Ocean. These plants belong mostly to the natural family of Chenopodeæ, q. v. ; and chiefly to the genera Salsola, Salicornia, Suæda, and Chenopodium. The quantity of carbonate of soda in the ash varies from 25 to 40 per cent. and is produced from the combustion of the oxalate and other salts of the vegetable acids. The soda is no doubt obtained from the soil, for Du Hamel planted soda-plants inland, and they yielded only potash. Infusion of a Salsola in cold water afforded by evaporation, two salts, carbonate of soda and chloride of sodium. A portion of the chloride is no doubt converted into the carbonate during the incineration.—*Murr. Chem., Vol.* ii, *p.* 612.

Kelp used to be prepared on the coasts of Scotland and its islands, also on those of Ireland and Wales, and on that of Normandy in France, by burning a great variety of algæ or sea-weeds. The ashes when cold form kelp, which is in hard cellular masses, of a bluish grey colour, and of a disagreeable alkaline taste, containing from 3 to 8·5 per cent. of carbonate of soda and other salts, as in the case of barilla, but also some potash and iodine. Carbonate of soda is, however, now obtained very cheaply from chloride of sodium or sea-salt. This is first converted into sulphate of soda by the action of sulphuric acid then mixed with pounded small coal and chalk, and heated in a reverberatory furnace and stirred. The carbonaceous matter abstracts oxygen both from the sulphuric acid and from the soda ; Sulphuret of sodium is formed, and decomposed by the lime ; carbonate of soda, insoluble oxi-sulphuret of

calcium, caustic soda, and carbonaceous matter being the result. The insoluble parts are separated by lixiviation, and the sulphur subsequently burnt away; during which the soda is completely carbonated. The mass now contains about 50 per cent. of soda. Being lixiviated and evaporated, the carbonate is obtained in large crystals. The carbonate of soda produced as above is pure enough. Ainslie tells us that some of the more enlightened vyteans knew how to prepare carbonate of soda from saline earths which contain it, such as ovar munnoo, and poonheer. The soda prepared from the first, the hakeems of lower Hindustan called "chowr ke matti ka namak," that from the second they call "chowr ke phool ka namak.—*Royle's Materia Medica*; *Smith's Materia Medica*; *Powell's Hand-book*; *Murr. Chem., Vol.* ii, *p.* 612 *in Royle*; *Ainslie's Mat. Med., p.* 43.

SODA, Muriate of

Melh,	AR.	Sal-gemmæ,	LAT.
Theing-dau-hsa,	BURM.	Sodæ chloridum,	,,
Shih-yen,	CHIN.	Sodæ murias purum,	,,
Common salt,	ENG.	Sal fossile; Sal marinum,	,,
Chloride of Sodium,	,,	Garam,	MALAY.
Muriate of Soda,	,,	Namak,	HIND, PERS.
Chlorure de Sodium,	,,	Uppu,	TAM., TEL.
Chlor natrium,	GER.		
Namak, Nun, Lun,	HIND.		

The common salt is obtained from the mines of the Salt Range, as rock salt from the saline lakes and wells of Asia and from the sea water, by evaporation, and from the saline soils by solution and mineral salt of very fair quality was exhibited from Bangalore, Bellary and Hyderabad, and is known to occur also in the Guntoor and Nellore districts, and to be almost invariably accompanied with gypsum, magnesian limestone, sandstone, sulphur, red and brown iron ores, and alum slate: Muriate and carbonate of soda is obtained from the Loonar lake in the Hyderabad territories. The following is a condensed epitome of the Report, and of the chemical composition of the Loonar salts :—

Dulla, a carbonate of soda with a faint trace of muriate of soda and about 2 per cent. of impurities.

Nimmuck Dulla, is nearly pure muriate of soda.

Khuppul is carbonate of soda with water and about 2 per cent. of impurities.

Puppree is nearly pure carbonate of soda.

Madkhar is an impure salt containing

Carbonate of soda,	...27	Common salt,	17
Clay and sand,	30	Water about	25

Bhooskee is also a crude impure substance

Containing neutral carb. of soda	. . 26	Water	. . . 15
Insoluble matter chiefly sand and clay	. . 58	Common salt	. . 2

Travertin contains

Carb. of lime	. . . 78	Choloride of sodium.	3
Carb. of magnesia.	. 4	Water	2
Insoluble matter with oxide of iron, &c.	. . 9		

The natron lake of Loonar occurs in the Circars of Meinker, soubah of Berar about 45 miles N. W. of Hingolie in lat. 20 N.; it is about 510 feet below the level of the surrounding ground in a kind of crater of 5 miles in circumference, the lake being about 3 miles in circumference and surrounded by luxuriant vegetation; springs of clear soft water occur close to the lake, which has evidently been extending its bounds lately, as numerous dead trees are standing within its margin, and a well of sweet water protected by a wall is now completely surrounded by the water of the lake. An intolerable stench of sulphuretted hydrogen is emitted by the lake during the heat of the day and its waters prove destructive to animal and vegetable life, and though flocks of duck and teal dot the surface of its waters, its aspect is dreary. There are two saline springs near the centre of the lake and about half a mile apart. These never become dry. It is supposed that the muriate of soda from this source coming in contact with the carbonate of lime which abounds in the vicinity causes the deposition of the carbonate of soda or natron salt in a greater or less state of purity. The depth of the lake near the salt springs varies from 6 feet during the hot months to 12 or 14 feet during the rains. The salt is raised by divers who bring it up in their hands, it is much prized and finds a ready sale in Berar, Nagpore, Candeish, and Poonah, to which places it is carried in bamboo baskets and retailed by dealers. Up to the year 1855, the lake had not been regularly worked since 1836, in which year 2,136 candies of the different salts were raised, valued at Rs. 60,081. In 1853, Major Johnson raised 35 candies valued at Rs. 1,461-4-0. Common salt is abundantly diffused in nature, and, must have been known from the earliest ages. It exists in large quantities in the solid form as rock-salt, or in solution in saline lakes and springs, and everywhere in sea-water. From these it is obtained by evaporation, when it crystallizes with slight variations of appearance, according to differences in the process. These varieties are known by different names in commerce, as butter, stone, and basket salt, also sea salt, and, in large crystals, as malden, fishery, and bay salt. Most of the kinds of salt contain other salts, as alkaline and earthy sulphates and chlorides, especially of magnesium and of calcium.

In China, salt is obtained by the evaporation of the saline inland waters of wells and

of the sea water. The wells of Sech'uen vary from 500 to more than 2,000 feet in depth and are only a few inches in diameter. The brine is brought up by means of a bamboo tube, which is alternately lowered and raised, the contents being retained by a strap at the lower end, until the tube reaches the top, when the strap is removed and the brine discharged into cisterns and then evaporated. In Cheh-kiang, salt water is let in upon pieces of ground from three to five hundred yards square, and evaporated by solar heat, as in British India.—*Royle* ; *Smith* ; *M. E. J. R.*

SODÆ SESQUICARBONAS, *L.*

S. bicarbonas.	Natron, ENG., FR.
Sodæ Carbonas.	Bicarbonate de Soude, „
Bicarbonate of Soda.	Anderthalb kohlensaures Natron, GER.
Carb. of Soda of the shops.	Zweifach kohlensaures Natron, GR.
Sesqui-carbonate of Soda, ENG.	

The Trona found near Tripoli in Africa, the Natron of the country to the west of the delta of the Nile, and that of the Loonar lake described by the late Dr. Malcolmson, are all sesqui-carbonates of soda.

The bicarbonate of soda is the same salt as the sesqui-carbonate of soda. That which is met with in commerce is usually a pure salt, but occasionally mixed with a small portion of the carbonate. It exists in some mineral springs highly acidulated with carbonic acid, as in those of Vichy. As usually sold, it is colourless, in powder, or in minute scale-like crystals, having a saline, slightly alkaline taste and reaction.—*Royle.*

SODA, Nitrate of,

Cubic Nitre, ENG.	Wurfelsalpetre, GER.
Nitrate de Soudo, FR.	

It consists of nitric acid and soda, and is similar in its properties to saltpetre, differing chiefly in being more pungent in taste, more soluble in cold water, more inclined to attract moisture from the atmosphere, and in crystallizing in a rhomboid form. It is highly esteemed as a manure for pastures, and for all other sorts of agricultural produce, except that grown in heavy wet soils. It is also applied to many of the purposes for which saltpetre is used, though being more deliquescent than that salt, it is not adapted for the manufacture of gunpowder. This salt is found in immense quantities in deposits in South America, particularly in the districts of Atacama and Tarapaca in Peru. Indifferent samples of this salt were exhibited at the Madras Exhibition of 1857, from Bellary and Hyderabad, where it seems to form a natural efflorescence. Its chief use is as a substitute for saltpetre for the manufacture of nitric and other acids and chemical substances. It is too deliquescent for making gunpowder, though it answers well for some descriptions of fireworks.—*Waterston in Faulkner* ; *M. E. J. R.*

SODA, Sulphate of,

Malh, AR.	Khara namak, HIND.
P'oh-siau, CHIN.	Khara nuna, „
Pih siau, „	Khari nun, „
Hi'uen-ming-fen, „	Sal catharticus, LAT.
Peh-lung-fen, COCH-CHIN.	Natrum vitriolatum, „
Sulphate of Soda, ENG.	Sal mirabile glauberi, „
Glauber's salt, „	Sodæ sulphas, „
Sulphate de Soude, FR.	Namak, PERS.
Schwefelsaures Natron, GER.	Oopoo, TAM., TEL.

The Chinese names are:—

Minerol Glauber	*Artificial Glauber.*
P'oh siau,	Hiuen-ming-fen,
Pi-siau.	Peh-lung-fen.

It exists in sea-water, in the ashes of many plants, and is found effloresced on the soil in India. It exists in the water of some lakes and mineral springs, also in Glauberite. It is found in the ashes of many plants, and in some animal secretions. In Bengal, an impure sulphate of soda is extracted from earth in which the salt exists, in the proportion of from ten to fifty per 100. It is prepared in large quantities by simply washing the earth. It is usually sold in crystaline dirty brown masses. These are purified by a simple process. In the Chinese provinces of Cheng-ti-fu, in Se-chuen and Ts'ing-chau-fu in Shantung, this occurs, native, as an efflorescence on the soil, from which it is brushed up dissolved in water and coarsely crystalised. In this form it is a natural salt like the Reh of the Doab of Northern India.—*Smith's Materia Medica of China.*

SODHYA, SANS. called sobhacritu in the Carnatic, wrongly written Sodhyum. A constant number to be subtracted in certain computations, to fit the rule to a particular epoch, being the negative of Cshepa.

SODO, a wood resembling the walnut, scarce.

SO-E, CHIN. A garment of leaves, which, as well as hats, is fabricated by the agricultural laborers of Northern China, from the leaves of Chamærops excelsa, a palm indigenous in the Northern and Central parts of that country: but in the Southern districts of China, the So-e, is made from the leaves of the bamboo and of other broad leaved grasses.

SOE-KOMPASS, DAN. Compass.

SOENAIR. Colonel Tod relates that a Rajpoot ruler in the fulness of his pride, had divine honours paid him in the rite Soenair. This distinction, which involves the most august ceremony, and is held as a virtual assumption of universal supremacy, had in all ages been attended with disaster. In the rite of Soenair, every office, down to the scullion of the "Rusorah," or banquet-hall, must be performed by royal personages.—*Tod's Rajasthan, Vol.* ii, *p.* 8.

SOFAIDA, or safeda, HIND. Populus alba, white poplar or abile.

SOFALA, a district on the African coast to which the ships of the Hebrews voyaged. See Somal, Beer-us-somal. Ophir.

SOFFAR, means a worker in copper. The Soffaride dynasty began, according to some, Heg. 259, according to others, 248, and lasted for three generations, till it was replaced by that of the Sapanides, about the end of the same century of the Hegira.—*Ferrier's Journ, p.* 323, *quoting D'Herbelot.*

SOFIAN, a little place, which is within the lines of a dreadful battle fought A.D. 1585, between the Turks and Persians : and which gave a signal overthrow to the former power, by the arms of Hamzeh Mirza, who commanded the Persians. The distance from Sofian to Tabreez is twenty-four miles, over a pretty good road, running south-east.—*Porter's Travels, Vol.* i, *pp.* 219-20.

SOFT GLOBE FLOWER. Sphæranthus mollis.

SOGDIANA. According to Bunsen (iii, 584) the separation of the Arians was prior to their leaving Sogd. The Arian emigration from Sogd to Bactria, after the separation, took place B. C. 5,000, consequently before the time of Menes. The immigration into the Indus country about B. C. 4,000 and Zoroasters reform in Bactria about the time of Menes or half a century later. Sogd is said to be the birth place of Arsaces I of the Arsacidæ. Sogdiana in Samarcand, formed the first settlement of the Arians : Sughda, afterwards spelled Sugdia and commonly Sugdiana, is pre-eminently the country : as being the home of the Fire-worshippers. It is described in the Vendidad, as in the 38th degree of latitude, where Mara Kanda (Samarcand) is situated, a paradisiacal land, fertilized by the river Sogd, so that Sogd and Paradise are used synonymously by the later writers. The Vendidad (ii, verse 5) says it was created as the second best of the regions and countries.—*Bunsen, Vol.* iii, *pp.* 584, 586. See Arians, Hindoos, Kabul, Soda.

SOHAG, HIND., ornaments worn by married women while their husbands are alive.

SOHAGIN, HIND., a married woman.

SOHAGEEA, HIND., a class of fuqeers.

SOHANJANA or Sohunjuna, also Moongay ka-jhar, HIND., DUK., is the Horse radish tree, Moringa pterygosperma. See Moringa root, Moringa, Ben.

SOHAGA, HIND. Borax, biborate of soda, Sodæ biboras, used as a medicine.

SOHAGA, HIND. A flat piece of heavy wood dragged over fields after ploughing and sowing, to smooth down the clods.

SOHAWAL. This state was entered in the sunnud granted to rajah Kishore Sing as a feudatory of Punnah. Separate sunnuds were granted to the chiefs of Kotee and Oocheyra on the British occupation of Bundelcund. The area of Sohawal is about 300 square miles, and the population about 50,000, the revenue is Rs. 30,000.—*Aitchison's Treatises, &c., p.* 247.

SOH-LOH, also Soh-loh-shu, CHIN. The green die of China. See Dyes.

SOHOL, RUS. Sable.

SOHALEEAN, HIND. Thin wheaten cakes.

SOHDI, see Khutri.

SOHOJO MAREE, TEL.? URIA? A tree of Ganjam and Gumsur of extreme height 25 feet, circumference 1½ feet, and height from the ground to the intersection of the first branch, 8 feet. Tolerably common in Bodogoda, where it is burnt for firewood but not in Gumsur. The bark is used medicinally.—*Captain Macdonald.*

SOHRAT, see Kelat.

SOHUNJUNA, or Moongay ke-jhar, DUK. Moringa pterygosperma.

SOHURWURDEE, an order of mahomedan devotees.

SOIE, or Soia, BENG., HIND. Anethum sowa or A. graveolens.

SOIE, FR. Silk.

SOIES, FR. Bristles.

SOI KEERY, TAM. Grows in the southern parts of the Peninsula and is eaten as greens by the poor.—*Ainslie's Mat. Med., p.* 257.

SOIL. In the south of India, throughout the entire of the peninsula there are four markedly distinct kinds of soil in which cultivation is conducted. These maybe briefly named as the red soil over the granitic tracts, the black soil or regur also called cotton soil, over the rocks of volcanic origin, the alluvial soil, and the sandy soils along the coasts, in the valleys and in the beds of rivers. There are patches of black soil in various parts of the Ceded Districts, but it is to be seen over all the great volcanic outburst in the N. W. Dekhan. The red soil tract lies over the granitic regions in the eastern and southern parts of the peninsula. The regur or black soil is naturally very retentive of moisture and very fertile, and all the country where it is found is well under cultivation. The field crops grown are cereals, pulses and cottons. Throughout the central and western parts of peninsular India, the cultivators regard hedges and trees as injurious to crops, which are annually enclosed by the branches of thorny trees, consequently when the crops are off the ground the whole territory has a treeless aspect, and in many places fire-wood bears a very high price. There are great tracts, however, which could be beneficially planted with trees. Near Musery, on the banks of the Cauvery, black soil with its accompanying calcareous strata of marl and

tuff, rest in common on granite, indicated by rocks of this nature appearing above its surface; and, on the other hand, a red soil prevails where sienite forms the apparent groundwork. It would seem from this that granite is at the bottom of all, and sienite is only superimposed, for the latter appears only in the elevated or higher parts of the country, and the former in the lowest.

The Himalaya range does not abound in volcanic rocks, like the chains of Central and Southern India; and the soils which are there formed from the detritus, contain, in consequence, less phosphoric acid, and are less adapted to the growth of that numerous class of plants which cannot live without phosphates. The volcanic rocks form a plateau upon the sandstone, of almost all the hills of Central and Southern India; and the soil, which is formed from their detritus, is exceedingly fertile, when well-combined, as it commonly is, with the salts and double salts formed by the union of the organic acids with the inorganic bases of alkalis, earths and oxides, which have become soluble, and been brought to the surface from below by capillary attraction, also the basaltic plateaux upon the sandstone rocks of Central and Southern India are often surmounted with a deposit, more or less deep of laterite, or indurated iron clay, the detritus of which tends to promote fertility in the soil. There never is any other deposit than this iron clay or laterite above the basaltic plateaux. The centre of the great table-land of the Dekhan for about eighty miles around Beder is covered with great hills of laterite which occurs also north of Oomraoti, in Berar, and near Madras, along the Malabar coast, and at Rangoon. Laterite is never found in any part of the Himalayan chain. In Bundelcund and other parts of Central and Southern India, the basaltic plateaux are sometimes found reposing immediately upon beds ofgranite. The soil called 'doomuteea' in N. India, is of a light-brown colour, soon powders into fine dust, and requires much more outlay in manure and labour than the 'muteear' soil. The 'oosur' soil appears to be formed out of both by a superabundance of one or other of the salts or their bases, which are brought to the surface from the beds below, and not carried off or taken back into these beds. It is known that salts of ammonia are injurious to plants, unless combined with organic acids, supplied to the soil by decayed vegetable or animal matter. This matter is necessary to combine with, and fix, the ammonia in the soil, and give it out to the plants as they require it. It is possible that nitrates may superabound in the soil from the oxydizement of the nitrogen of a superfluity of ammonia. The natives say that all land may become 'oosur' from neglect; and, when oosur, can never be made to bear crops, after it has been left long fallow, till it has been flooded with rain-water for two or three seasons, by means of artificial embankments, and then well-watered, manured and ploughed. When well-tilled in this way, all but the very worst kinds of oosur are said to bear tolerable crops. In the midst of a plain of barren oosur land, which has hardly a tree, shrub or blade of grass, we find small oases, or patches of low-land in which accumulated rain-water lies for several months every year, covered with stout grasses of different kinds, a sure indication of ability to bare good crops, under good tillage. From very bad oosur lands, common salt or saltpetre, or both, are obtained by digging out and washing the earth, and then removing the water by evaporation. The clods in the muteear soil not only retain moisture, and give it out slowly as required by the crops, but they give shelter and coolness to the young and tender shoots of grain and pulse. Trees, shrubs and plants of all kinds, everywhere derive carbonic acid gas and ammonia from the atmosphere and decompose them for their own use, in the same manner.

Doctor O'Shaughnessy states, that the reha earth, from Oude, is identical with the sujji muttee of Bengal, and contains carbonate of soda and sulphate of soda as its essential characteristic ingredients, with silicious clay and oxide of iron. But in Oude, the term "sujji" is given to the carbonate and sulphate of soda which remain after the silex has been removed from the reha. The reha is fused into glass after the carbonic acid and moisture have been expelled by heat, and the sujjee is formed into soap, by the addition of lime, fat and linseed oil, in the following proportions: 6 sujji, 4 lime, 2½ fat, and 1½ ulsee oil. The sujji is formed from the reha by filtration. A tank is formed on a terrace of cement. In a hole at one corner is a small tube. Rows of bricks are put down from one end to the other, with intervals between for the liquor to flow through to the tube. On these rows a layer of stout reeds is first placed, and over them another layer composed of the leaves of these reeds. On this bed the coarse reha earth is placed without being refined by the process described in the text above. Some coarse common salt (kharee nimuck) is mixed up with the reha. The tank is then filled with water, which filters slowly through the earth and passes out through the tube into pans, whence it is taken to another tank upon a wider terrace of cement, where it evaporates and leaves the

sujji deposited. The second tank is commonly made close under the first, and the liquor flows into it through the tube, rendering pans unnecessary. It is only in the hot months of March, April, May, and part of June, till the rains begin to fall, that the reha and sujji are formed. During the other nine months, the Loonea caste, who provide them, turn their hands to something else. The reha, deprived of its carbonic acid and mixture by heat, is fused into glass. Deprived of silex by this process of filtration, it is formed into sujji, from which the soap is made. On this process of filtration, Doctor O'Shaughnessy observed :—" that he does not in this process, clearly understand the use of the common salt, used in the extraction of soda. But many of the empirical practices of the natives prove, on investigation to square with the most scientific precepts. For example, their proportions in the manufacture of corrosive sublimate are precisely identical with those which the atomic theory leads the European chemist to follow. Every district where there are low lands, which are inundated either by natural or artificial means, produces some rice; heavy dakar soil suits it. It is one of those crops that requires raising first in a nursery, after which the seedlings are planted out. In the Punjab, the upper valleys of Kangra are the granaries of rice. Here are combined the abundance of water with high temperature and a peculiar soil, which makes rice so exclusive a product. The British Government having solicited information as to the mode of reclamation of saline land in vogue in the Utah territory, the secretary of the Dario County Branch of the Desert Agricultural and Manufacturing Society, wrote to the President of the Desert Agricultural and Manufacturing Society, from Farmington, Davis County, on the 11th January 1872. He states that the efforts of many farmers who own lands bordering immediately on the shores of the Great Salt Lake have been very successful, in almost every instance, by flooding with fresh water during the spring and winter months, thereby washing the land and leaving a deposit of sand and mud washed down from the land through which the stream passes. Some of the farmers are now cutting from two to three tons of fine hay per acre, and from fifty to seventy-five bushels of small grain are raised per acre on land raised by this treatment. Some farmers have been successful by hauling sand and mixing with the soil. These are the only modes of treatment that have proved successful.

In the Punjab and along the course of the Ganges Canal, a saline substance called reh, effloresces on the soil. It is composed principally of sulphate of soda and chloride of sodium, with, in some places, carbonate of soda. The sulphate and carbonate of soda are very efflorescent salts and melt partly in their water of crystallization at a temperature of about 98° while they are rather sparingly soluble, when the temperature falls below 60°. Hence, during the hot weather, the reh melts and percolates the ground to some considerable depth : but as the weather becomes cooler, crystals form in this soil and form a capillary net-work, up which the solution travels till it arrives at the surface where the salt gives off its water of crystallization, and falls into a dry powder by efflorescence highly injurious to vegetable life. It has been proposed to remedy this condition by adding nitrate of lime, which converts the sulphate and carbonate of soda, into nitrate of soda a deliquescing salt, while the lime is changed either into the insoluble carbonate or sparingly soluble sulphate of lime, neither of which are efflorescent nor in any way injurious to vegetation. The plains of the Punjab are vast expanses of alluvial clay and loam, and the main distinction in the soils is that they are sandy, or as is most frequent, rich loam or clay. Rohi soil, is a stiff loam ; the do-shahi is the dumat of Hindustan and is a good quality of clayey soil, on which when manured, are grown cotton, fine wheat, barley, sorghum, zea mays, melons.

Rohi is the finest natural soil, a stiff loam, which breaks up into large clods.

Doshahi is the 'dumat' of Hindustan ; a clayey soil, generally of good quality, manured by cattle being folded on it ; when manured, it grows cotton, fine wheat, barley, joar, makai, melons, &c.

Mera, a mixture of clay and sand, the 'rusli' of Hindustan, has many varieties ; some very good and equal to the best 'doshahi.'

Tibbah, nearly all sand, the 'bhur' of the provinces, worth very little, and only grows the inferior crops of moth, mash, &c.

High and somewhat sandy tracts in the centres of 'doabs,' and equi-distant from river influence on both sides, are almost universal called 'bar.'

In the Cis-Sutlej States, the main divisions of the soil, to a certain extent corresponding to the netar and utar, are the low lands, being called 'khadar ;' lands which have at one time been the beds of the rivers, or have been flooded ; and 'bangar,' high land, requiring irrigation by wells. These great divisions are sub-divided as 'nyain,' loamy land cultivated with manure and artificial irrigation ; 'rusli,' good loam ; 'dakar,' a low-

lying stiff clay, productive of rice and gram ; and ' bhur,' an inferior land with a large proportion of sand. Land that is inundated is generally unproductive for want of drainage, is called 'choil.' In some of the sandy districts, the names vary considerably. In the Gugaira district, for instance, where the soil is very bare, there is but little scope for all the varieties of inundated, irrigated and other lands ; if land is cultivable at all it is fortunate, and there is but little variety to distinguish. The most generally recognised names of the descriptions of culturable soil are 'gusrah,' 'sikand' and 'retli.' In the Settlement Records, the name 'dakar' which is locally unknown, was introduced by the Hindustani ameens employed on the measurements. The equivalent term is 'gusrah.' 'Retli,' as its name implies, is land with an excess of sand, and 'sikand' is a stiff clay soil, suited for rice ; it is called in some parts 'pakki chikni.'

The 'kalri' is a salt efflorescence, which is observed in many places. Sometimes it extends over large tracts of land, rendering them almost entirely unproductive ; they are called 'kalri zamin.'

Some kinds of plants like the kair soil, among these may be mentioned garden stocks and wall flowers, and other brassicaceous plants ; and also tobacco is said to thrive.

In the hill districts bordering on the Amballa divisions, and Kotaha in the Amballa district the land is divided into 'kulahu,' land watered by kuls (water-courses supplied from an artificial pond formed by damming up the hill streams,) and 'obar,' which is the same as barani, land dependent on rain for its irrigation.

Obar land is of two kinds, 'todah' and 'khil.' Toda are those little hanging fields like steps rising one above another, and are built up at their lower edge with stones, and which are liable to destruction by being washed down when the rain is violent. If the land is good, it is called 'awal kism' or first class ; if stony and bad, 'duyam kism' or second class. 'Khil' land is that which is broken up with the hoe on the steep slopes of the hill ; it is too steep to be ploughed. These kinds of soil are observable through many hill districts.

The Kangra valley, locality is singular as to its climate, soil, and means of irrigation.

In the N. W. Provinces, the deterioration of land by reh first attracted serious attention in the villages along the Western Jumna Canal, and its branches, about Delhi, Paniput, Rohtak, and Karnal. In 1857, Mr Sherer, Joint Magistrate of Allygurh, went on deputation to examine the tracts of country deteriorated, and the picture presented by him of the suffering in some of the villages was truly deplorable. Out of 580 canal villages, 59 or nearly 10 per cent. had been injured in degrees ranging from severely to partially, 6 per cent. being severely injured. The maximum appeared to be reached in Paniput where 46 villages, or 19 per cent. were injured out of 242. The salt effloresces in several parts of the Punjab, where there are no canals at all ; in these places it appears in land irrigated from wells where the water is very far from the surface. The salt itself consists of sulphate of soda with a variable proportion of chloride of sodium (common salt). In some of the instances given by Dr. O'Shaughnessy, the percentage was high at Jagu, in Paniput it was 20 per cent., and this consisted of abundance of carbonate of soda with sulphate, and chloride of sodium and lime. As far as experience goes, lands near canals, like the old Hosli, in the Lahore district, constructed at but not below the ordinary level of the watershed, are usually found to be free from Reh efflorescence. It is admitted by the advocates of re-alignment, that drainage is to a certain extent a palliative and a cure. Generally speaking, the farmers assert that fully impregnated Reh land is incurable and valueless. In gardens and small plots, it has been found useful to dig out the soil to the depth of 2 feet or so entirely, and put in fresh. Dr. Brown, Chemical Examiner for the Punjab, has demonstrated that nitrate of lime would succeed.

In the Punjab, the classification of land according to means of irrigation is understood everywhere. Even where terms descriptive of soil are employed, any or every class of land may also be described as 'chahi,' if it is watered by wells ; 'obi,' if by ponds ; or 'chalar' to be described hereafter ; 'sailabi,' if by flood and inundation of rivers ; 'pani mar,' if damaged by drainage floods ; and 'barani,' if dependent on rain. These means themselves indicate the source of the water of irrigation.

The plain districts of the Punjab are subdivisions of Doabs. The names of the Doabs are in all instances (excepting the first or Jalandhar Doab) the result of a rude attempt to join the names of the rivers on each side into one word. Thus passing the Jalandhar Doab, between the Sutlej and the Beas, we come to the Bari Doab, (Beas and Ravi.) Then between the Ravi and Chenab, the Richnah Doab ; between the Jhilum and Chenab, is the Jach Doab. The last Doab up to the Indus, takes its name from that river, and it is called Sind Sagar, 'the ocean of the Sind' (Indus river), *i. e.*, tracts of country between two rivers.

INDIAN SOILS.

Territory, &c.	Locality.	Remarks.	Water at 212° Fah.	Water above 212° and organic matter.	Silica free and combined.	Alumina.	Peroxide of iron.	Lime as carbonate.	Lime as sulphate.	Lime in other forms.	Magnesia.	Potash.	Sodium as chloride.	Soda in other forms.	Phosphoric acid.	Number.
			Composition—Per Cent.													
Alluvial Soils. *Ganges River system.*																
Bundelkund	Bomori, 93 miles N. W. from Saugor	Light brown with much silex, extends over a large surface. Good, but stony.	1·082	1·247	84·000	9·180	1·350	trace	0·036	1·405	0·100	0·614	0·023	0·590	0·041	1
Oude	Cawnpore	Drab-coloured, micaceous. Cultivated, not manured	1·370	0·900	79·978	9·600	3·060	9·909	0·097	0·441	0·120	1·790	0·037	1·131	0·107	2
Do.	Lucknow	Very fertile soil	..	2·400	28·290	2·870	3·270	59·550	trace.	3·057	0·270	0·193	trace.	0·050	trace	3
North-western provinces	Agra, near the Milly. Cantonments.	Sub-soil taken 16 feet below surface. Light grey with tinge of yellow. Much finely divided silex	..	3·725	63·400	3·827	3·657	18·727	0·037	0·493	1·181	0·568	0·048	0·037	0·110	4
Do.	Do. do. do.	Very light grey, with but few pebbles. Sub-soil taken 32½ feet below surface	..	3·720	81·177	5·109	3·778	4·964	0·051	none.	*0·574	0·422	0·079	0·155	0·161	5
Do.	Do. do. do.	Yellowish, lumpy, containing much fine sand. Sub-soil 44 feet below surface	..	4·325	67·742	6·462	4·334	14·460	trace.	1·582	0·660	0·558	trace.	0·079	0·289	6
Bahar	Nandlapur, 3 miles east of Monghyr.	A red soil, good, extensively cultivated, and not manured	6·363	0·613	69·032	12·810	8·670	trace.	0·036	0·261	0·390	1·500	0·041	0·138	0·043	7
Do.	Gaya, 55 miles south of Patna	Light brown soil, very fine not impalpable. Good soil, very extensively cultivated	3·470	0·960	69·860	14·210	9·310	0·079	0·013	0·253	0·290	0·550	0·053	none.	0·153	8
Bengal	Buksar, on right bank of Ganges	Drab-coloured, micaceous, very finely divided. Cultivated, not manured	3·170	0·370	72·842	13·560	3·770	2·727	0·005	2·401	0·240	0·445	0·051	0·582	0·121	9
Do.	Rajpur, 3 miles east of Bhagalpur	Light brown, almost impalpable. Good soil, extending over a large surface. Cultivated, but not manured	1·470	1·130	78·325	9·100	5·410	0·670	0·031	0·195	0·400	1·570	0·041	1·162	0·088	10
Do.	Bhagalpur	Snuff-coloured soil, with much lumpy carbonate of lime and pebble. Good soil, extensively cultivated	3·210	1·520	61·000	10·360	2·710	17·045	0·010	1·781	0·772	0·963	0·020	0·392	0·107	11
Do.	Khaijarpur factory, near Bhagalpur	Good indigo soil, not manured	1·650	5·216	55·194	10·683	3·700	17·825	0·018	3·700	1·146	0·800	0·014	1·100	0·085	12
Do.	Bhagalpur	Do. do	1·470	4·700	57·100	10·800	4·000	16·043	0·012	3·446	1·250	0·832	none.	1·012	0·122	13
Do.	Calcutta, from the bottom of the river Hooghly	Drab-coloured micaceous soil, almost impalpable	2·750	1·950	66·000	15·690	8·640	0·680	0·029	0·414	0·871	2·020	0·106	0·944	0·102	14
Brahmaputra River system.		* Carbonate of magnesia, 0·107.														
Assam	Debrugurh, neighbourhood of	A peculiar micaceous soil of a red-colour. Used for tea cultivation	5·700	0·020	65·046	16·550	7·850	trace.	0·002	2·530	0·740	0·820	0·022	0·758	0·115	15
Do.	Do.	Drab-coloured, approaching white. Only occasionally cultivated, not manured.	3·330	0·130	68·700	17·470	4·530	0·014	0·005	0·881	1·450	1·810	0·029	1·795	0·042	16
Do.	Debru, east of Debrugurh	A fine micaceous soil, of a light reddish-brown colour. A regularly inundated but indifferent soil	3·930	1·440	69·660	12·830	9·660	0·091	0·010	0·173	0·500	0·700	0·033	0·043	0·063	17
Do.	Machuli island in the Brahmaputra, near Salamara village	Stiff drab-colored soil, approaching whiteness. Cultivated	5·830	3·500	55·300	29·630	3·570	trace.	0·007	..	1·210	0·620	0·025	0·167	0·058	18
Eastern Bengal	Jairampur, left side of Brahmaputra	A ferruginous clay. Cultivated & inundated	6·750	1·950	62·505	22·240	5·230	trace.	0·034	none.	0·240	0·664	0·063	0·513	0·015	19

INDIAN SOILS.—(continued.)

Territory, &c.	Locality.	Remarks.	Water at 212° Fah.	Water above 212° and organic matter.	Silica free and combined.	Alumina.	Peroxide of iron.	Lime as carbonate.	Lime as sulphate.	Lime in other forms.	Magnesia.	Potash.	Sodium as chloride	Soda in other forms	Phosphoric acid.	Number.
			Composition—Per Cent.													
Eastern Bengal........	Jumalpur, in most northern part of the Delta of Brahmaputra......	Yellowish brown, with much fine silex. Cultivated, but not manured. Inundated at the time the sample was obtained....	4·700	1·780	71·350	14·010	7·040	0·144	0·009	..	0·232	0·450	0·041	0·253	0·125	20
Do.	Rajaganj, on the Surma...........	Very light brown, somewhat lumpy. Cultivated and inundated..............	2·930	1·730	72·000	16·270	3·460	trace.	0·007	0·883	1·240	0·786	0·016	0·686	0·082	21
Do.	Bairab bazar, 1 mile north of, near the junction of the Surma and Brahmaputra..................	Cultivated, not manured	1·155	3·892	60·443	15·835	12·662	„	0·414	2·160	0·295	1·830	0·079	1·022	0·250	22
Do.	Koralea, 5 miles east of, near the Megna........................	Drab-coloured with reddish tint. Regularly inundated and cultivated eight months of the year..........................	4·160	1·190	67·000	17·440	4·890	„	0·088	1·404	1·430	0·598	0·020	1·656	0·132	23
Indus River system.																
Punjab	Near Roorkie.....................	Whitish soil, called pakka zamin (hard soil,) obtained just above the limit of the regular perennial overflow of the Indus.	2·900	6·593	52·950	15·347	8·153	8·557	0·022	1·045	1·388	1·220	0·038	0·976	0·025	24
Do.	Near Rawulpindi, Sind, Saugour Doab	Drab-coloured, dense soil. Ordinary cultivated soil..........................	4·430	2·840	59·500	17·890	5·110	1·164	0·069	6·778	0·720	1·038	0·074	0·404	0·107	25
Do.	Numbal, Sind, Saugour Doab.......	Reddish drab, distinctly calcareous. Cultivated, but not manured.............	3·940	1·010	50·490	11·890	7·420	16·660	0·839	3·915	1·218	1·102	0·315	0·943	0·069	26
Do.	Kot Isa Shah, in the Jeek Doab between the Jhilam and Chinab.....	Cultivated, but not manured.	1·750	2·410	66·640	12·260	6·310	9·810	trace,	..	1·330	0·520	trace.	0·213	0·043	27
Do.	Lahore between the Ravi and Sutlej	A light drab coloured impalpable soil, carefully irrigated and cultivated with rice. The best soil near Lahore........	3·930	0·930	63·800	12·660	10·000	4·000	0·041	1·033	1·910	1·029	0·036	0·722	0·032	28
Do.	Do.	Light drab-coloured, almost impalpable. Sub-soil to (37); 5 feet below the surface of a rice field	2·160	0·500	66·337	14·630	4·100	5·459	0·051	1·590	2·010	1·820	0·033	1·313	0·097	29
Do.	Do. and Sutlej.................	Light drab-coloured sub-soil, from 10 feet below the surface. Very good siliceous soil	1·260	3·700	65·800	12·814	6·280	4·690	0·155	..	3·070	1·224	0·080	0·900	0·092	30
Do.	Between Roorkie and Adolsha in the Bari Doab..................	Whitish, retentive of moisture. Cultivated, but not manured. Occasionally inundated by the Indus	1·800	7·860	49·783	15·450	8·600	9·160	0·209	1·466	3·235	1·287	0·026	1·130	0·064	31
Do.	Serdarpur in the Bari Doab, between the Ravi and Sutlej............	Cultivated soil.........................	3·930	0·930	63·800	12·660	10·000	4·000	0·041	1·033	1·910	1·029	0·036	0·722	0·032	32
Do.	Mooltan, Bari Doab.............	A light drab-colour, almost impalpable. Covered with grass	1·860	1·520	70·000	12·980	8·010	1·637	0·070	1·204	0·443	2·210	0·055	0·801	0·117	33
Do.	Do. do.	Light drab-soil, 3 feet below the surface..	1·090	1·370	68·670	14·150	6·340	3·182	0·090	0·661	0·590	2·130	0·078	1·232	0·109	34
Do.	Naushera, in Bhawulpore..........	Stone-coloured, calcareous sub-soil, 9 feet 9 inches below the surface.............	2·120	4·080	57·900	15·000	3·500	9·620	0·452	3·130	2·300	0·830	0·262	1·000	0·140	35
Do.	Ahmedpur, in Bhawulpore.........	Whitish, somewhat calcareous. Cultivated	1·300	3·150	63·800	12·300	6·250	5·145	0·061	5·196	1.290	1·022	0·036	0·862	0·063	36
Sindh	Larkhana.........................	Good cultivated soil....................	..	2·300	54·940	15·850	14·720	9·563	trace.	none.	0·560	1·103	trace.	0·620	0·060	37

River of Central India.															
Orissa	Puske Par, near the Godavari, to the north of Rajamundry.........	Grey siliceous soil, with very slight retentiveness for moisture. It is the predominant soil.........................	0·235	1·183	97·298	0·604	0·147	trace.	trace.	0·142	0·091	0·060	0·023	0·015	0·109	38
Black Cotton Soils.																
Guzerat................	Purderi, north-west of Rajkote.....	Coarse pebbly soil of pigeon grey colour. A good soil. Cultivated, but not manured.	4·323	0·117	74·202	8·000	3·200	5·545	0·022	1·396	1·730	0·594	0·065	0·749	0·127	39
Do.	Between Dassa and Daruka.......	Dark grey, very tenacious. Good ordinary soil, generally cultivated.	7·960	1·870	36·980	16·410	9·340	33·600	0·013	1·210	1·020	0·710	0·065	0·236	0·025	40
Do.	Near Kotra........................	Fine specimen of cotton soil..............	5·767	6·194	49·588	12·089	19·860	0·454	0·374	4·750	0·804	0·287	0·033	0·383	0·151	41
Malwa	Between Panagurh and Jubbulpore	A brown lumpy soil, with much silex. Good black cotton soil, of great extent. Cultivated, but not manured...........	10·700	none.	61·500	16·660	6·000	0·454	0·121	1·377	0·720	0·573	0·053	1·719	0·166	42
Do.	Surki, south of Saugour............	Dark grey, coarse and powdery, with few fibres. Good black cotton soil. Cultivated, but not manured	7·500	2·560	63·820	8·867	12·629	trace.	0·061	1·824	0·447	0·134	0·066	0·087	0·063	43
Berar..................	Near Sironcha..................	Good black cotton soil, extensively cultivated..................................	3·459	3·099	76·510	6·194	6·885	0·795	0·382	0·929	0·492	0·744	0·058	0·273	0·080	44
Dekhan.................	Navi Ghat, between Rematpur and Pusesanli, near the Krishna......	Deep brown with few visible particles of chalk, and but little silex. Good black cotton soil. Cultivated, but not manured	20·000	0·330	43·100	1·500	10·000	2·000	0·004	0·340	0·570	0·695	0·048	1·700	0·025	45
Do.	Khamalpur on the right side of the Krishna..........................	Deep brown, with some coarse silex. Good black cotton soil. Cultivated, but not manured..................................	17·000	0·460	41·730	19·930	11·410	2·228	0·024	4·353	0·143	0·813	0·053	0·779	0·038	46
Mysore	Bellary	Deep slate cotton, with much silex and visible, chalk particles. Good black cotton soil. Cultivated, but not manured..	12 000	0·260	57·330	13·330	5·230	9·231	0·017	1·154	0·290	0·332	0·055	0·774	0·101	47
Soils derived from Rocks in situ.																
Neilgherries	Paikara, west of Ootacamund......	Bright ochreous soil with great affinity for water. A very good specimen of laterite	5·070	10·080	31·480	14·910	36·823	0·090	0·017	0·448	0·195	0·760	0·016	0·360	0·005	48
Do.	Coonoor, S. S. E. from Ootacamund..........................	Bright ochreous soil with great affinity for moisture. Laterite very frequently met with....................	7·610	10·190	35·817	27·986	17·265	..	0·014	0·024	0·036	0·660	0·020	0·120	0·007	49
Orissa	Hills near Rajahmundry...........	Light reddish brown, very lumpy, as if burnt. Highly siliceous, finely grained laterite, extensively cultivated, but not manured..............................	2·240	0·826	86·183	5·807	2·659	trace.	0·037	0·932	0·034	0·450	0·018	0·110	0·436	50
Berar..................	Deolapore, north of Nagpore	Sandy soil of decomposed granite. Cultivated, but not manured..................	1·042	2·507	76·083	10·989	5·481	„	0·389	2·104	0·461	1·444	0·024	0·505	0·102	51
Soils of mixed origin.																
Bundelkund	Teri, 72 miles north-west from Saugour	Good soil for wheat cultivation, covers a large area.	2·860	0·140	81·430	11·930	1·400	0·454	0·002	0·013	0·308	0·578	0·033	0·383	0·023	52
Malwa	Nursinghapur......................	A deep pigeon-grey soil with muuh coarse silex. Rich in peroxide of iron, it contains no alumina. Ordinary soil capable of cultivation..........................	12·000	0·530	54·730	trace.	25·000	2·454	0·004	3·286	0·960	0·412	0·031	0·302	0·066	53
Do.	Surchamur, north of Nursinghapur	An olive-brown soil, gritty from silex. A good cotton soil, not manured..........	16·000	2·000	41·930	23·292	13·438	0·454	0·005	1·194	1·441	0·720	0·055	0·529	0.008	54

Goera or nyain, is a term applied only to lands in the vicinity of wells and villages, which are abundantly irrigated and manured. Actual desert soil is called 'thul.'

In Cis-Sutlej, the two great divisions of land are khadir and bangar. Khadir are low lands that owe their depression to having once been the beds of rivers, or levelled in some way by the influence of river action.

The other term, bangar, includes the higher lands, answering to the generic terms 'des' and 'mahjah'. In this tract the wells require to be sunk deep. The water is met with at from 30 to 60 feet.

These terms are however descriptive rather of tracts of country according to situation, &c., than kinds of soils.

'Nyai,' is rich land near villages.

'Rausli,' is a light loam producing all crops, except rice. It is soft and easily worked, consisting of clay and sand ; it is mostly like though superior to the 'doshahi' in the Punjab series.

'Bhur,' answering to 'maira,' is a light sandy soil, the better kinds of it produce bajra, moth, mash, and jawar. Low lands that receive the drainage of neighbouring uplands, and cannot carry it off so that it lies, are called 'choil.' They are unproductive for want of drainage. High tracts from which the water drains off quickly, are called magra and thalli.

'Matyar' is the equivalent Hindustani term of 'rohi,' misar of 'misi,' and 'domat' of 'doshahi.'

In the hill districts, including both hills and intramontane valleys,

The best land is called 'bari.'

The second quality of land is called 'ek-fasli.'

The third quality is distinguished by the name 'shand,' this is allowed to lie fallow for two harvests, and is then cultivated only for the rabi.

The fourth kind is 'math,' it is a good quality of land, and is retentive of moisture, and will, if manured, yield two harvests in the year.

The fifth kind is 'regi,' that is mixed with sand, or adjacent to the bed of a nullah or hill stream, 'shelah,' which has washed down quantities of sand.

The natives give the generic name 'daman-i-koh' or 'kandi,' to the low hills that form the bases of the higher ranges, and in which such hill states as Kotahah, and others are situate.—*Punjab Products, pp.* 138-202 ;*Sleeman, Cat. Ex.* 1862.

SOINGHIKEYA, SANS. The son of Singhika.

SOIVYA, SANS. The disciples of Siva.

SOJA, a genus of plants belonging to the natural order Leguminosæ. Soja hispida (*Mœnch*), S. japonica (*Savi*), the Dolichos soja, (*Linn.*), is a native of Japan and the Moluccas, and abundant in the peninsula of India, though probably introduced there. The seeds resemble those of the haricot, French or kidney bean, and are used by the Chinese to form a favourite dish called 'teu-hu,' or 'tau-hu,' which looks like curd, and which, though insipid in itself, yet with proper seasoning is agreeable and wholesome. The Japanese call the seeds 'miso,' and put them into soup, of which they sometimes partake three times a day. They likewise prepare with them the sauce termed 'sooja,' which has been corrupted into 'soy.' Soy is only sparingly used as a sauce in Great Britain. It has the character of being a useful stomachic, but not more so than any of the other condiments when used with moderation.—*Eng. Cyc.*

SOJA HISPIDA, *Mœnch, W. & A., Grah.*

S. japonica, *Savi.*		Dolichos soja, *L., Roxb.*	
Gari kulay,	BENG.	Sahuca bean,	ENG.
Soy-bean,	ENG.	Bhut,	PANJAB.

This plant grows in the N. W. Himalaya, in Nepal, at Taong Dong, in China, Japan and the Moluccas. It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6,000 feet. It is cultivated in many parts in the north of India. This is the well-known Chinese bean, which constitutes such a large article of trade between the northern and southern parts of China. Of all vegetable substances, it is richer in nitrogenous or flesh-forming matter than any yet discovered. The Sahuca bean, is the white Soja hispida. *India Museum.*

SOJNA, or Dawut, HIND. The science of exorcism.

SOKA, HIND. A blight, from want of water, when the sugar-cane dies.

SOKKAR, a river of Nagpoor.

SOKPA, a colony of pure Mongols.

SOL, also Aurum, also Rex Metallorum, LAT. Gold.

SOL, the sun : see Osiris. Saraswati, Sun, Surya.

SOL, RUS. Salt.

SOLA, HIND. Plectranthus rugosus ?

SOLA, BENG., HIND.

Æschynomene aspera, *L.*		Hedysarum lagenarium, *Roxb.*	
Æ. lagenaria, *Lour.*			
Sola,	HIND.	Phool sola.	HIND.

A plant of Bengal, Coromandel, Sylhet, Assam, Saharunpoor, common in moist places, in the rainy season. The lower part of the stem is rough and scabrous, as well as the legumes. The plants are remarkable for their light and spongy texture, and seem indeed to be composed almost entirely of pith. The

thicker stemmed plants are collected in the dry months of April and May, and the light substance applied to making some kinds of toys, the floats of fishermen's nets, and cut into thin slices and pasted together, for making hats, which, being light and having broad brims, are well suited for protecting the head from the influence of the powerful Indian sun, especially if a handkerchief be put loosely into the crown of the hat. This substance has also been employed for lining drawers of natural history, and in its texture very much resembles the substance called rice-paper, which is the pith or stem of a malvaceous plant cut into thin slices. The larger plants are particularly light, white and spongy.—*Roxb., Voigt., M. E. J. R.*

SOLADI-TURTAVA, Ocymumbasilicum.

SOLANACEÆ, *Lindl.* The night-shade tribe of plants, comprising 7 gen., 44 sp., viz., 31 Solanum; 4 Physalis; 1 Anisodus; 5 Datura; 1 Hyoscyamus; 1 Atropa; 1 Lycium.

Lycium afrum, *L.*, North Africa, Spain.
„ barbarum, *L.*, S. Europe, Africa, N. Asia.
„ chinense, *Milt.*, Cochin-China, Canton.
Capsicum annuum, *L.*, *Roxb.*, South America.
„ baccatum, *L.*, Tropical America, Guinea, India.
„ chamæcerasus, *Nees*, Moluccas.
„ fastigiatum, *Blain*, South America.
„ frutescens, *L.*, East Indies.
„ grossum, *Willde*, Nepal.
„ sinense, *Jacq.*, China. [Mauritius.
Solanum æthiopicum, *L.*, Æthiopia, China, Japan,
„ tetrandum, *R. Br.*, New Holland.
„ macrodon, *Wall*, Khassya Mountains.
„ crassipetalum, *Wall*, Nepal.
„ denticolatum, *Blain.* Sylhet.
„ giganteum, *Jacq.*, Neilgherries.
„ auriculatum, *Ait.*, Madagascar, Bourbon, Mauritius.
„ byrsinum——? Mexico.
„ campechiense, *L.*, Campechi Bay.
„ decemdentatum, *Roxb.*, Singapore, China.
„ ferox, *L.*, South Concan, Coromandel, Bengal, Penang, Singapore.
„ incertum, *Dun.*, Bengal, Sylhet.
„ indicum, *L.*, All British India.
„ jacquini, *Willde*, All British India.
„ macrocarpon, *L.*, Peru.
„ melongena, *L.*, Palestine.
„ nigrum, *L.*, Europe.
„ nodiflorum, *Jacq.*, Brazil, Guinea, Mauritius.
„ pentapetaloides, *Roxb.*, Brazil.
„ pseudocapsicum, *L.*, Madeira.
Physalis peruviana——?
„ stramonifolia, *Wall*, Gosainthan.
„ sodomeum, *L.*, Europe, North Africa, North Holland.
„ tuberosum, *L.*, W. Coast of S. America.
„ verbascifolium, *L.*, All India.
„ rubrum, *Mill.*, British India.
„ spirale, *Roxb.*, Sylhet, Assam.
„ torvum, *Swz.*, Bengal.
Lycopersicum cerasiforme, *Dun.*, Peru.
„ esculentum, *Mill.*, America.
„ humboldtii, *Dun.*, South America.
Physalis alkekengi, *Linn.*, Europe, Persia.
„ angulata, *L.*, East and West Indies.
Physalis minima, *L.*, All East Indies, Archipelago, Nepal, New Holland.
„ peruviana, *L.*, Peru, East Indies.
„ pubescens, *L.*, America, India.
„ somnifera, *Nees*, Coromandel, Concans, Guzerat.
Nicandra physaloides, *Gærtn.*, Peru, Chili, North America.
Datura alba, *Rumph.*, All India.
„ ferox, *L.*, Himalaya, Nepal, Cochin-China, China.
„ inermis, *Jacq.*, Abyssinia.
„ metel, *L.*, Canaries, Africa.
„ stramonium, *L.*, South America, Europe, North Africa, North Asia.
„ suaveolens, *Willde.*, Peru, Chili, Mexico.
„ tatula, *Linn.*, America.
Nicotiana bonariensis, *Lehm.*, Buenos Ayres.
„ cerinthoides, *Hornem.*——?
„ fruticosa, *L.*——?
„ glutinosa, *L.*, Peru, South America.
„ paniculata, *L.*, Peru.
„ plumbaginifolia, *Viv.*, Rio Grande.
„ quadrivalvis, *Pursh.*, North America.
„ rustica, *L.*, Europe, Asia, Africa, America.
„ tabacum, *L.*, All the world.
Petunia nyctaginiflora, *Juss.*, South America.
Hyosciamus albus, *L.*, Europe, Tauria.
„ canariensis, *Ker.*, Canaries.
„ muticus, *L.*, Arabia, Egypt.
„ niger, *Linn.*, Europe, Caucasus, North India.
Atropa belladonna, *Linn.* N. Europe, Kanawar.
Withania somnifera—? East Indies.
Mandragora officinarum.

Some of this family are deleterious, some have narcotic qualities. The tubercles of such as produce them are amylaceous and nutritive. The leaves are generally narcotic, but lose that quality by boiling. The fruits which are red or yellow are acid and eatable, as the alkakengi, tomato and capsicum : those which are black or purple are deleterious, as the mandrake, belladonna, thorn apple, henbane, cestrum, &c. Atropa belladonna, *L.*, the suchi of the Sutlej, is found wild in Kanawar at 8,500 feet. It is stated to be burned in order to kill fleas.—*Dr. J. L. Stewart, M.D.; Voigt.*

SOLANEE, a river near Landhoura, Kheree and Hurowrah in Saharunpoor.

SOLANDS, see Kyan.

SOLANGKA is the Mongol name of the northern part of the Sungari river, *Klaproth in Yule Cathay, Vol.* ii, *pp.* 267–268.

SOLANKI or Chulook. Though we cannot trace the history of this branch of the four Agnicula Rajputs to such periods of antiquity as the Pramara or Chohan, it is from the deficiency of materials, rather than any want of celebrity, that we are unable to place it, in this respect, on a level with them. The tradition of the bard makes the Solanki important as princes of Sooru on the Ganges, before the Rahtor obtained Canouj. Their capital was to India what Venice was to Europe, the entrepot of the products of both the

eastern and western hemispheres. It fully recovered the shock given by Mahmud and the desultory wars of his successors ; and we find Sid Rae Jey Sing, the seventh from the founder, at the head of the richest, if not the most warlike, kingdom of India. The lieutenants of Shahab-u-Din disturbed the close of Komarpal's reign ; and his successor, Ballo Mooldeo, closed this dynasty in S. 1284 (A. D. 1228), when a new dynasty, called the Baghela (descendants of Sid Rae) under Beesildeo, succeeded. Though the stem of the Solanki was thus uprooted, many of its branches (Sachæ), had fixed themselves in other soils. The most conspicuous of these is the Bhagela family, which gave its name to an entire division of Hindustan ; and Bhagelkhund has now been ruled for many centuries by the descendants of Sid Rae. Besides Bandoogurh, there are minor chieftainship still in Guzerat of the Bhagela tribe. Of these, Peetapoor and Theraud are the most conspicuous. One of the chieftains of the second class in Mewar is a Solanki, and traces his line immediately from Sid Rae : this is the chief of Roopnagurh, whose stronghold commands one of the passes leading to Marwar, and whose family annals would furnish a fine picture of the state of border-feuds. The Solanki is divided into sixteen branches. The name of the Bhagela subdivision is from Bhag Rao, the son of Sid Rae ; though the bards have another tradition for its origin.—*Tod's Rajasthan, Vol.* i *pp.* 97–99. See Agni ; Komarpal.

SOLANUM, one of the natural order Solanaceæ. Upwards of 400 species of plants belonging to this genus have been enumerated, including many with apparently very opposite properties. The esculent tomato, the egg-plant, and the invaluable potato, with the various species of poisonous night-shades, are found united so closely by botanical characters that it is impossible generally to separate them. The properties of these plants, however, do not differ in kind but in degree ; and the berries and leaves, and even the tubers when uncooked, of the potato, possess in a mild degree the narcotic properties of the poisonous night-shades. Many of them have also very handsome flowers, and are much cultivated in English gardens and green-houses. S. jacquini is considered by the native practitioners of India as an expectorant ; S. bahamense is used as a gargle for sore throat in the West Indies ; S. mamosum, S. paniculatum and S. cernuum, have the reputation of being diuretic and astringent. In the Tenasserim provinces four species have been observed, but have not been determined, viz. :—

Khayan gywot,	BURM.	Kha yan khyen,	BURM.
Næpoo khayan,	,,	Kha yan pa mai,	,,
Ta byæ,	,,		

—*Eng. Cyc.* ; *Mason's Tenasserim.*

SOLANUM ÆTHIOPICUM, Æthiopian night-shade, is a native of Ethiopia, China, and Japan. There are two varieties recorded : one, the Æ. violaceum, is a native of China, and the fruit is frequently eaten in that country as a dessert. It has a large spheroid oval berry of a red colour. The other variety is the S. æsculentum, having a prickly stem, and small yellow berries of the size of peas.

SOLANUM CANESCENS, *Bl., Rheede.* Syn. of Solanum indicum, *Linn.*

SOLANUM DIFFUSUM, *Roxb.*, Syn. of *var.* Solanum jacquini, *Willd.*

SOLANUM DULCAMARA.

Woody night-shade.	ENG.	Rooba barik,	HIND.
Bitter-sweet.	ENG.		

Stem shrubby, thornless, climbing, flexuous ; leaves cordate, upper ones jagged ; corymbs almost opposite the leaves. It is a native of Europe, Asia and North America, in hedges and amongst bushes. It is plentiful in Great Britain, and it or a variety of it is found on the Choor mountain, and in the Panjab Himalaya at 7,000 to 7,500 feet. Its leaves, &c., (or those of S. nigrum,) are officinal under the above name. It has purple flowers and crimson berries. It is a native of temperate climates, is a shrubby twining plant, with scarlet, oval, bitter and juicy berries, which latter may be mistaken by children for red currants, a mistake that has sometimes been attended with fatal consequences. These are acrid narcotics, and poisonous in moderately large quantities. The young stalks and tops have been much used in medicine as a diaphoretic and alterative, especially in the treatment of cutaneous diseases, and in asthma ; in lepra, psoriasis, and similar affections, it is said to be employed externally with good effect. It is on the whole, however, an unimportant article, and not likely to be much prescribed in Indian practice.—*Eng. Cyc.* ; *Royle* ; *O'Shaughnessy, p.* 462 ; *Dr. J.L. Stewart, M. D.*

SOLANUM ESCULENTUM, *Dun.* Syn. of var. of Solanum melongena, *Linn.*

SOLANUM FEROX, *Linn.*

S. involucratum, *Bl.*		S. hirsutum, *Roxb.*	
S. lasiocarpum, *Dun.*		S. mammosum, *Lour.*	
Ram began,	BENG.	Ana chunda,	MALEAL.
Vatarajakulo,	CAN.	Ana chunda,	TAM.

A scarce shrub but found on the coast line of Southern India. A species of wild brinjal (without thorns) and is eaten by the natives on the Malabar coast. It is used in fever and rheumatism.—*Ainslie, p.* 246.

SOLANUM GRACILIPES, *Vern.* Halun, gagra, HIND.—*Powell's Hand-book, Vol.* i, *p.* 363.

SOLANUM HIRSUTUM, *Roxb.* Syn. of Solanum ferox, *Linn.*

SOLANUM INCERTUM, *Dun.*

Ruba-barik,	Mannuttha-kalee, TAM

The leaves are used as a pot-herb. The fruit and leaves in the preparation of chatnies; cultivated by the natives commonly. It contains a peculiar alcaloid, solanine, and acts as a diaphoretic, diuretic and alterative, especially in skin diseases as pepra.—*Jaffrey's Hints to Amateur Gardeners; Powell's Hand-book, Vol.* i, *p.* 363. See Vegetables of Southern India.

SOLANUM INDICUM, *Linn.*

S. violaceum, *Jacq.*	S. canescens, *Bl., Rheede.*

Byakur, BENG.	Mulli, TAM.
Kolsi, DUK.	Kaka machi, TEL.
Indian Night-shade, ENG.	Tella mulaka, „
Kandyaree, HIND.	Tella nela mulaka, „
Cheru-chunda, MALEAL.	

This shrub grows all over India. It is used in medicine.

SOLANUM INVOLUCRATUM, *Bl.*

SOLANUM JACQUINI, *Willde.*

var. S. diffusum, *Roxb.*	S. virginianum, *Jacq.*
S. xanthocarpum, *Willde.*	

Chudra kanta kari, BENG.	Cundungkatri kai, TAM.
Kanta kari, „	Vakuda-kaia, TEL.
Dorle ka phal, DUK.	Nela mulaka, „
Kutaya, HIND.	„ mullaku, „
Kuntakari, SANS.	„ vakudu, „
Kandan-gatri, TAM.	Pinna mulaka, „
Kundun ghatri, „	Tella nela mulaka, „

This is a low growing prickly (medicinal) plant, the fruit used only by the common people.—*Ainslie, p.* 239.

SOLANUM LASIOCARPUM, *Dun.* Syn. of Solanum ferox, *Linn.*

SOLANUM LONGUM, *Roxb.* Syn. of *var.* of Solanum melongena, *Linn.*

SOLANUM LYCOPERSICUM, *Linn.*

Lycopersicon esculentum, *Mill.*
Pomum amoris, *Blackw.*

Wolf peach, ENG.	SimiTakali pallum, TAM.
Tomato, Love-apple, „	Thuckkali, „
Tamatie, MALAY.	

This is chiefly cultivated by the European inhabitants as a valuable ingredient in soups and stews, also as a preserve and for sauces, chatnies, garnishing, soups, &c. It produces the best fruit when trained on a trellis; more a luxury than valuable as a vegetable. The large-lobed red and very succulent berries, contain much malic acid. The plant is a native of South America, but it is much cultivated and well-known in Southern Asia, United States of North America, and in France, Germany and Italy. Near Rome and Naples, whole fields are covered with it, and scarcely a dish is served up into which it does not enter as an ingredient. There are several varieties cultivated; the best are called the large and small cherry and pear-shaped, red, and the large and small or cherry-shaped, yellow.—*Don's Miller, Vol.* iv, *p.* 444 *Jaffrey's Hints*; *Riddell's Gardening.* See Vegetables of Southern India.

SOLANUM MELONGENA, *Linn.*

Var. S. vigerum, *Dun.*	S. esculentum, *Dun.*
S. pseudo undatum, *Bl.*	S. longum, *Roxb., Rh.*

Badangan, AR., SUMAT.	Valoothala, MALEAL.
Kooli begoon, BENG	Budanjan, PERS.
Waugee, BOMBAY.	Hingolee, SANS.
Kha-yan, BURM.	Vartta, Bong, „
Egg-plant, Brinjal, ENG.	Bartakoo Mahotee, „
Mad-apple, Jew's apple, „	Wangau, SIND.
	Wambatoo, SINGH.
Baingan, HIND.	Kuthirikai, TAM.
Badangan, „	Valuthalay Vankai, „
Mala insana, LAT.	Vanga chiri vanga, TEL.
Trong, MALAY.	Metta vankai, „
Nila valuthana, MALEAL.	Niru vanga, „

Several varieties of this are everywhere cultivated in the E. Indies. It is a native of the E. Indies, and also said to be of Arabia. The fruits large, ovoid, firm, innocent and insipid. It is one of the most useful of Indian vegetables; and is used in culinary purposes in various ways. The large Cape varieties are the best; require good soil and abundance of water. Stem herbaceous, woody at the base, clothed with star-shaped hairs; ovate serrated leaves; flowering peduncles reflexed; fertile peduncle solitary, sterile one racemose; calyx campanulate; corolla angular, purple flowers, and bears large, smooth, shining berries, which are the shape and size of a small hen's egg. S. ovigerum has the stem, calyx, and leaves without thorns; and in S. esculentum, these parts are more or less covered with thorns. Several sub-varieties of both these are recorded, varying in the shape and colour of the fruit. The berries are white, yellow, red, purple and black. The fruit of this plant, the oval-shaped white, the globular-shaped white, and the purple or violet-coloured of both forms are used by the French and Italians in stews and soups. The natives of the Panjab regard this vegetable as hot and dry, it is said to prevent sleep and produce unpleasant dreams, owing to vitiated bile. Leaves are said to be narcotic.—*Eng. Cyc.*; *O'Shaughnessy, p.* 463; *Gen. Med. Top., p.* 183; *Jaffrey*; *Riddell*; *Powell's Hand-book, Vol.* i, *p.* 363. See Vegetables of Southern India.

SOLANUM NIGRUM.

Anub-us-salep, AR.	Mako, Mackoe, HIND.
Communie, DUK.	Pilak; Kaknachi, „
Night-shade, ENG.	Ruba tarbuc, PERS.
Common „ „	Kaka machie, SANS.
Garden „ „	Munna takali pullum, TAM.
Fox-grape, „	Canchie pundu, TEL.

Solanum nigrum grows in waste places in most countries. Throughout Europe it is a weed in cultivated ground, and is also found in Africa and Asia. It has white flowers, producing small berries of a black colour, and is employed as a narcotic by the hakeems of

India. The fruits are very dangerous, and act in the same manner as those of the belladonna and mandrake. The extract of the whole plant, according to Orfila, acts like lactucarium. Ainslie says, the small black berry of a low growing species of night-shade, although it has been reckoned poisonous in Europe, is eaten by the natives of India, and as far as Ainslie learned, with impunity. It is sweetish, but not very palatable. Solanum nigrum is considered by natives cool and moist, and is used in fever, diarrhœa and ulcers, also in disorders of the eye-sight, and in hydrophobia, both externally and internally. It contains a small amount of solanine in the juice of the stem and berries, but it may be eaten as food, as in France.—*O'Shaughnessy, p.* 462 ; *Ainslie, p.* 228 ; *Eng. Cyc.*; *Powell's Hand-book, Vol.* i, *p.* 363. See Dulcamara, Mako.

SOLANUM OVIGERUM, *Dun.*,

Brinjal,	Eng.	Wan-kai,	Tel.
Baingan,	Hind.		

This var. of Solanum melongena, *Linn.*, or egg plant, is distinguished from melongena by its pulpy fruits, which are stated to be narcotic.—*O'Shaughnessy, p.* 463 ; *Useful Plants, p.* 410.

SOLANUM PSEUDO-QUINA, False quina nightshade, is a native of Brazil in the district of Curitiba, in St. Paul without the tropics. The Brazilians use this for the same purposes as the Quina or Jesuit's bark. It is intensely bitter, and may with advantage be used as a substitute for that bark.—*Hogg's Vegetable Kingdom, p.* 550.

SOLANUM PSEUDO-UNDATUM, *Bl.*, syn. of var. of Solanum melongena, *Linn.*

SOLANUM PUBESCENS, *Willde, Roxb., W. Ic.*

S. verbascifolium, *L.*

Urussa,	Beng.	Sunday-kai,	Tam.
Shondek pulla,	Duk.	Wustay-kaia,	Tel.
Katubie,	Sans.	Kasi uste,	"
Mallum-chunday,	Maleal.	Rameswara uste,	"
Chunday-kai,	Tam.	Rasa gadi manu,	"

This is about the size of a small marble and grows wild in the woods. It is somewhat bitter and like the toodoo-vullay (its congener) is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Ainslie, p.* 238 ; *Useful Plants, p.* 411.

SOLANUM RUBRUM, *Mill.*

Var. S. melanospermum, *Roxb., W.*
S. erythropyrenum, *Roxb., W.*

Gaju chettu,	Tel.	Kachi-erra and Nalla kamanchi,	Tel.
Kamanchi chettu,	"		

The gorkhee is the red-seeded variety, both have small white flowers. They grow throughout the E. Indies and E. Archipelago. —*Voigt, p.* 511.

SOLANUM SANCTUM, *Linn.*

Leimun lut,	Ar.	Bari mauhari,	Hind.
Palestine egg-plant,	Eng.	Mahori,	"
Lot's lemon,	"	Tingi,	"
Maraghune,	Hind.		

Grows in Palestine: supposed by Dr. Wilson to be the vine of Deut. xxxi, 32. Also grows west of the Indus and in the Salt Range. Stem shrubby, tomentose: leaves ovate-repand, oblique at the base, clothed with hoary tomentum on both surfaces. Berries nearly globose. In some places the fruit is eaten fresh and in pickle.—*Punjab Plants, p.* 160.

SOLANUM SODOMEUM.

Sodom egg-plant.	Apple of Sodom.

Is a native of the north of Africa and the south of Europe. Fruit white, and about the size of a walnut. It is very subject to the attacks of an insect which deposits its eggs within the germen, and as the fruit enlarges, the larvæ of the insect, as in the case of many other fruits, destroy and pulverise the whole of the interior whilst the rind is left unchanged and entire. When the fruit is gathered under these circumstances, it is crushed to pieces by the hand ; or if conveyed to the lips, the mouth becomes filled with an ash-like powder, exceedingly bitter to the taste. To these berries remarkable properties have been assigned by Josephus, Tacitus, and others. Mandeville, an old English writer, says, speaking of the Dead Sea, "And there besyden grown trees that baren fulle faire apples and faire of colour to beholden, butte whosoe breaketh them or cuttethe them in two, he shall find within them coles and cyndres." Milton finely alludes to this fruit in the lines :—

"Greedily they pluck'd
The fruitage fair to sight, like that which grew
Noar that bituminous lake where Sodom flamed.
This more delusive, not to touch but taste
Deceived ; they, fondly thinking to allay
Their appetite with gust, instead of fruit
Chewed bitter ashes."

It seems to be quoted in Deut. xxxii, 32, 33, and in Isaiah, who says of the future Israelites, their vine is from the vine of Sodom and from the fields of Gomorrah.—*Harris' Nat. Hist. of the Bible, p.* 187 ; *Voigt, p.* 512 ; *Hogg's Vegetable Kingdom, p.* 549.

SOLANUM TORVUM.

Sunday-kai,	Tam.	Wustakaia,	Tel.

A weed used as a vegetable by the natives. --*Hogg's Vegetable Kingdom, p.* 550.

SOLANUM TRILOBATUM, *L., Roxb., W. Ic.*

S. acetosæfolium, *Lam.*

3-lobed Night-shade,	Eng.	Uchinta kura,	Tel.
Achudah ? Alarkah,	Sans.	Tella uste,	"
Tuda valle,	Tam.	Uchchinta,	"
Mulla muste-uste,	Tel.		

Root-leaves and tendral shoots used medicinally.

The fruit,

Toorullay kai,	TAM.	Moondlamoostek kai,	TEL.

is round and small, being not much larger than a marrow fat pea. It has a somewhat bitter taste not unlike that of its congener the choondaykai, and is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Ainslie, pp.* 245-357 ; *Useful Plants, p.* 411 ; *Voigt, p.* 513.

SOLANUM TUBEROSUM, *Linn.*

Alu,	DUK. HIND.	Rata-inula,	SINGH.
Potato,	ENG.	Alu gaddalu,	TEL.
Ubi: Kantang,	MALAY.		

The common potato is one of the plants for which the world are entirely indebted to America. It is found native in the greatest abundance on the western coast of South America. Like most plants which are most cultivated, an abundance of varieties have been produced from the original plant, and in the leaves, colour of the flowers, shape, size, and colour of the tubers, it has a great tendency to depart from its normal character. Two other species of Solanum, namely, S. valenzuela and S. montanum, produce edible tubers, but they are little used. The potato is a useful esculent, contains a large amount of starch, and when dried it is used as a substitute for salep. It is cultivated throughout British India as a cold weather crop, and in the Himalaya up to 9,000 feet, where they are cooked and eaten with buckwheat.—*Eng. Cyc.*; *Mason*; *Powell's Hand-book, Vol.* i, *p.* 362; *Punjab Plants, p.* 160; *Voigt, p.* 510.

SOLANUM VERBASCIFOLIUM, *Linn.*

S. pubescens, *Roxb.*

Ola,	BEAS, RAVI.	Kala-mewa,	HIND.
Ursa,	BENG.	Mullum chande,	TAM.
Tiari,	CHENAB.	Rusa gadda manu,	TEL.
Mullein-leaved Night-shade,	ENG.	Kharawune,	TR. INDUS.

This is a native of Asia, America, and the tropical parts of Australia. Grows in the Siwalik tract up to 4,000 feet and W. of the Indus. This plant is frequently cultivated. Every part is covered with a powdery white tomentum. The flowers are white and the berries are of the size of small cherries, and used in curries.—*Useful Plants, p.* 411 ; *Panjab Plants, p.* 160 ; *Hogg's Vegetable Kingdom, p.* 551 ; *Voigt, p.* 511.

SOLANUM VIOLACEÆUM, *Jacq.* Syn. of Solanum indicum, *Linn.*

SOLANUM VIRGINIANUM, *Jacq.* Syn. of *var.* of Solanum jacquini, *Willd.*

SOLANUM XANTHOCARPUM, *Willd. var.* of Solanum jacquini, *Willd.*

Kandari,	BEAS.	Warumba,	HIND.
Mamoli,	,,	Kharian maragheone,	,,
Pilak,	,,	Chhoti mauhari,	RAVI.
Unt-katara	HIND.	Mahori,	,,
Chat-khatai,	,,	Harnauli,	SUTLEJ.

Fruit.

Katela,	HIND.	Bat-kateya,	HIND.

Grows common throughout the Panjab plains and occasional to 5,000 feet in the outer hills. The seeds are eaten, they are applied for bruises and earache, and the fruit is bruised and applied for pain. Considered an expectorant useful in coughs, asthma and consumption.—*Powell's Hand-book, Vol.* i, *p.* 363 ; *Panjab Plants, p.* 161.

SOLARA, HIND.

Cymbopogon iwaranchua, *Schult.*	C. laniger. *Desf.*

These plants grow abundantly in many parts of the E. Indies. The smell of C. iwaranchusa is that of lemons, but more turpentiny, and is sometimes very perceptible to passers by. It is said to be much more powerful at certain seasons than at others. Edgeworth supposes this to have been the Nardus of Arrian and mentions that the cattle in the Amballa tract much like it and Vigne states that near Hassan Abdul the people extract from it a stimulating oil, which is used externally in rheumatism, and is similar to the grass oil of Nimar.

SOLAR DYNASTY. In the northern part of the dominions, now called British India, there were, in ancient times, prior to the christian era, two dynasties, who strove for mastery, viz., the Solar dynasty descended from Rama, and the Lunar dynasty descended from Yadoo. The Solar dynasties at present remaining are three, viz :

Grahilote or Gehlote or Geholote with 24 Sahka or branches, of which the Sisodia is the most distinguished. The Rana of Udayapur is a Grahilote.

Rahtore, said to be descended from Rama by Kusa his second son. It has 24 branches, and the maharaja of Jodhpur or Marwar belongs to this tribe.

Kachwaha also sprung from Kusa. The rajah of Jeypur is of this tribe. It has 12 kotri or houses.

The Lunar dynasty is sprung from the moon, through Yadu or Jadu, and is called Yadu or Jadu. It has 8 branches, of which the Jhareja and Bhatti in Cutch and Jeysulmir are the most powerful.

The Agnikula have four tribes and 87 branches, viz :

Pramara with 35 branches	Chalukya „ 16 branches
Parihara „ 12 „	Chouhon „ 24 „

Among the 36 royal tribes there are some, the origin of which is not known, such as,

Chaura or Chawara,	Sarwaya or Sari,	Sengar,
Tak or Takshak,	Aspa,	Sikharwal,
Jit or Jat of the Punjab, Jumna and Ganges,	Jetwa,	Bais,
Hun,	Kamari.	Dahia,
Katti,	Dabi,	Johya,
Batta,	Gor,	Mohil,
Jhalamakwahana,	Doda,	Nikumba,
Gohil,	Gerhwal,	Rajpati,
	Chandela,	Dahirya,
	Bundela,	Dahima.
	Birgujar,	

The following list of the thirty-six royal races of Rajasthan.

Ancient MSS.*	Chund Bardai.	Komar Pal Charitha.		Kheechie Bard.‡	Corrected list by. Colonel Tod
		Sanscrit Edition MSS.	Guzeratti Dilect MSS.		
Ichshwaca,	Ravya or Soorya	Icshwaca,	Gotchar Gohil,	Gehlote,	Icshwaca, Cacoostha, or Soorya,
Soorya,	Suhsa or Soma,	Soma,	Uni Gohil,	Pramara,	Unwye, Indu, Som, or Chandra,
Soma or Chandra,	Yadu,	Yadu,	Catti or Cat'hi,	Chohan,	Grahilote or Gehlotesachæ 24
Yadu,	Cacoostha,	Pramara,	Kisair,	Solanki,	Yadu 4
5. Chahuman, or Chohan,	5. Pramara,	5. Chohan,	5. Nicoompa,	5. Rahtore,	5. Tuar 17
Pramara,	Chohan,	Chalook,	Burbeta,	Tuar,	Rahtore...... 13
Chalook or Solanki,	Chalook,	Chunduk,	Bawurea,	Birgoojur,	Cushwaha or Cutchwaha,
Purihara,	Chunduk,	Silar (Raj Tilac,)	Maroo,	Purihara,	Pramara 35
Chawura,	Silar,	Chapotcut,	Macwahana,	Jhala,	Chahuman or Chohan.... 26
10. Dodia,	10. Abhira,	10. Pritihara,	10. Dahima,	10. Yadu,	10. Chalook or Solanki 16
Rahjore,	Macwahana,	Sukrunka,	Dodia,	Cutchwaha,	Purihara 12
Gohil,	Gohil,	Coorpala,	Balla,	Gor,	Chawura, Single
Dabi,	Chapotkut,	Chundail,	Bhagel,	These sub-divide: the following do not, and are called Yeka or Single	Tak, Tauk, or Takshac,
Macwahana,	Purihara,	Ohil,	Yadu,	Balla,	Jit or Gete,
15. Norka,	15. Rahtore,	15. Paluka,	15. Jaitwa,	15. Dahima,	15. Hun or Hoon,
Aswurea,	Deora,	Mori,	Jareja,	Dahya,	Catti,
Salar or Silara,	Tak,	Macwahana,	Jit or Gete,	Byce,	Balla,
Sinda,	Sindoo,	Dhunpala,	Solanki,	20. Gherwal,	Jhala,
Siput,	Anunga,	Rajpalica,	Pramara,	Nicoompa,	Jaitwa or Camari,
20. Hun or Hoon,	20. Patuk,	20. Dahya,	20. ———	Dewut,	20. Gohil,
Kirjal,	Pritihara,	Toorunduleeca,	Chawura,	Johya,	Sarweya,
Huraira,	Didiota,	Nicoompa,	Chourasima,	Sikerwal,	Silar,
Rajpali,	Karitpal,	Hoon,	Khant,	25. Dabia,	Dabi,
Dhunpali,	Kotpala,	Balla,	Khyera,	Doda,	Gor,
25. Agnipali,	25. Hool,	25. Hureal,	25. Rawuli,	Mori,	25. Doda or Dor,
Balla,	Gor,	Mokur,	Musania,	Mokarra,	Gherwal
Jhala,	Nicoompa,	Pokara,	Palani,	Abhira,	Birgoojur.... 3
Bhagaola,	Rajpalica,		Halla,	30. Kalchoruk (Hya race,)	Sengar, single.
Motdan,	Kani,		Jhala,	Agnipala,	Sikerwal, do.
30. Moha,	30. Kalchoruk or Koorchurra,		30. Dahiria,	Aswaria or Sarja	30. Byce, do.
Kugair,			Bahuria,	Hool,	Dahia,
Kurjeo,			Sarweya Chatrya tyn Sar,	Manutwal,	Johya,
Chadlea,			Purihara,	Mallia,	Mohil,
Pokara,			Chohan,	Chahil,	Nicoompa,
Nicoompa,					Rajpali,
36. Sulala,					36. Dahima, do.
					Extra,
					Hool,
					Dahirya.

Most of the cula or races are divided into numerous branches or sacha, and these sacha are sub-divided into immediate clans or gotra. A few of the cula never ramied : these are termed eka, or 'single' : and nearly one-third are eka. Ikshwaku, was the first king in the Solar line, and, according to hindoo mythology, reigned at the commencement of the Treatu-yug. He was the son of the 7th Menu, or patriarch, the offspring of the sun. His posterity was called, in consequence, the dynasty of the Solar princes, in the same manner as Buddha was reputed the head of the Lunar line. Modern commentators bring the time of his accession down to the year 1320 before Christ. A passage in the Agni Poorana indicates that the line of Soorya, of which Ikshwaku was the head, was the first colony which entered India from Central Asia. But the patriarch Buddha was his contemporary, he being stated to have come from a distant region, and to have married Ella, the sister of Ikshwaku. Amongst the Arian hindoos, the Kshatriya was a warrior branch taking social rank after the hindoo brahmins. Manu writing of their duties says to defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification are in a few words the duties of a Kshatriya. How this soldier branch broke up is extremely obscure, but it is generally supposed that none of the races now in India can trace their lineage to that tribe of Aryans though most of the Rajput families doubtless belong to them. Their quarrels amongst themselves seem to have led to their own destruction. There seem to have been two branches of the Kshatriya tribe, the Solar who traced up to Ikshwaku and the Lunar who traced up to Buddha, who married Ila or Ella, daughter of Ikshwaku. These Kshaitrya soldiers do not appear to have adopted brahminism readily, and the brahmins to overcome them consecrated by fire, on Mount Aboo, a warrior body who still remain, and are known as the four Agnicula rajput tribes. A common spelling of the word is Kshatriya.

The sixteen chief nobles of Mewar, their Titles, Names, Clans, Tribes, Estates, number of Villages in each, and their value.

Title.	Names.	Clan.	Tribe.	Estate.	Number of villages.	Value A. D. 1760.	Remarks by Col. Tod in A. D. 1820.
Raj	Chundun Sing	Jhala	Jhala	Sadri	127	100,000	These estates are all diminished one-half in nominal amount; and their revenues still more.
Rao	Pertab Sing	Chohan	Chohan	Baidla	80	100,000	
Rao	Mokim Sing	Do.	Do.	Kotario	65	80,000	
Rawut	Pudma Sing	Chondawut	Seesodia	Saloombra	85	84,000	Would realize this if cultivated.
Thacoor	Zorawur Sing	Mairtea	Rahtore	Ganora	100	100,000	This chief ceases to be one of the 16 since the Rana lost the province of Godwar.
Rao	Kesudas	....	Pramar	Bijolli	40	45,000	Would realize this if cultivated.
Rawut	Gokuldas	Sangawut	Seesodia	Deogurh	125	80,000	Would realize more if cultivated.
Rao	Maha Sing	Megawut	Do.	Beygoo	150	200,000	This includes usurpations—now seized by Sindia. The estates would realize 70,000 if cultivated.
Raj	Kalian Sing	Jhala	Jhala	Dailwarra	125	100,000	Would realize two-thirds if cultivated.
Rawut	Salim Sing	Jagawut	Seesodia	Amait	60	60,000	Do. do. do.
Raj	Chutter Sal	Jhala	Jhala	Gogoonda	50	50,000	Would realize this if cultivated
Rawut	Futteh Sing	Sarangdeote	Seesodia	Kanorh	50	95,000	Would realize half if cultivated.
Mahraja	Zorawur Sing	Suktawut	Do.	Bheendir	64	64,000	Would realize this if cultivated.
Thacoor	Jeyt Sing	Mairtea	Rahtore	Bednore	80	80,000	Do. do.
Rawut	Salim Sing	Suktawut	Seesodiah	Bansi	40	40,000	These chiefs have lost all their influence and half their estates.
Rao	Soorajmul	Chohan	Chohan	Parsoli	40	40,000	
Rawut	Kesuri Sing	Kishenawut	Seesodia	Bhynsror	60	60,000	These chiefs have taken rank on the depression of the above—they never appear at court on the same day.
Rawut	Jowan Sing	Do.	Do.	Korabur	35	35,000	
Total number and estimated value of their estates sixty years ago, omitting Bhynsror and Korabur, then enrolled in the second grade of chieftains					1,181	13,10,000	

SOLAR DYNASTY.

Vyasa gives but fifty-seven princes of the Solar line, from Vaivaswata Menu to Rama; and no list which had come under Colonel Tod's observation exhibits for the same period, more than fifty-eight, of the Lunar race. How different from the Egyptian priesthood, who according to Herodotus, gave a list up to that period of 330 sovereigns from their first prince, also the 'sun-born Menes!' Ikshwaku was the son of Menu and the first who moved to the eastward and founded Ayodia.

Buddha (Mercury) founded the Lunar line, but we are not told who established their first capital, Poorag, though we are authorized to infer that it was founded by Pooru, the sixth in descent from Buddha. A succession of fifty-seven princes occupied Ayodia from Ikshwaku to Rama. From Yayat's sons the Lunar races descend in unequal lengths. The lines from Yadu, concluding with Krishna and his cousin Kansa, exhibit fifty-seven, and fifty-nine descents from Yayat, while Yoodishtra, Sul, Jarasandha and Vahoorita, all cotemporaries of Krishna and Kansa, are fifty-one, forty-six and forty-seven generations, respectively, from the common ancestor, Yayat. The author, after the invocation to "the mother protectress," Om! sacombbari mata! says, "I write the name of the thirty-six royal tribes." The bard Chund says, "of the thirty-six races, the four Agnipalu are the greatest—the rest are born of woman, but these from fire."

Rama of the Ramayana is described as the son of Ikshwaku and grandson of Manu. His original abode is described as the mountains of the west. He was the first of the dynasties of Oudh.

There are, as above, three solar dynasties:—

Grahilote or Gehlote with 24 sakha or branches, of which the Sisodea is the most distinguished. The rana of Udayapur is a Grahilote.

Rahtore, said to be descended from Rama by Kusa, his second son. It has twenty-four branches, and the rajah of Jodhpur or Marwar belongs to this tribe.

The Kach'hwaha is a distinguished tribe of the solar race of Rajputs, who claim descent from Kusa or Kusha, the son of Rama, and form the ruling race in Amber of Jaypur, the rajah of which is of the Kach'hwaha clan. It has twelve kotri or houses.

An interesting ceremony took place in Oodeypore on the occasion of the installation of the young prince as rana of Mewar. He was the grand-nephew of the late maharana Suroop Singh, and was the first instance in which the adoption policy inaugurated by Lord Canning had been exemplified. The installation was held in the court-yard of the

palace. General St. P. Lawrence, Governor-General's agent for the Rajputana States, was present and delivered a congratulatory address in the vernacular. Costly presents from the Governor-General were given to the young prince, and the ceremony was rendered more imposing by salutes from Royal artillery and the presence of a large body of British troops. The race was, at an early period, divided into two great Solar and the Lunar dynasties, the former having its seat of empire in Oudh, and the latter in Delhi. The head of the solar line was Ikshwaku, son of Manu, whose father or grandfather bore the title of Soorya or the Sun: and the head of the Lunar line, was, Buddha, the son of 'Soma,' or the 'Moon,' who married Ila, a daughter of Ikshwaku. Struggles for the pre-eminence were carried on with sanguinary obstinacy between these tribes. Their wars reduced the numbers of the military class, and paved the way for the destruction which overtook it eventually. 'To fight,' was the duty of the Kshatriya, as Krishna told the hero Arjuna, smitten with sorrow at the idea of slaughtering his own kinsmen in battle. 'O Krishna, said the hero,' I seek not victory nor a kingdom. I will not fight! What shall we do with a kingdom or with life itself, when we have slain all these? Krishna had no such qualms. 'You belong,' he replied, 'to the military class, and your duty is to fight.' And Arjuna fought! The Kshatriya of all the Aryan immigrants were the successful opponents to brahminical pretensions, and to the grasping after power by the priesthood. To resist a brahmin whose prayers were sufficient to destroy kings with their powerful armies and elephants, was no light matter. Yet the Kshatriya and Visvamitra successfully opposed them, so did king Janeka, insisting on his right to sacrifice. In a Sanscrit drama entitled 'Chaunekya,' Chaunekya enters a royal chuttrum, and takes the place reserved for some brahmin or other of eminence; the princes shortly afterwards enter also, and observing Chaunekya seated, they order their servants to eject him, which they did with great indignity, seizing him by the lock of hair upon the crown of his head. The brahmin, maddened by rage, uttered a fearful imprecation, and vowed to wreak vengeance on the sacrilegious princes; but the only effect this produced upon them was to cause them to indulge in most uproarious laughter at his expense; but in the career he marked out for himself, he never once faltered, until he had destroyed the royal family, and placed on the throne of his king, a soodra named Chandragupta, the Sandracottus of the Greeks.

Brahminism, eventually triumphed; the solar line first succumbed to its influence. The kingly power still remained with the Kshatrya race, but every office in the state was filled by a brahmin, so that all power was virtually in their hands. The very books which set forth the prowess, or the noble deeds of the Kshatrya were tampered with, and so altered as to suit the ideas of the brahmins, and to familiarize those ideas to the popular mind. The lunar line of Kshatrya resisted for a longer period, the pretensions of the brahmins, and this was due, in great measure, to the fact that it was constantly receiving fresh immigrants from the ancestral home of the Aryans, who kept alive the independent spirit of the warrior race but universal ascendancy came to the brahmins at last. Parasu Rama, the champion of brahmin interests, is represented as having cleared the earth twenty-one times of the Kshatrya race. This hero is now said to have been an incarnation of deity. That their extermination was so far complete as to render them powerless and insignificant, there can be no reasonable grounds for doubt. Making all allowance for eastern exaggeration, it is impossible to read the Mahabharata, without feeling that a great slaughter had overtaken them, and so great was it that Kshatrya widows and daughters were fain to lay their honor and their virtue at the feet of the triumphant brahmins. The pure Kshatrya caste has disappeared from the land of Bharata; in the Punjab and other places are still some, who affix 'Singh' to their names; and the class known as 'Rajputs,' claim to be Kshatryas, but their pretensions to the distinction are of a most questionable character. In Southern India, where the brahminical system was at no time so strong as it was in the north, it is doubtful whether the Kshatrya ever established themselves in sufficient numbers to render their race powerful or conspicuous; certainly there are no Kshatrya there at present. It is impossible to read the grand old Indian epics without regretting the destruction of the warrior race. In the whole range of Indian literature there is nothing so noble, or so inspiriting as these epics. While reading them, we are, as it were, brought face to face with men whom, we instinctively feel, that we could admire. Rama and his beautiful wife Seeta, are characters that it would be impossible to excel: in fact they are too good for this world of ours: but what a high idea the Aryan poet had of what human nature should be? This circumstance proves that, in that early period Aryan civilization had reached a high state of perfection. Again, there is

the youthful Arjuna also, who, whether in the joust or tournament, or on the field of battle, is the very beau ideal of a hero. He is brave, generous, and high-minded. So long as the fight lasts, nothing daunts him, he is ever in the post of danger, he fights with right good-will, his blows descend rapidly and heavily, and in the spirit-stirring words of the poet, we almost fancy we hear the thud of his blow resounding from the shoulders of his foe-man. After the battle, however, the sight of the mangled corpses of his friends and foes, plunges him into deep grief, despite old Vyasa's attempt to place it to the credit of 'destiny;' and in Arjuna bowed down with grief for the loss of his kindred, we have the type of a true man. One cannot but experience regret that the race to which so great a hero belonged has passed away from India. Tod considers that the Solar and Lunar races, the Surya and Chandra, were established in India about 2,256 years before the Christian era, about which period (Egyptian, under Misraim, B. C. 2188; Assyrian, 2059; Chinese, 2207;) the Egyptian, Chinese, and Assyrian monarchies are generally stated to have been established, and about a century and a half after the flood. The Lunar dynasty of the Rajput races, sprung from the moon, Soma, or Chandra, through Yadu or Jadu, is called Yadu or Jadu. It has eight branches, of which the Jhareja and Bhatti in Cutch and Jeysulmir are the most powerful. The dynasties which succeeded the great beacons of the Solar and Lunar races, are three in number; 1st, The Suryavansa, descendants of Rama; 2nd, The Induvansa, descendants of Pandu through Yudishtra; 3rd, The Induvansa, descendants of Jarasandha, monarch of Rajgraha. The Bhagvat and Agni Pooranas are the authorities for the lines from Rama and Jarasandha; while that of Pandu is from the Raj-Taringini and Rajaoli. The existing Rajput tribes of the solar race claim descent from Lava and Cush, the two elder sons of Rama; and Colonel Tod does not believe that any existing tribes trace their ancestry to his other children, or to his brothers. From the eldest son, Lava, the rana rulers of Mewar claim descent: so do the Birgujar tribe, formerly powerful within the confines of the present Amber, whose representative now dwells at Anupshahr on the Ganges. From Cush, descended the Cushwaha princes of Nirwar and Amber, and their numerous clans. Amber, though the first in power, is but a scion of Nirwar, transplanted about one thousand years back, whose chief, the representative of the celebrated prince Nala, enjoys but a sorry district of all his ancient possessions. The house of Marwar also claims descent from this stem, which appears to originate in an error of the genealogists, confounding the race of Cush with the Causika of Canouj and Causambi. Nor do the solar genealogists admit this assumed pedigree. The Amber prince in his genealogies traces the descent of the Mewar family from Rama to Sumitra, through Lava, the eldest brother, and not through Cush, as in some copies of the Puranas, and in that whence Sir William Jones had his lists. Whatever dignity attaches to the pedigree, claimed by the Amber prince, whether true or false, every prince and every hindoo of learning, admit the claims of the princes of Mewar as heir to 'the chair of Rama; and a degree of reverence has consequently attached, not only to his person, but to the seat of his power. When Madajee Sindia was called by the rana to reduce a traitorous noble in Cheetore, such was the reverence which actuated that (in other respects) little scrupulous chieftain, that he could not be prevailed on to point his cannon on the walls within which consent established 'the throne of Rama.' The rana himself, then a youth, had to begin the attack and fired a cannon against his own ancient abode. In the very early periods, the princes of the Solar line, like the Egyptians and Romans, combined the offices of the priesthood with kingly power, and this whether brahminical or buddhist. Many of the royal line, before and subsequent to Rama, passed great part of their lives as ascetics; and in ancient sculpture and drawings, the head is as often adorned with the braided lock of the ascetic, as with the diadem of royalty. Ferishta, also, translating from ancient authorities, says, to the same effect, that "in the reign of Mahraj, king of Canouj, a brahmin came from Persia, who introduced magic, idolatry, and the worship of the stars: so that there is no want of authority for the introduction of new tenets of faith. Even now the rana of Mewar mingles spiritual duties with those of royalty, and when he attends the temple of the tutelary deity of his race, he performs himself all the offices of the high priest for the day. In this point a strong resemblance exists to many of the races of antiquity. There seems to be no doubt that amongst the Aryans, whilst they were approaching India' and whilst the worship of nature under the Vedic system of religion prevailed; the householder was his own priest and performed all the religious duties, in sacrifices and worship. The head of the house was in fact his own household priest, and to the present day every head of a hindoo house performs all the religious sacrifices of his household.

SOLAR SYSTEM. The principal elements.

Planets, &c	Mean distance from the Sun.	Sidereal Revolution in Days.	Diameter in miles.	Mass (denominator of fraction, the Sun being 1.)	Density.	Time of Rotation. h. m. s.
Mercury..	0 387098	87·96926	2,964	4865751	2·94	24 5 28
Venus....	0·723332	224 70080	7,576	401839	0·923	23 21 21
The Earth	1·000000	365 25637	7,926	354936	1·000	23 56 4
Mars.....	1·523691	686·97964	3,905	2680337	0·948	24 37 22
Jupiter...	5·202798	4332·58482	88,425	1048	0·238	9 55 26
Saturn ...	9·538152	10759·2198	72,025	3502	0·138	10 29 17
Uranus ..	19·18273	30686·82056	34,747	24605	0·180	9 30 ?
Neptune..	30·03627	60126·722	32,250	14446	0·222	Unknown.
The Sun..	......	......	852,600	1	0·252	607 48 0
The Moon.	1 00000	27·32166	2,153	354936+88	0·619	655 43 5

The Solar, *i. e.* really, the sidereal year called the "Shubooor Sun," or vulgarly, the "Soor Sun," of the Mahrattas that is, the year of (Arabic) months, was apparently introduced into the Dekhan by Toghluk Shah, between A. D. 1341 and 1344, and it is still used by the Mahrattas in all their more important documents, the dates being inserted in Arabic words written in Hindee (Mahratee) characters.

	Days.	Hrs.	Min.	Sec.
The Anomalistic year is	365	6	13	49 3
A Sidereal year is..................	365	6	9	10·7
A Common, or Tropical year is.....	365	5	48	47·8
Secular Decrement	0	0	0	0 595
A Lunar year is.....................	354	8	48	34·44
A Lunar Sidereal month is..........	27	7	43	11·5
A Lunar Synodic month is........	29	12	44	2·87
A Luuar Tropical month is.........	27	7	43	4·7
A Lunar Anomalistic month is. ...	27	13	18	37·4
A Lunar Nodal month is..........	27	5	5	36
A Solar (average) day is.		24	0	0
A Sidereal day is....................		23	56	4·09
A Lunar (average) day is...........		24	50	28·32

Ravi, is a name of the Sun; Ravi vara, Sunday. Ravi mandocha, sun's Apogee, Ravi madhya graha, mean place in the Sidereal Ecliptic, Ravi panchanga, the Solar Calendar, Ravi phala, Anomalistic Equation, Sayana, longitude.—*Warren's Kala Sankalita.*

SOLARA, HIND. Cymbopogon iwarancusa.

SOLARIUM, a genus of molluscs.

SOLASEE, a variety of magic square.

SOLAYMANEE, HIND. The onyx stone.

SOLDA also Barilha, PORT. Barilla.

SOLE. The Plagusia, of Tenasserim, is a small fish of the sole family that grows to nine inches or a foot long. It has no pectoral fins, and the dorsal, caudal and ventral fins are united. The natives think that two of them always swim together, with their flat, uncoloured, sides united.—*Mason.*

SOLECURTUS, a genus of Mollusca.

SOLEGNATHUS BLOCKII, *Bleeker*, the Sea-needle of Block, a long spindle-shaped fish, with round needle-shaped body.

SOLEI, HIND, Plectranthus rugosus.

SOLEMYA, a genus of molluscs.

SOLEN, a genus of molluscs.

SOLENOSTOMIDÆ, a family of fishes of the order Lophobranchii: the order may be thus shown:

ORDER V.—Lophobranchii.

FAM. I. Solenostomidæ.
Solenostoma cyanopterum, *Blkr.*, Zanzibar to China.
„ paradoxum, *Pall*, Amboyna.
„ brachyurum, *Blkr.*

FAM. II. Syngnathidæ.
First Group. Syngnathina.
Syngnathus phlegon, *Risso.* Cape of Good Hope, Atlantic, Mediterranean.
„ acus, *L.*, Cape of Good Hope, Atlantic Mediterranean.
„ schlegelia, *Kaup.*, Japan, China.
„ alternans, *Gthr.*, Seychelles.
„ semifasciatus, *Gthr.*, South Australia, Tasmania.
„ temminckii, *Kaup.*, Cape of Good Hope.
„ pelagicus, *Osbeck*, Mediterranean, Mauritius, N. Zealand, China, S. Australia.
„ modestus, *Gthr.*, N. Hebrides, S. Australia.
„ brevirostris, *Rupp.*, Red Sea.
„ serratus, *Schleg.*, China, Japan, Siam.
„ longirostris, *Kaup.*, China.
„ intermedius, *Kaup.*, China or Japan.
„ ceylonensis, *Gthr.*, Zanzibar, Ceylon.
„ zanzibarensis, *Gthr.*, Zanzibar, China.
„ grayi, *Kaup.*, Japan, Australia.
„ tetrophthalmus, *Blkr.*, Cocos.
„ cyanospilus, *Blkr.*, Zanzibar, Mozambique, E. Archipelago.
„ margaritifer, *Ptrs.*, New South Wales.
„ penicillus, *Cant.*, Pinang.
„ tapeinosoma, *Blkr.*, West Java.
„ hunnii, *Blkr.*, South Sumatra.
„ spicifer, *Rupp.*, Indian Ocean.
„ pœcilolæmus, *Ptrs.*, S. Australia.
„ conspicillatus, *Jen.*, Africa to Pacific.
„ martensii, *Prts.*, Pulo-Matjan, Borneo
„ retzii,, *Blkr.*, Celebes.
„ bicoarctatus, *Blkr.*, Amboyna.
„ budi, *Blkr.*, Celebes, Batavia.
„ brachyrhynchus, *Kaup.*
„ sundaicus, *Blkr.*
„ vittatus, *Kaup.*
„ fucicola, *Benn.*
„ flavofasciatus, *Rupp.*, Red Sea.
„ punctipinnis, *Gill.*
„ tenuis, *Blyth.*
Ichthyocampus carce, *H. B.*, Malabar, Bengal, Assam.
„ belcheri, *Kaup.*, China.

Ichthyocampus scalaris, *Gthr.*, Australia.
„ filum, *Gthr.*, New Zealand, Australia.
Nannocampus subosseus, *Gthr.*, Freycenet's harbour.
Urocampus nanus, *Gthr.*, Manchuria.
Doryichthys heterosoma, *Blkr.*, Borneo.
„ boaja, *Blkr.*, Siam, China, Sumatra, Borneo.
„ deokhatoides, *Blkr.*, Sumatra, Borneo.
„ mento, *Blkr.*, Eastern Africa, Celebes.
„ cuncatus, *H. B.*, Malabar, Ganges.
„ caudatus, *Ptrs.*, Samar, Java.
„ bheekeri, *Day*, Malabar.
„ auronitens, *Kaup.*, Macassar.
„ bernsteinii, *Blkr.*, Halmaheira.
„ millepunctatus, *Kaup.*, Madagascar, Bourbon.
„ brachyurus, *Blkr.*, Eastern Archipelago, Pacific.
„ manadensis, *Blkr.*, Celebes.
„ pleurostictus, *Ptrs.*, Lucon.
„ sculptus, *Gthr.*, Fiji.
„ dactylophorus, *Blkr.*, Java, Amboyna.
„ excisus, *Kaup.*, Red Sea.
„ valenciennii, *Kaup.*, Bourbon.
„ deocata, *H. B.*
„ jagorii, *Ptrs.*
Cœlonotus liaspis, *Blkr.*, Java.
„ biocellatus, *Gthr.*, Eastern Archipelago.
„ argulus, *Ptrs.*, Johanna.
Stigmatophora argus, *Rich*, Australia.
„ nigra, *Kaup.*, „
Nerophis dumerilii, *Steindachner*, Bombay
Protocampus hymenolomus, *Rich*, Falkland Islds.
Second Group. Hippocampina.
Gastrotokeus biaculeatus, *Bl.*, Indian Ocean to China and Australia.
Solenognathus hardwickii, *Gray*, Chinese and Australian Seas.
„ spinosissimus, *Gthr.*, Tasamania.
„ lettiensis, *Blkr.*
Phyllopteryx foliatus, *Shaw*, S. Australia, Tasmania
„ eques, *Gthr.*, Australia.
„ tæniophorus, *Gray*, Australia.
Acentronura gracillima, *Kaup.*, Japan.
„ tentaculata, *Gthr.*
Hippocampus abdominalis, *Less.*, South Australia, New Zealand.
„ antiquorum, *Leach*, Mediterranean, Atlantic, Australia.
„ breviceps, *Ptrs.*, Tasmania, Australia.
„ angustus, *Gthr.*, Freycent's harbour.
„ novæhollandiæ, *Steind.*, N. S. Wales.
„ longirostris, *Cuv.*, Japan, China.
„ guttulatus, *Cuv.*, Tropical Atlantic, Ind. Ocean, E. Archipelago, Japan.
„ trimaculatus, *Leach*, Penang, Tenasserim, China Seas.
„ comes, *Cant.*, Penang.
„ camelopardalis, *Bianc.*, Zanzibar, Mozambque.
„ coronatus, *Schleg.*, Japan.
„ lichtensteinii, *Kaup.*, Red Sea.
„ mohnikei, *Blkr.*, Japan.
„ hystrix, *Kaup.*, Japan, Zanzibar.
„ erinaceus, *Gthr.* ——?
„ fuscus, *Rupp.*, Red Sea.

SOLETELLINA, a genus of molluscs.

SOLENOSTEMMA ARGEL, Arghel, of Egypt, a native of Syria. The leaves are purgative and are employed in Egypt to adulterate senna.—*Hogg. Veg. King, Vol.* ii, *p.* 5; *Simmonds.* See Cassia.

SOLFATO DI FERRO, IT. Sulphate of iron, Green copperas.

SOLIGARU, according to Buchanan are a rude tribe inhabiting the southern ghauts, which separate Coimbatore from Mysore.—*Hindoos, Vol.* i. See India.

SOLI KORAWA, see India, Korawa.

SOLIMAN, a mahomedan merchant who travelled to India several times and who wrote A.D. 850. He notices the abstaining from wine of the hindoos. He voyaged to India and China, in the beginning of the ninth century. His principal establishment was probably at Busrah.—*Ell., Hist. p.* 7; *India in the* 15*th Century.*

SOLIMANI, is said to be the name by which the Arabs call the Affghans.

SOLIMAN MOUNTAINS. The Soliman range commences at the lofty mountain which has derived the name of Suffaid Koh, or White mountain, from the snow with which it is always covered. Suffaid Koh stands to the south of the projection of Hindoo Koosh, and is only separated from it by the valley of the Kabul river, from which it rises with a very steep acclivity. It is connected with Hindoo Koosh by the hills of the Otmaunkhail, and other subordinate ranges extending across the Kabul river, in which they cause numerous rapids, in some places almost amounting to cascades. On these grounds, the Soliman range ought, perhaps, to be regarded as a branch of Hindoo Koosh, and even as a continuation of Beloot Tagh, but it will, nevertheless, be convenient to consider it separately. From Suffaid Koh, the highest ridge of the range runs south-south-east, and passes through the Janjee country near Haryab, twelve miles south of which it is pierced by the river Koorrum. The Affghans more frequently call the Suffaid Koh mountain, Speengar. The former has the same meaning in Pushtu that the latter has in Persian. The height of the Soliman range, though much inferior to that of Hindoo Koosh, is still considerable. The part inhabited by the Wuzeeree clan, is probably as much raised above the surrounding country, as that which belongs to the Jadraun; but its absolute height is inferior, as the country at its base slopes much to the southward. In the southern part of the Wuzeeree country, where this range is passed through by the river Gomul, it is low in both senses, but it rises again in the Sheeraunee country, and forms the lofty mountain of Cussay Ghur, of which the Tukht-i-Soliman, or Solomon's Throne is the highest peak; snow lies on this peak for three months in the year, and on the surrounding mountains for two. The country of the Zmurree is certainly as high as most parts of Cussay

Ghur. There are two minor ranges parallel to the range of Soliman, which accompany it on its eastern side from the southern borders of Affghanistan, as far at least as Rughzee, in latitude 32° 20′. The first of these ranges is lower than the principal ridge. The second is still lower, and between it and the first is a rugged country which is cultivated by the Sheeraunee. All of these ranges are pierced by valleys which run from the high country on the west and send out streams into Damaun: other streams rise in the principal range and run through valleys which cut the lower ones.

The next branch, which may be called the Salt Range, shoots out from the south-eastern side of Suffaid Koh, and extends in a south-easterly direction, by the south of Teeree to Kala-bagh. It there crosses the Indus, stretches across part of the Punjab and ends at Jellalpoor, on the right bank of the Hydaspes. It becomes lower as it gets farther from the mountains of Soliman. This range is both higher and broader than the last. It abounds in salt, which is dug out in various forms at different places. To the eastward, it yields a rock salt of a brownish colour, which is imported into Hindustan, and known by the name of Lahore salt. Between the range of 34° and the Salt Range, lie some plains and valleys, belonging to the tribes of Bungush and Khuttuk. They slope towards the Indus, but are separated from the river by a low range of hills running north and south. In the northern part of the space between the Salt Range and that of Punniallee, the valleys of Dour, Bunnoo, Shutuk and Esaukhail, descend like steps from the Solimanee ridge to the Indus. The greatest of the rivers, which run through the west of Affghanistan, is the Helmund, or Etymander. It rises at Koh-i-Baba, twenty or thirty miles west of Cabul, on the eastern edge of the Paropamisan range. It runs through those mountains for upwards of two hundred miles, and then issues into the cultivated plains of the Dooranee. This tract, however, is not at the place alluded to, of any great breadth; and the Helmund soon enters a desert, which extends to its termination in the lake of Seestan. The immediate banks of the Helmund, and the country within half a mile or a mile of them, are everywhere fertile, and, in most places, well cultivated. The whole length of the course of the Helmund is about four hundred miles. Though fordable for most part of the year throughout the whole of its course, the Helmund is still a considerable stream: even in the dry season, it is breast-deep at the fords nearest to the place where it leaves the mountains; and, at the time of the melting of the snows, it is a deep and rapid river. The Furrah-rood rises near that last-mentioned, and is a much more considerable stream. It is uncertain whether it reaches the lake of Seestan or is lost in the sands; but, in either case, its course is not less than two hundred miles long. The plain of the Indus from the sea to Sungur is included in Sind. The part which extends from the sea to Shikarpore, is called Sind, by the British; more properly, Lower Sind. From Shikarpore, inclusive, to Sungur, is called Upper Sind. The part of it which lies to the west of the Indus, is chiefly inhabited by Beluches; and, with the exception of a small tract north of Shikarpore, is directly under the government of Cabul. Above Sungur, as far as the eastern branches of the Soliman range, is Damaun. The hills south of the Salt Range, and the plains and valleys which they enclose, are also generally included in Damaun. The plain, immediately on the right bank of the Indus, and north of Sungur, is inhabited by the Beluch; and is sometimes distinguished from Damaun, and called by the Beluch or Hindustani name of Muckelwaud. Damaun is then only applied to the skirts of the hills, which indeed is the original meaning of the word. In this sense, the southern part of Damaun is inhabited by the Stureeaunee, after whom, to the north, are the Baboor, Meeaunkhail, Gundehpoor, Doulutkhail, and Murwut; all Affghan tribes. To the north of the latter, and along the utmost boundary of Damaun, in this extended sense, are the Affghan tribes, who inhabit Khost, Dour, and Bunnoo, and that of Esakhail. In the same extent of the Solimaun range, live the Zmurree, Sheeraunee, Wuzeeree, and Jadraun. The Jaujee and Toree inhabit a deep valley, which appears to be cut by the Koorrum in the Soliman range: between the salt range and that of 34°, are hills and valleys, inhabited by the tribes of Bungush and Khuttuk. The latter, in some places, extends to the south of the salt range, and even crosses the Indus about Muckud. To the north of the range of 34° is the rich and extensive plain of Peshawur, watered by the river of Cabul, and bounded on the east by the Indus. The Khuttuk extend over the south-eastern part of this plain. The northern part belongs to the Eusofzyes, who inhabit also the country among the hills of Boonere, Swaut, and Punjcora. Some of the Eusofzye tribes extend to the east of the Indus. The rest of the plain of Peshawur belongs to certain tribes, often comprehended in the name of the tribes of Peshawur. The plain of Peshawur is bounded on the west by the subordinate range, which crosses from Hindu

Koosh to Suffaid Koh. The southern part of these hills, which is naked and barren, belongs to the upper Momunds. The northern part is covered with pines, and belongs to the Otmaunkhail. To the west of this range of hills, is the spacious valley of Bajour, which runs into that of Punjcora, and which is surmounted on the west by the southern projection from Hindu Koosh. On the right bank, there is first the country of the Khyberee; and, farther west, the rich plain of Jellallabad. West of Jellalabad, are Gundamuk, and Jugdilluk, which, with all the high country, extending from the plain of Cabul to the hills of the Khyberee, bounded on the south by Suffaid Doh, and on the north by the plain on the Cabul river, is called Nimgrahaur or Nungnehaur. The Cohistaun of Cabul has been described: south of it, is the plain of Cabul, which is spoken of as enchanting by all who have seen it. It has the Paropamisan mountains on the west, part of the Kohistaun on the north, the valley of the Cabul river, and the hills of Ningrahaur and Logur, connected with the range of Solimaun on the east. There is no marked limit between the bason of the Abistadeh, and the country west of the meridian of Mookkoor; the latter, however, has a western inclination. It is included between the Paropamisan mountains and the range of Khojeh Amraun, and may be divided into the valley of the Urghessaun, that of the Turnuk, and the high country between those rivers. The former is not broad, nor remarkably fertile: it slopes to the north-west. It is inhabited by the Dooraunaee; and the mouth of it extends to the neighbourhood of Candahar. To the south-east of it, is a hilly and pastoral country, extending to Shorabuk. The country between the Urghessaun and Turnuk, is composed of the ranges of Mookkoor and Torkaunee, and the plains which they enclose. The general slope of the valley of Turnuk, from Mookoor to Kelauti, Ghiljie, is to the south-west. The breadth of this valley is about sixty miles, and the length of the part I have described is very little more. It is inhabited by Ghilzie. The whole of the country from Kelat-i-Ghilzie to Herat, except Seeahbund and Subzaur, is inhabited by the Dooranee tribe. Returning to the neighbourhood of Ghuznee, we find Zoormool divided from Sirufza on the south, by a branch from Koh-i-Soliman. Sirufza Oorghoon and Wauna have been described as descending in stages to the Gomul. They are divided from each other by branches of the Solimani mountains, and have little cleared plains among mountains, covered with forests of pines. They are high and cold countries; but all these qualities are found less in the southern parts than the northern. Sirufza belongs to the Kharatee tribe of the Ghilzie, as does the southern part of the plain of Oorghoon, under the name of Seroba. Oorghoon itself belongs to the Fermoollees, a Persian tribe. Wauneh belongs to an Affghan tribe called Dumtaunny. To the west of Wauneh, beyond a range of hills, is the mountainous country of Mummye, the slope of which is east towards the Gomul. Mummye is divided on the west by the same branch which passes to the west of Sirufza, from the basin of the Abistadeh. Zawura is much narrower than Tul-Chooteeallee, but both are fertile, and inhabited by the Speen Tereen, a division of the Affghan tribe that possesses Pisheen. On the north-east, Zhobe opens on the valley of the Gomul, and on the east it has the hilly countries under the Solimaun range, the most northerly of which belong to the Hurrepaul division of the Sheeraunee, to the south of whom are a division of the Bauboor, and then Cauker, in some places mixed with Beluch.

Peshawur is situated on a low plain, surrounded on all sides except the east, with hills. The air is consequently much confined, and the heat greatly increased. In the summer of 1809, which was reckoned a mild one, the thermometer was for several days at 112° and 113°, in a large tent artificially cooled, which is as high as in the hottest parts of India. The duration of this heat is not, however, so great as that of an Indian summer, and it is compensated by a much colder winter. To the south of the Berdooraunee country, Bunnoo appears to be as hot as Peshawur, and the Esaukhail perhaps hotter. Khost and Dour, as they are higher than Bunnoo, are probably cooler. The Murwut country is made up of hills and plains, and consequently has not a uniform climate. The plains, at least, are very hot, and parched up, by the heat of summer. Largee was far from cool, even in January. The winter of Damaun is very agreeable, being colder than any part of Hindustan. Frost is common in the morning. The name of Affghan, is, probably, modern. It is known to the Affghans themselves only through the medium of the Persian language. Their own name for their nation is Pushtu; in the plural, Pushtauneh. The Berdooraunee pronounce this word Pookhtauneh; whence the name of Pitan, by which the Affghans are known in India, may probably be derived. All accounts agree that they inhabited the mountains of Ghore at a very remote period, and they seem early to have possessed the mountains of Solimaun; which term, in its most

extended sense, compre hends all the southern mountains of Affghanistan.—*Elphinstone's Kingdom of Cabul, pp.* 99-103, 115-16, 191-25, 132, 135, 151-52.

SOLLYA HETEROPHYLLA, one of the Pittosporaceæ, ornamental little shrubs with bright blue bell flowers, can be grown in a loamy soil, and are propagated by seed or cuttings.—*Riddell, John's Ind. Arch., Vol.* i, *p.* 289.

SOLIM, are supposed to be the aborigines of Siberia, and are described by Bell under the name of Tongusians.—*Staunton's Narrative, p.* 66. See India.

SOLO, Rus. Bacon.

SOLOMON, the son of David, was king over the Judah and Benjamin tribes of the Hebrews or Israelites. He is famed in history for his building of the temple of Jerusalem, for his great wisdom and great wealth. He began to build the temple B. C. 1014. He founded Hamath in the country of Galilee, and Tadmor in the wilderness, or Palmyra, and many other cities of store, (I Kings ix; v, 8,) (II Chron. viii; v, 4,) or emporia, for the commerce of India, and Tyre, Sidon, and all the surrounding nations. His father David had introduced the custom of a vast polygamy which Solomon continued. His commercial transactions extended down the Red Sea to India and the Aurea Chersonesus supposed to be Malacca.—*Arrian Periplus, p.* 152; *Pennant's Hindustan, Vol.* i, *p.* 4. See Hindu, Kamran, Saba.

SOLOMON'S POOLS, are three large reservoirs built on the slope of a hill about 7 miles S. from Jerusalem.

SOLOMON'S SEAL, Convallaria polygonatum.

SOLOMON'S TEMPLE, of Cashmere, stands on the summit of a little hill to the east of Srinagar city. Its height is 6,263 feet above the level of the sea.

SOLOMON'S TEMPLE in Jerusalem, was dedicated to Bal, and all the idolaters of that day seem to have held to the grosser tenets of modern hinduism,

> "Peor his other name, when he enticed
> "Israel in Sittim, on their march from Nile."

—*Tod's Rajasthan, Vol.* i, *p.* 76; *Paradise Lost, Book I.*

SOLO, or Sulo archipelago. North-eastern Indonesia comprises Formosa to the Solo Archipelago and Mindanao, all included, and embracing the Philippine and Bisayan groups, &c. From all historic times uninterruptedly to the present day, the sea basins whose ethnic influence has been in operation, are the China, Malacca, Java, Mangkasar, Solo, Mindoro, Molucca, Banda, Papua, Jilolo, Papuan, Papua Australian and Papua Micronesian seas, and the Archipelagian seas of Johore, the Trans-Javan or Timorean chain, the Bisayan group, the Moluccas, Eastern Melanesia and the different Polynesian and Micronesian groups. All of these are broad highways throughout the Archipelago, permit foreign navigators and the natives of the islands to traverse them freely and permit of constant intercourse with the rivers on the continent, thereby bringing the whole under the operation of foreign civilizations, and, opening as they do into each other, they are as broad highways traversing the whole Archipelago in different directions, and uniting it, both for foreign navigators and for the more advanced and enterprising of its native communities. The most important ocean stream of the western pacific is the Great Solo, which winds through a course of 356 miles, though traversing only 140 miles from its rise to the sea. Along the waters are floated flat-bottomed boats, bearing from 5 to 200 tons; some of them well-built, and furnished with cabins. Solo, or Sulu, is an island of the Sulu Archipelago. Sooloo equals Cagayan in beauty, surpasses it in the cultivated richness of its slopes, while an improved magnificence is communicated to it from the mountains in the interior. Its length, from east to west, is about ten leagues, and its breadth four. There is a good sprinkling on the sea of fishing and trading boats of picturesque build and rig. In 1775, the Sooloo people attacked and drove the British from Balambangan. Sooloo had, even then, long been an emporium not only of regular traders from most nations, but the head-quarters of piratical marauders who there found a ready market for enslaved victims and heterogeneous plunder, and whose descendants, to this day, are both proud and emulous of the deeds of their ancestors.—*Keppel's Indian Archipelago, Vol.* i, *pp.* 56-57. See India.

SOLOR, is an island lying to the east of Flores and to the north of Timor, under which presidency it is placed. The inhabitants of the coast of this island are mahomedans in name, but they are nevertheless hard arrack-drinkers, and gain their livelihood by fishing, the produce of which they exchange with the mountaineers for maize, the production of the ground, which the population cultivate for their subsistence, the soil there being of too volcanic a nature to grow rice. These inhabitants of the shore are hardy mariners and fishers, and think nothing of approaching the whale with their little boats, eight feet long, to attack the unwieldy monster and tow him to the shore. The village which most applies itself to the whale fishery

is Lamakera on the north-east part of the island of Solor, and lying within the Strait. It is the largest, most prosperous and most populous. The four other mahomedan villages are Layayong, Audanara, Lamahala and Trong, of which the three last are situated on the island Andanara. The coast tribes of Solor are remarkable for their skill in managing their prahu and canoes, and are the most expert fishermen in these seas, frequently capturing the black-fish, a small variety of the cachalot, or sperm-whale, which no other fishermen in these seas will venture to attack. The blubber or fat obtained from them is used as food, and also as an article of barter with the inland inhabitants; and the oil and spermaceti is sometimes disposed off to the Bughi and Macassar traders, who prefer it to cocoanut-oil for burning in their prahus. Several Solor fishermen are always to be found at Coepang, the Dutch settlement on Timor, chiefly in the service of government, from whom they obtain a fixed allowance of rice and maize. These men, who are relieved by others every year, are sent in compliance with an old treaty, by which the coast natives of Solor agreed to furnish an annual quota of men for the public service. As all the youths have to take their turn, the system makes them accustomed to intercourse with Europeans, and is attended with very beneficial results.—*Journ. of the Ind. Arch.*, *No.* xii, *Dec.* 1850, *pp.* 766-767; *Mr. Earl.* See Archipelago, India, Timor, Laut.

SOLOTO, Rus. Gold.

SOLTYKOFF, Prince, a Russian noble who travelled in India in 1841, and wrote Voyage dans l'Indie.

SOLV, Dan. Silver.

SOLUNKI, a Rajput tribe, see Khatri, Rajput, Solanki.

SOM, Beng. Sarcostemma viminialis.

SOM, also Sum, Ar. Allium sativum, *Linn.* Garlic.

SOMA, the juice of the moon plant, Sarcostemma viminialis, an intoxicating drink offered by the ancient hindoos to their gods:

The gods themselves with pleasure feel
King Soma's influence o'er them steal;
And Indra once, as bards have told,
Thus sang in merry mood of old.
This Soma is a god; he cures
The sharpest ills that man endures.
He heals the sick, the sad he cheers,
He nerves the weak, dispels their fears,
The faint with martial ardour fires,
With lofty thoughts the bard inspires,
The soul from earth to heaven he lifts;—
So great and wondrous are his gifts.
Men feel the god within their veins,
And cry in loud exulting strains;
" We've quaffed the Soma bright,
" And are immortal grown;
" We've entered into light,
" And all the gods have known.
" What mortal now can harm,
" Or foeman vex us more?
" Through thee beyond alarm
'Immortal god we soar."

Thus personified the Soma god, bears a certain analogy to the Greek Dionysus. The two verses above are a nearly literal translation of Rigveda, viii, 48, 3. The Soma plant of the Vedas is the Sarcostigma brevistigma, *W. & A.* It derives its name from the circumstance that it was gathered by moon-light. An intoxicating beverage was brewed or distilled from it. The Rig Veda, ix, says, The purifying Soma, like the sea rolling its waves, has poured forth songs and hymns and thoughts."

It was gathered by moonlight, hence its name from Soma, Sans., the moon, and carried to their homes on carts drawn by rams, and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and clarified butter or ghee. This beer or wine was used at all their religious festivals, and was used by the rishis, at their meals. The Soma sacrifice was an ancient Aryan rite, a sacrifice to Indra (Zeus). It was an intoxicating potion, consisting of fermented juice of plants mixed with milk. The Soma juice and its effects is repeatedly mentioned in the Vedas, (Vol. i, pp. 21, 139, Vol. ii, pp. 169, 233 and 260; and Vol. iii, p. 470. Indra, according to Bunsen, (iii, 587, 8, iv, 459), is the prototype of Zeus, and was a personification of ether. Soma was offered to him in sacrifice. The leafless asclepiad Sarcostemma viminialis, has white flowers in terminal umbels, which appear during the rains in the Dekhan. The Soma juice was the oblation, or libation, of the Vedic worship and the Homa of the Parsi; and allusions to it, are met with in almost every page, of the Vedas. The use of the Soma in their worship seems sufficient to indicate the original country of the Arians. Drinking the juice of the plant is a holy ceremony, to which constant allusion is made in the Vedas, and not unfrequently in Manu. Prof. H. H. Wilson (Introduction to the Rig-veda, p.36) says, "The great importance attached to the juice of this plant is a singular part of the ancient hindoo ritual. Almost the whole of the Soma-veda is devoted to its eulogy, and this is no doubt little more than a repetition of the Soma-mandala of the Rich Veda. The only explanation of which it is susceptible is the delight which the discovery of the exhilarating properties of the fermented juice of the plant must have excited in simple minds on first becoming acquainted with its effects." The veneration of the Soma-plant does not appear to have proceeded from any worship

of the moon or planets, which are not, like the sun, objects of special adoration in the Veda. The Soma is mentioned in the following passages of Manu, iii, 85, 158, 180, 197, 257 ; v, 96 ; vii, 7 ; ix, 129 ; x, 88 ; xi, 7, 12. All the ancestors of the brahmans are styled Soma-pa, 'moon-plant drinkers.'—*Bunsen's Egypt* ; *Budha-vara, Wednesday, p.* 6. Rig-Veda ; *William's Story of Nala, pp.* 247-8. See Budh, Chandra, Gayatri, Graha, Hindoo, India, Rajput, Solar Line, Lunar Line.

SOMA, or Chandra, the Moon : Budd'ha is one of the names of Mercury—also a godhead, also the founder of a religious sect, which is followed in different parts of India, and in all China. The epoch of the institution of Buddha's religion is referred to the year 540 before Christ. According to hindoo mythologies, one Buddha was the son of Soma (the Moon) and the head of a dynasty, called on that account, the Lunar line of princes. He flourished in the beginning of the Treta yug. Modern commentators place his birth in the year 1424 before Christ.

SOMA DEVA BHATTA of Kashmir, collected the popular stories current in his time and published them towards the beginning of the twelfth century under the title of Katha-sarit-sagara, the Ocean of the Rivers of Stories.

SOMAJH, From the religious septicism which is the most remarkable result of western education in British India, has sprung a sect of free-thinkers, among the more thoughtful and earnest of the hindoos, which, from the great progress it is making and the high character of its morality, bids fair to become a power destined to have a great influence over the future of educated India. Thinking men cannot rest in mere barren disbelief, but must carve out for themselves some system which, either from its intellectual charms, or its apparent suitability for enabling a man to find some moral rest among the difficult problems of human existence, will command at least their passive submission if not their active love. Just such a system of high but barren morality, well-fitted for the intellectual, forgetting and scorning the ignorant, has, under the name of Brahmoism or the Somaj, taken the place of the old Puranic superstition in the minds of the educated Bengalee people. The Brahmo society resembles in its organization of preachers, members and hearers, the various sects of christians. They eschew idolatry in every form, build chapels on the model of a christian church, and except that the Bible is seldom referred to and Christ is only treated as a great and good man, would seem to be an Indian form of a christian community. They have fixed paid ministers, lay itinerating agents who receive no salary for their labour of love, and now have adopted the missionary agency of the European churches; the committee of the Calcutta Brahmo Somaj determined to send out a few trained missionaries for the propagation of theism. The chief difficulty they had to contend with so long, was the general unwillingness of devout Brahmos to accept a farthing from the funds of the church. To meet their conscientious scruples the president of the Somaj undertook to offer special contributions from his own pocket for that object. This arrangement, however, will not affect the gratuitous character of Brahmic ministration. The work of ministration will continue to be, as heretofore, a labour of love ; intelligent and pious men, destitute of means of livelihood, will be selected and employed on moderate pay for the propagation of Brahmic knowledge and worship. About the year 1870 the society had, as members, the most energetic, well-informed, and respected of their countrymen, many of them being men of high social position and great wealth. Sadagopah Charloo of Madras though outwardly a strict hindoo, mentally believed in something far higher and purer than the superstition of the masses around, and took refuge in what in Southern India is called Vedantism, which pretends to extract from hindoo fables a clear and worthy idea of God, and of the relation that man ought to hold towards him. This Vedantism only stopped one step short of Brahmoism at present, though it is one of the steps through which the latter has gone. The founder of the BrahmoSomaj was Rammohun Roy, a man of great abilities. He studied the Vedas in Sanscrit, the Koran in the Arabic, and the Bible in the original Greek and Hebrew. The result was that he became a believer in one great and pure God, whose will was revealed in the Vedas, but was most easily explained and illustrated in the Bible, which, though not the most sacred, was incomparably the most elevated in its relation to man. Hence he abjured hindooism in its modern form, with all idolatry and polytheism ; and, while publishing a book entitled 'The precepts of Jesus the guide to Happiness,' gave his assent to the Vedas as his religious guide. With wonderful industry and energy he then endeavoured to propagate his new faith, and for this purpose translated all the more religious portions of the Vedas into Bengalee, deliberately entering on the path of the reformer much in the same spirit as did Wyckliffe in England. His desire was to bring the people back to the pure faith of

their ancestors, which had been corrupted by a hundred generations of brahminical forgeries. Wherever he went his faith was the theme of his course, while his house was a centre of discussion with all who chose to come. His energy and zeal were, however, lost upon his countrymen, who could not understand such feelings. Strange to say, however, he was more successful with Europeans and, by degrees, gathered round him a little circle of believers in the divinity of the Vedas, and purely human character of the Bible. Stranger still, one of his first converts was a missionary named Adams, who was for some years the high priest of the party, under the presiding genius of Rammohun Roy. According to Dr. Duff, to whom we are indebted for much of our knowledge of this sect, their first place of meeting was the office of the 'Harkaru,' newspaper, whose editor, we presume, was one of the initiated. Thus matters went on for some years with but little change. They called themselves "the Unitarian Church of Calcutta," and, when Rammohun Roy went to England, he was on the strength of this title, received by the Unitarians as a brother; while most persons looked upon him as a christian, though of an heterodox section. The only bond between him and the English Unitarians, however, was one which mahomedans and many others might claim as common to them; for in every other respect, except his belief in the unity of God, Rammohun Roy was altogether opposed to those of the same denomination of Britain. As time passed on the Somaj altered its character. Its European adherents fell away or went home, and in their place came, about the year 1840, a large influx of hindoo disciples. The sceptical movement had in the minds of the more thoughtful of the alumni of the Calcutta High School, gone through its cycle. Infidelity had found its need of something to believe—something to satisfy the craving of the mind for rest and peace. Hence, when Rammohun Roy came before them with his plausible scheme of vedantic purity, and asking from them nothing in the way of superstition or conformity with the debasing ceremonial of the hindoo religion, baiting his views by their apparent return to the religion of their ancestors, they came to him in crowds. Debendra Nath Tagore, who joined in 1839, was, however, the first well-known m... ...ered to the new school; ... that we can ...nt institu- ...cause of ...t native ...; organ of the society, and by its moderation and ability it did much to extend its principles. Branch churches and good schools were now opened in different parts of Calcutta to catch both old and young, and the society turned the critical point of its existence, coming to the present time on a flowing tide. See Brahmo, Hindoo, Rammohun Rai.

SOMA LATA, Tel. Sarcostemma acidum, *Voigt.*

SOMAL or Beer-us-Somal, the country of the Somali, to the south of Cape Guardafui, an account of which, and of its inhabitants, was given in Lond. Geo. Trans. The Somali country lies between the equator and the 11th degree of north latitude, is high in the north, and on the west is separated from the Galla nations by the river Jub, a large and fertilising stream which rises in the mountains of Southern Abyssinia and debouches in the Indian Ocean. Capt. Speke states that the Somali are the descendants of a band of mahomedans who were driven from Mekka in A. D. 1413, and crossed over to their present site, from which the Galla and Abyssinians were subsequently dispossessed. Those at Aden are of a mixed race; tall, slender, light and agile, with thin lips, Grecian noses, but curly woolly hair. They are boisterous and warlike. The Somali people in their own land are wandering pastorals, but have settled villages on the coast line with a patriarchal government. There are no ceremonies on birth-occasions, and no purification of women amongst these people. In the case of abortion or of a still-born child they say, "he hath returned," that is to say, to home, in earth. When the mother perishes in child-birth, the parents claim a certain sum from "the man that killed their daughter." Neither on the continent nor at Zanzibar do they bind with cloth the head of the new-born babe. Twins, here called Wapacha, and by the Arabs of Zanzibar Shukul, are usually sold or exposed in the jungle as amongst the Ibos of West Africa. If the child die, an animal is killed for a general feast, and in some tribes the mother does a kind of penance. Seated outside the village, she is smeared with fat and flour, and exposed to the derision of people who surround her, hooting and mocking with offensive jests and gestures. To guard against this calamity the Wazaramo and other tribes are in the habit of vowing that the babe shall not be shaved till manhood, and the mother wears a number of talismans, bits of wood tied with a thong of snake's skin, round her neck, and beads of different shapes round her head. When carrying her offspring, which she rarely leaves alone, she bears in her hand what is technically called a kirangozi, a "guide" or "guardian," in the

form of two sticks a few inches in length, bound with bands of parti-coloured beads. This article, made by the Mganga or medicine-man, is placed at night under the child's head, and is carried about till it has passed the first stage of life. The kirangozi is intended to guard the treasure against the malevolent spirits of the dead; that almost universal superstition, the Evil Eye, though an article of faith amongst the Arabs, the Wa-sawahili, and the Wa-mrima, is unknown to the inner heathen. A name is given to the child without other celebration than a debauch with pombe. This will sometimes occur at the birth of a male when he is wanted. The East Africans, having few national prejudices, are fond of calling their children after Arabs and other strangers; they will even pay a sheep for the loan of a merchant's name. There must be many hundred Sayyid Said and Sayyid Majid now in the country; and as, during the eighteen months' peregrination of the East African Expedition, every child born on and near the great trunk line was called Mhzungu—the "white"—the Englishman has also left his mark in the land. The period of ablactation, as in South Africa, is prolonged to the second or third year: which may account, in part, for the healthiness of the young and the almost total absence of debility and deformity? Indeed, the nearest approach to the latter is the unsightly protrusion of the umbilical region, sometimes to the extent of several inches, owing to ignorance of proper treatment; but, though conspicuous in childhood, it disappears after puberty. Women retain the power of suckling their children to a late age, even when they appear withered grandames. Until the child can walk without danger, it is carried by the mother, not on the hip, as in Asia, but on the bare back for warmth, a sheet or skin being passed over it and fastened at the parent's breast. Even in infancy it clings like a young simiad, and the peculiar formation of the African race renders the position easier by providing a kind of seat upon which it subsides; the only part of the body exposed to view is the little cocoanut head, with the small, round, beady black eyes in a state of everlasting stare. Finally, the "kigogo," or child who cuts the two upper incisors before the lower, is either put to death, or is given away or sold to the slave-merchant, under the impression that it will bring disease, calamity, and death into the household. The Wa-Sawahili and the Zanzibar Arabs have the same impressions: the former kill the child; the latter, after Khatmah or perfection of the Koran, make it swear by nodding its head, if unable to articulate, that it will not injure those about it. Even in Europe, it may be remembered, the old prejudice against children born with teeth is not wholly forgotten. The Somali are a purely nomadic race, totally unacquainted with agriculture, and subsisting chiefly on the produce of their inexhaustible flocks and herds. They trade in sheep, cattle, ponies, ghee, gums, hides, &c., which they bring from the interior to the great annual fairs held at Berbera and other places on their coast, or themselves bring to Aden during the north-east monsoon. At other seasons, when the sea is too dangerous for their small craft to venture across, they proceed inland to tend to their flocks, and collect gum, myrrh, ostrich feathers, ivory, &c., for the next season's trading. They are a good-tempered, though lazy and indolent race, but easily excited to anger; on which account, in Aden, they cannot even be trusted to carry sticks. In their own country they are much addicted to plunder; in Aden they are inveterate thieves and gamblers, and require to be watched with the greatest care. In person they are handsome, active, and long-limbed; of a purely Caucasian caste of features, capable of undergoing great privation and fatigue, but not easily induced to engage in hard manual labour; nevertheless some, tempted by high wages, take employment as out-door servants, and on board the coal vessels in the harbour. Their personal appearance is not unfrequently rendered extremely grotesque, from their habit of staining the hair of a red colour, and teazing it out into a woolly mass; but their carriage is always graceful, and the drapery of their dress picturesque. Dr. Latham considers the Somali tribes as a member of the Galla or Ilmormo family, and this term to be the same as Suwahili and Sofala. The term Suwahili is doubtless from the Arabic plural, Suahil, Sea-coasts, whatever that of Somali may mean, though these are also dwellers on the coast, from a little to the south of Babel-Mandeb. In 1827, a British vessel trading at Berbera was attacked and plundered by the Habr Owul tribe of Somalee. Berbera is a port to the east of Zaila and Tajowra and nearly opposite to Aden. In consequence of unhealthy winds it is deserted for six months every year. During the rest of the year it is visited by caravans of different tribes from the interior of Africa. A vessel of war was sent to punish the tribe for the outrage which they had committed. On 6th February 1827 a treaty of peace and commerce was signed by the elders of the tribe. An expedition was sent in 1854 to explore the country between Berbera and Zanzibar. On the 18th April 1855 the party

were suddenly attacked by Somalee of the El Moosa tribe; two British officers were wounded, one was killed, and the entire property of the expedition was carried off. The murderers were not delivered up but a treaty was entered into. In 1855 the elders of the Habr Gerhagi and the Habr Taljala tribes of Somalee entered into an engagement with the Political Resident at Aden to prohibit the slave trade.

The following are the chief of the Somali mammalia.

Canis variegatus, Ruppell. "The Somali Jackal." He carries off kids and lambs, rather disdaining garbage; and unless driven away by dogs, he is capable of doing great damage to the flocks. The Somali call him Dowao.

Hyæna crocuta ? (Erxleben), var. ? Bright fulvous hyæna, with dark spots not very distinct, and a black tail-tip: probably of the race termed H. crocuta rufa by Fischer, and which Dr. Gray refers to H. brunnea, *Thunberg* (H. rufa, *Cuv.* and H. fusca, *Geoffroy*). This name more probably refers to the specimen in the Paris Museum described by Cuvier, Oss, Foss, vii, 318 (4th edition), and which is evidently H. villosa, *A. Smith* (Lin. Trans., xv, pt. 1, 461) from South Africa (Port Natal); but which is not the 'Strand Wolf' of the Cape colonists (who term the common spotted hyæna the 'Tiger Wolf') or H. villosa, *A. Smith*, which Dr. Gray considers to be a S. African variety of H. striata, *Zimmerman*, the common striped hyæna of Asia and N. Africa. H. villosa is a distinct species, nearly affined to H. striata, but with the solitary true molar less developed, though more so than in H. crocuta. Vide also Cuvier, *Oss, Foss*, vii, 319 (4th edit.) Dr. Gray even institutes a genus Crocuta, to which he refers as species C. maculata (Canis crocuta, *Erxleben*, Hyæna maculata, *Humb.*, v. H. capensis, *Desmarest*), the ordinary spotted hyæna, and C. brunnea (with synonymes as before cited). The Somali animal is probably the latter. The Somali call it Waraba, or "Durwa." It is common to all the Somali country, whines about the camp all night, and devours anything it can find during the day, pulling down camels and even children. The natives have many superstitions about this animal, and a man is often called Waraba after his proper name, the idea being that by rubbing certain plants over the body the magician can convert himself like Mars into a wolf. In the cold season when the Waraba is hungry he attacks man. The Somali all declare this animal to be a hermaphrodite. (Vide *Pliny*, viii, 30; as cited by Cuvier, *Oss, Foss*, vii, 312, 4th edit.)

Mungos fasciatus; Herpestes fasciatus, *Desmarest*: Viverra mungo, *Kæmpfer*; V. ichneumon, *Schreber* (from *Buffon*, iii, *t.* 19); H. zebra, *Ruppell*; Ryzæna suricata apud Children, (Appendix to Clapperton's Travels), called the kadaf. These animals run about in large batches, and defend themselves savagely when wounded. They inhabit the plateau, burrow deep, and when pursued endeavour to escape by hiding themselves: yet with characteristic curiosity, they must peep out of their asylum after a few minutes' concealment.

Felis caracal, Schreber, called by the Somali 'Jumbul,' is principally found in the plains.

Xerus rutilans; Sciurus rutilans, *Ruppell*: X. brachyotus, *Hemprich* and *Ehrenberg*, apud Gray; Ground squirrel, called Dabakalla. It abounds all over the country, burrows especially into deserted ant-hills and under dead trees. The testes of the male are enormous; and the colour of the coat is glossy and brilliant.

Pectinator Spekei, *Blyth*, 'Common rat, Barabdubl. Inhabits stony ground, like the Hyrax.' This highly interesting rodent belongs to a peculiar N. African group, of which one species only appears hitherto be tolerably known, the Ctenodactylus massonii, *Gray*., a notice of the anatomy of this animal, was given by Mr. Yarrell, in *Proc. Zool. Soc.*, 1831, *p.* 49. A second species would seem to exist in the Mus gundi, *Rothman*, or Gundi marmot of *Pennant's* 'Zoology,' which, being described to be of the "size of a small rabit," and of a "testaceous-red colour" can scarcely (as remarked by Dr. Gray) be specifically identical with Ct. massonii, even though from the same country, Barbary. The fur of Ct. massonii is pale yellowish-brown; and its tail is described by Mr. Yarrell to be one inch long. The Gundi is merely stated to have a "short tail." Accordingly, the following (obviously another of the same group and region), with rudimentary tail "but just perceptible to the touch," is probably a third species, which was observed by Captain Lyon in the mountains north of Tripoli. That traveller informs us, that, it much resembles a Guinea-pig in form, but is of a light brown mouse-colour. Fur longer than that of a rat, and very silky; eyes black, large and prominent. Orifices of ears, which are quite flat against the sides of the head, also black, and free from hair; the tail, or rather a little stump in place of one, is just perceptible by the touch, and from it grows a tuft or bunch of long black hairs. The body is very round and fat, and particularly broad at the shoulders. These animals burrow amongst the rocks. They are eaten with

great relish by the natives, and no doubt are very good, as the flesh is exceedingly white and fat, and resembles that of a rabbit. The animals of this group are clad with delicately soft fur, have very long moustaches, and four toes only on each foot. The palms and soles are naked, the latter to the heel or tarsal joint; and the entire length of the tarse is brought to the ground when walking. Over each claw is a curving tuft of stiffish bristles, more conspicuously developed on the hind-feet; and the innermost toe of the hind-foot has a peculiar combing apparatus, which has been described by Mr. Yarrell in the instance of Ctenodactylus massonii. "With this comb-like instrument," remarks that naturalist "the little animals were observed [in the London Zoological garden] to be continually dressing their soft fur; and the facility with which they managed to reach every part of each lateral half with the toe of the foot on that side, as well as the rapidity of the motion, were very remarkable." The muzzle is completely furred; and the rudimentary or short tail is furnished with long hair (as in the Sciuridæ). The rodential tusks are narrow and rounded; and in Ctenodactylus there are only three molars on each side above and below, and which are surrounded with enamel, the upper having one deep indentation externally, the lower being indented on both sides. In the new genus there is a small and simple fourth molar anteriorly above and below: and the next to it above is smaller than the third and fourth, and seems to have no distinct indentation (the molars being, however, much worn away by attrition in the specimen examined). The lower jaw of Pectinator is very remarkable for showing no indication even of a coronoid process; a fact not mentioned by Mr. Yarrell in his description of the anatomy of Ctenodactylus. The condyle is small, and articulates on a level with the crowns of the molars. The auditory bullæ are remarkably large and are seen from above (as in Chinchilla.) The antiorbital foramen is large. Palate contracted, narrowing to the front; and the post-palatal emargination is continued forward to a line with the middle of the last molar; externally, Pectinator is distinguished from Ctenodactylus by having the tail and ear-conch well-developed, a smaller eye; and apparently a general adaptation for more diurnal and less fossorial habits. The eyes are scarcely so large as in a common rat. The auricles are broadly ovoid, subnude, with a fringe of whitish hairs on their anterior margin, and a patch of dense whitish fur at base on their outer surface. Length of P. spekei, from nose to base of tail, about 6 inches; and tail probably $2\frac{1}{4}$ inches; or with hair $3\frac{1}{4}$ inches; Tarse with toes $1\frac{3}{8}$ inches. Auricle (measured posteriorly) $\frac{1}{2}$ inch. The skull measures $1\frac{7}{8}$ inches in length and $1\frac{1}{16}$ inch in greatest breadth (at the zygomata posteriorly); between the orbits somewhat exceeding $\frac{1}{2}$ inch. Fur, soft and moderately long, of a sandy grey-brown colour, slightly washed with rufous especially on the crown; the basal half of the piles pale dusky: at the nates, the fur is more dense and woolly, and rufescent-whitish or pale isabelline: the moustaches are chiefly black, and the longest of them measure about 3 inches; the hairs upon the tail are shorter towards its base, then lengthened as in the squirrels; these long hairs being of a sullied or isabella white for the basal half, and then black with a white tip: hence, in the living animal, the bushy tail would appear whitish along its middle, with broad black lateral and longitudinal bands, which again are fringed externally with dull white: hairs upon the feet whitish, the tufts or brushes over and impending the kind-claws showing conspicuously: the combing apparatus of the innermost hind-toe consists of some exceedingly harsh and stiff short bristles immediately impending (but shorter than) the claw, and above these again are some equally short bristles which are not quite so rigid; over which is finally the long incurved tuft of finer bristles, the lowermost of which are shorter and more rigid than the upper: on the next toe the same remarkable structure is seen, and more easily felt, but is considerably less developed. This discovery of a second generic form of a peculiar group, hitherto represented only by Ctenodactylus (which has long stood quite isolated among other Rodentia), will be hailed with some satisfaction by those who have paid attention to the classification of the order, and will tend to remove such doubts as may exist of the propriety of recognising this as a separate family (however limited, according to present knowledge), about equivalent to the Chinchillidæ of South America, to which, upon the whole, the Pectinatoridæ would seem to be more nearly affined than to any other known form. It is highly probable, however, that more species and even generic forms remain to be discovered of this peculiarly African family; and that it will prove to be at least as extensive as the Chinchillidæ; and perhaps that even Petromys should be admitted within its extreme confines. Capt. Lyon's Tripoli animal, with tail reduced to a mere tubercle, is certainly one species which has not yet been scientifically examined; and the Gundi marmot of Pennant is probably another: but these little mouse-coloured

rodents seldom attract the attention of unscientific collectors; unless, indeed, it should so happen that their attention had been especially directed to them.

Hyrax habessinicus, Hemprich and Ehrenberg: Ashkoko of the Appendix to Bruce's Travels; recognised as a distinct species by Dr. Gray; but referred by Dr. Ruppell to H. damar, *Cuvier*, *v.* syriacus of *Schreber*. Half-grown specimen. "The Somal call it Bauni. It inhabits rocky ground and delights in sunning itself, running about the rocks, and living in chinks and holes. Neither Lt. Speke nor I ever saw it in the plains. The Arabs here eat it, but the Somal do not.

Gazelle —— ? Heads of male and female, of one of the several species which have been more or less confounded under G. dorcas; and quite distinct from the common Aden Gazelle, which is frequently brought alive to Calcutta. One marked peculiarity consists in the ears being of an ash-grey colour, contrasting strongly with the hue of the neck and doubtless also of the body. Horns robust, curved backward and then upward, and diverging but slightly; much longer, and with the annuli wider apart, than in the Aden Gazelle, though the animal would seem to be of the same size. The horns of the female are very much stouter than we have seen in any other female Gazelle, and follow the same curve as in the male, having rudimentary annuli. Muzzle whitish, with a strongly contrasting black nose-patch. The society possesses a species of Gazelle (habitat uncertain), which much resembles the Aden Gazelle except in being considerably larger, with proportionally longer and more distantly knobbed horns, much as in the present race: but both of these have the ears rufescent and not ashy. At present, we are far from being satisfied with the manner in which Dr. Gray has brought together sundry of these affined races of Gazelle, in the Proc. Zool. Soc. for June 11th, 1850. (Ann. Mag. N. H., viii, 1851, p. 131). It seems like cutting rather than unravelling of the tangled knot. Lt. Burton writes—"A kind of Gazelle called by the people Dera, as you may observe that there is an elevation of loose replicated skin upon the nose. It seems to live during the dry season without water, and affects the desert, not being very shy in presence of man, but avoiding jungle. They are found in flocks."

Madoqua saltiana; Antilope saltiana, *Blainville*; A. madoqua, *H. Smith*. A beautiful skin of a male; and heads of two other males and of a female. This little antelope is called Sagaro, by the Somal; Beni Israel in Abyssinia; and Ghazalak by the Arabs. It abounds throughout the country generally in pairs, and is fond of ravines under hills, the beds of nullahs, and patches of desert vegetation. In the northern Somali country, these antelopes are caught in snares: elsewhere they are run down on foot, taking half a day on account of their great swiftness. The jackal (Canis variegatus) cannot catch them. They sleep by day under the trees; and in the plains their dung (which becomes peculiarly fœtid with a musky odour in the sun) is found in heaps as if they assembled for that purpose. Many animals resort habitually to one place to deposit their dung; among them the Indian rhinoceros, which in the Rajmahal hills is watched for and shot by the natives at such places; and the Indian four-horned antelope exhibits the same propensity, when tame and loose in a large enclosure.

Oreotragus saltatrix; Antilope oreotragus, *Forster*: A. saltatrix, *Boddært*. The 'Klip springer' of the Cape colonists. A kind of antelope called Alakrut. They live in the higher ranges of the mountains, only in pairs, and are not unlike the musk-deer in coat. They are by no means shy, seldom flying before the foot-fall is heard. They hop in an awkward manner on the points of the hoof at no great pace or distance at a time. The people of the country prize the venison.—*Treaties, Engagements and Sunnuds, Vol.* vii, *p.* 319; *Mr. Blyth in Beng. As. Soc. Jour., Vol.* iv, 1855, *Specimens sent by Capt. Burton from Somali country.*

SONALU, Beng. Cathartocarpus fistula, *Pers.*

SOMANATH, or Deo Puttun, also called Puttun Somanath or Somnath Puttun, is a town with a temple of great sanctity in the south of Guzerat; its gates were carried away by Mahmud of Ghuzni, in 1024 and brought back from Affghanistan in 1843 by the British troops. Somanatha or Someswara, is the name of the type of Siva. The temple of the idol, was supported by 56 pillars in rows, the idol was of polished stone, about five cubits high, of proportionate thickness, and two cubits were below ground. Mahmud took the place by storm, and himself entering the temple he broke the lingum with a heavy mace. Some of the fragments he conveyed to Ghuzni and they were placed at the door of the great mosque. One portion brought back by the English soldiers, after the Affghan war, in 1842, was offered to the temple by Lord Ellenborough but the offer was not accepted. This idol is related to have been brought to India from the Kaaba, on the advent of Mahomed; brahminical records, however, refer it to the time of Krishna. The Somanath idol, in fact, was one of the twelve

great lingums then set up in various parts of India, several of which were destroyed by the early mahomedan conquerors. It seems established that the worship of Siva, under this type prevailed throughout India at least as early as the 5th or 6th century. When the Somnath temple was plundered by Mahmud of Ghazni in A. D. 1024, Byram deo, (Brahma deva) of Guzerat was deposed. The temple stood in the country of Soreth ; a province of the peninsula of Guzerat, which is now more generally known under the name of Kattywar; and which is celebrated in the Puranas for containing five inestimable blessings. First, the river Goomtee ; second, beautiful women ; third, good horses ; fourth, Somnath; and fifth, Dwaraka. Among the many places in Soreth that are held sacred by the hindoos, Somnath or Somnath Pattan, as it is more generally termed, has always been one of the most remarkable. It stands one or two miles from the sea, at the junction of three rivers, the Hurna, Kupula, and Sersutty, at a distance of three miles to the east of the port of Belawul. The idol itself, " Somnath, is one of the twelve symbols of Mahadeo, which are said by hindoos to have descended from heaven to the earth. The holy image was, according to mahomedan authors, destroyed by Mahmud, but in late years Ahela Bhai, the widow of a prince of the Mahratta family of Holkar, erected a new temple on the exact site of that which was demolished. A symbol of mahadeo has been placed in this temple, which is deemed peculiarly propitious to those who desire offspring ; not far from this, the hindoo pilgrim is shown a solitary peepul tree, on the bank of the Sersutty river, which he is assured stands on the exact spot where the Sri Krishen received the mortal wound from an arrow that terminated his incarnation. Mahmud left Ghuzni, on his expedition against Somnath, in September A. D. 1024 ; his numerous army was accompanied by crowds of volunteers, the flower of the south of Turkistan. Ajmir and Anhilwara fell before him. Advancing against Somnath, for two days, his most devoted followers were beaten headlong back by the valour of the Rajputs, fighting for hearth and altar. On the third day, Mahmud led a furious charge in person, five thousand hindoos lay dead and the day was won. When he entered the shrine of Som Iswara, he beheld a superb edifice of hewn stone, its lofty roof supported by pillars curiously carved and set with precious stones. In the adytum, to which no external light penetrated and which was illuminated only by a lamp suspended from the centre by a golden chain, appeared the symbol of Som-Iswara, a stone cylinder which rose nine feet in height above the floor of the temple and penetrated six feet below it. Two fragments of this object of idolatrous worship were, at the king's order, taken off, that one might be thrown at the threshold of the public mosque and the other at the court gate of his own palace of Ghuzni. Other fragments were reserved to grace the holy cities of Mecca and Medina. While Mahmud was thus employed a crowd of brahmans offered an enormous ransom if the king would desist from further mutilation:—Mahmud hesitated: but after a moment's pause, he exclaimed that he would be known by posterity not as the idol-seller but as the destroyer. The work of destruction then continued and was rewarded by the discovery in the vaults below the adytum of untold treasures. Thus fell Somnath. Its gates were taken to the mosque of Ghuzni from which they were removed when the British troops returned from the occupation of that country in 1842. On this occasion, Lord Ellenborough issued the following notice in the form of a Proclamation from the Governor-General to all the princes and chiefs and people of India :—My brothers and friends,—Our victorious army bears the gates of the temple of Somnath in triumph from Affghanistan, and the despoiled tomb of Sultan Mahmud looks upon the ruins of Ghuznee. The insult of 800 years is at last avenged. The gates of the temple of Somnath, so long the memorial of your humiliation, are become the proudest record of your national glory—the proof of your superiority in arms over the nations beyond the Indus. To you, princes and chiefs of Sirhind, of Rajwarra, of Malwa, and Guzerat, I shall commit this glorious trophy of successful war. You will, yourselves, with all honour, transmit the gates of sandalwood through your respective territories, to the restored temple of Somnath. The chiefs of Sirhind shall be informed at what time our victorious army will first deliver the gates of the temple into their guardianship, at the foot of the bridge of the Sutlej. My brothers and friends,—I have ever relied with confidence upon your attachment to the British Government. You see how worthy it proves itself of your love, when, regarding your honour as its own, it exerts the power of its arms to restore to you the gates of the temple of Somnath so long the memorial of your subjection to the Affghans. For myself, identified with you in interest and in feeling, I regard with all your own enthusiasm the high achievements of that heroic army, reflecting alike immortal honor upon my native and upon my adopted country. To preserve and to improve the happy union of our two countries, necessary as it is to the

welfare of both, is the constant object of my thoughts. Upon that union depends the security of every ally, as well as of every subject, of the British government, from the miseries whereby, in former times, India was afflicted; through that alone has our army now waved its triumphant standards over the ruins of Ghuznee, and planted them upon the Bala Hissar of Cabul. May that good Providence, which has hitherto so manifestly protected me, still extend to me its favour, that I may so use the power now intrusted to my hands, as to advance your prosperity and secure your happiness, by placing the union of our two countries upon foundations which may render it eternal. But the gates never reached their destination. Public opinion stopped them en-route. Some of the fragments of the lingum were conveyed to Ghuzni and placed at the door of the great mosque. One portion brought back by the British army after the Affghan war, in 1842, was offered to the temple by Lord Ellenborough, but was not accepted. When Somnath temple was plundered by Mahmud in A. D. 1024, Byram deo (Brahma deva) of Guzerat was deposed. Captain Postans says, the situation of this great fane of hinduism, is as imposing as it is itself magnificent, as a structure of other times. Crowning a bold promontory, the thundering and eternal surges lash the walls which protect it, and a wild expanse of ocean begirts the cliff on which it stands. The exterior is richly adorned with finely-chiselled sculpture, on which, unfortunately, the wing of time has not flapped harmless or the alternation of seasons left untouched. There is nothing in the vedas, puranas and other brahminical text-books, to illustrate the origin and history of the Somnath temple. The earliest notice that we possess of Somnath is contained in the brief account of the successful campaign of Mahmud of Ghuzni. According to Ferishta the fortified city of Somnath was situated on a narrow peninsula, washed on three sides by the sea. It was the residence of the rajah, and Naharwala (a transposition of Anhalwara) was then only "a frontier city of Gujarat." This agrees with the native histories, which place the close of the Chaura dynasty of Anhalwara in S. 998, or A. D. 941, when the sovereignty passed into the hands of the Chalukya prince, Mula raja, who became the paramount ruler of Somnath and Anhalwara. After the time of Mahmud, Somnath would appear to have been abandoned by its rulers in favor of Anhalwara, which is mentioned as the capital of Gujarat in the time of Muhammad Ghori and his successors Aibeq. It was still the capital of the kingdom in A. H. 697, or A. D. 1297, when the country was invaded by the army of Ala-ud-din Muhammud Khilgi, which occupied Nahrwala, or Anhalwara, and annexed the province to the empire of Delhi. About a century after their explusion from Balabhis, about A. D. 758, Bappa or Vappaka, founded a new kingdom at Chitor, and his son Guhila, or Guhaditya gave to his tribe the new name of Guhilawat, or Gahilot, by which they are still known. About the same time a chief of the Chaura tribe, named Ban raja, or the "jungle lord," founded a city on the bank of the Saraswati, about seventy miles to the south-west of Mount Abu, called Anhalwara Pattan, which soon became the most famous place in Western India. Somewhat earlier, or about A. D. 720, Krishna, the Pahlava prince of the peninsula, built the fort of Elapura, the beauty of which, according to the inscription, astonished the immortals. In it he established an image of Siva adorned with the crescent. Following this clue General Cunningham inclines to identify Elapura with the famous city of Somnath, which, as the capital of the peninsula, was usually called Pattan Somnath. According to Postans the old city of Pattan is built upon a projection of the mainland, forming the southern point of the small port and bay of Verawal. This name General Cunningham takes to be the same as Elapura, or Elawar, which, by a transposition that is very common in India, would became Erawal. Thus Nar-sinh has become Ran-si, and Ranod is used indifferently wtih Narod, and the ancient Varul is the modern Elur, or Elora. General Cunningham says Pattan Somnath was famous for a temple of Siva, which enshrined a figure of the god bearing a crescent on his head as Somnath, or the "lord of the moon." This appellation was therefore the proper name of the temple, and not of the city, which he concludes, must have been Elapura or Erawal, the modern Verawal, but Soma Nath is the title of Swayamnath, or Self-existing and the religion was, of old, common to Arabia and India, and there is reason for believing, what the early mahomedan authorities assert, viz., that the Lat, worshipped by the idolaters of Mecca, was a similar deity to the Swayam-nath of the hindoos.—*Postans' Western India, Vol.* ii, *pp.* 18, 19; *Hist. of Guzerat, translated by Dr. Bird*; *Cunningham's Ancient Geog. of India, pp.* 318-320; *Prinsep, p.* 284; *History of Persia, Vol.* 1, ch. ix; *Wilson*; *Townsend's Outram and Havelock's, p.* 49. See Lingum.

SOMA SIDDHANTA, see Varaha.

SOMA YAGA, the Soma juice presented as an oblation and then drank.—*Wilson.*

SOMBREIRO, see Nicobar islands.

SOMBREROS, Sp. Hats.

SOMBU, Tam. Pimpinella anisum.

SOMENDILLA, Tam., Maleal. A tree yielding the best and most useful wood in Ceylon for naval purposes. It is commonly called Halmilile and Hameniel, by the Dutch and Portuguese. It grows straight, from twenty to forty feet high, and from twelve to thirty inches in diameter. This tree, with the satin wood is the most plentiful and valuable found in Ceylon; and can be obtained at a moderate rate: it may be considered superior to any wood for capstain bars, cross and trussel-trees, cask-staves, battens for yards, fishes for masts, boat-building, &c. At Madras, it is highly valued for coach work from the toughness and fineness of its grain. Halmilile is the Berrya ammonilla, the Trincomallee wood of commerce. —*Edye, on the Timber of Ceylon* ; *Mendis.*

SOMESWARA, or Somnath, 'lord of the moon,' a title of Siva; also applied to Surya, the Sun-god.—*Tod's Travels, p.* 508. See Kala, Priyanath, Katiwar.

SOMIDA MANU, Tel. Soymida febrifuga, *Ad. Juss.;* Swietenia febrifuga, *R.* ii, 398.

SOM-ISWARA, see Kattyawar, Somanath.

SOMINTA, Tel. Sesbania ægyptiaca, *Pers.* Æschynomene sesban, *R.* iii, 332.

SOMMACO, It. Sumach.

SOMAVALLI, Tel. Tenospora cordifolia, *Miers.*

SOMAVALLI, Hind. Jivanti manapala.

SOMBRE BAT, Eng. Nycticejus atratus, *Bly.*

SOMNATH PATTAN, its temple is the counterpart of Balbek. The ling or phallus, there was one of the twelve in several cities of India. Somnath gates, are now quietly laid up in a corner of the hall. The gates, eleven feet long by nine broad, verify Feristah's account of Somnath to have been five yards high. The beautiful arabesques carved on the marble, attest to the taste of Mahmud, acquired from the hindoo architecture of ante-mahomedan India, and the Cufic characters on the borders record his triumph over hindoo idolatry.—*Tr. Hind., Vol.* i, *p.* 403.

SOMNEE, a river near Mundesore, in Sindhiah's territory.

SOMNI, Hind. Dicliptera roxburghiana.

SOMPA, Tel. Anethum sowa, Aniseed.

SOM-RAJ, Beng. Vernonia anthelmintica, *Willd.* Seeds of Conyza (or Serratula) anthelmintica—a worm medicine often sold in the bazaar instead of Zeera seeah, or black carraway.—*Ben. Phar.*

SOM SHING, Hind. Pinus excelsa.

SON, also H'nyet, Burm. Horse.

SON. To have a son, a male child, is the great desire of the married hindoo, and if a son be not born to a hindoo, he adopts one. The sanscrit word meaning a son, is said to mean deliverer from hell. Since the son delivers his father from hell (Manu, ix, 138). This accounts for the extreme desire entertained by the hindoos for male offspring. Thus Bhima, like Dasaratha in the Ramayana, and many others, performed the holiest acts for the sake of obtaining a son. The son alone by the offering of the funeral libation (sraddha) is supposed to procure rest for the departed spirit of the father.—*Williams' Story of Nala, p.* 178.

SONA, Lepch. Ursus tibetanus, *F. Cuv., Bly.*

SONA, Duk., Hind. Gold.

SONA, Hind. Bauhinia purpurea, also Bauhinea variegata.

SONA GULLI, see Pir Panjal range.

SONA, a river near Puttureah, in the Saugur district.

SONAGARU, Tel. — ? Ochre.

SONAGIRI, one of the five hills of Rajagriha.

SONAI, a river near Mattee Cutta, in Sylhet. A river in Comillah.

SONAI KOLAWARU, see Korawa.

SONALI, also Sonalu, Beng. Carthartocarpus fistula, *Roxb.*, also Tetranthera quadrifolia.

SONA-LUTA, Beng. Common rue, Ruta graveolens.

SONA-MAKHI, Hind. Cantharis visicatoria.

SONA-MOOG, Beng. Phaseolus aureus.

SONA-PAT, Beng., also Sona-mookhee, Hind. Cassia elongata.

SONAPUR, see India.

SONAR, a river near Puttureah in the Saugor district, a river of Dumoh.

SONAR, Hind., from sona, gold, a worker in gold and silver. One of the five artizan castes of the hindoos, the other four being the iron-smith, brazier, stonemason and carpenter.

SONARI. A little village situated on a low spur of a sandstone hill between the Betwa and Besali rivers, six miles to the south-west of Sanchi, 21 miles N. E. of Bhopal. It contains numerous buddhist topes.

SON BALLAHA SENA, see Inscriptions.

SON-BALLI, Hind. Croton plicatum.

SON-BHANDAR, a cave at Rajagriha.

SONCHAL, of Ravi, Malva parvifolia, *L.*

SONCHAL, Hind. Pink clover of Kashmir.

SONCHUS CILIATUS, *Lam.*

S. oleraceus, *Roxb.*, *W. Ic.*

Sow thistle,	Eng.	Etrinta,	Tel.
Dodak,	Hind.	Adavi mullangi,	,,
Ka't mulingi kiri,	Tam.		

A native of Europe, of the Panjab plains, and up to 8,500 feet, also of Peninsular India. It yields a milky juice on incision. Cattle are fond of it. Used in the Neilgherries as a pot herb by the natives. Also the Kashmir people are said to use it as a vegetable, and it is probably the 'dwarf sow thistle' the shoots of which the Ladaki use in a similar way, according to Moorcroft, though this may be the Tragopogon (q. v.)—*Jaffrey*; *J. L. Stewart, M. D.*

SONCHUS ORIXENSIS.

Bhangra,	HIND.	Dughdika,	HIND.
Kala bhangra,	„	Sahadevi,	„

Bari (H.) Jangli-tamaku. Similar to Lactuca in its properties.—*Powell's Hand-book, Vol.* i, *p.* 355.

SONDALI, BENG. Cathartocarpus fistula, *Pers.*, also Tetranthera quadrifolia.

SONDELI, CAN. Sorex cærulescens, *Shaw, Blyth.*, also Sorex indicus, *Geoff.* Musk-rat or Shrew.

SONDI, a predatory tribe of Central India. The principal among the illegitimate, or, as they are often termed, halfcaste Rajputs, in Central India, are the Sondi, who have spread from Sondwarra (a country to which they give the name) to many adjoining districts. This tribe is divided into many classes or families, which take their names from Rajput ancestors; but all intermarry. Second marriages among their women are very common, and from the strict usages of the Rajputs upon this point, there is none on which they deem the Sondi to have so degraded the race from which they are descended. The Sondi have been either cultivators or plunderers, according to the strength or weakness of the government over them; but they have always had a tendency to predatory war, and have cherished its habits, even when obliged to subsist by agriculture. Their dress is nearly the same as that of the other inhabitants, though they imitate in some degree the Rajputs in the shape of their turbans. They are, in general, robust and active, but rude and ignorant to a degree. No race can be more despised and dreaded than the Sondi are by the other inhabitants of the country. Another tribe is the Bheelalah, who have sprung from Rajputs of the Bheel tribe: they derive their name from associating with the Bheels, among whom, from the superior rank of their sires, they obtain respect and consequence. The chiefs of the Bheels in the Vindhya mountains are almost all Bheelalah. This class combine with the pride and pretensions of Rajputs, the cunning and roguery of the Bheels; and appear to be, almost without exception, a debauched and ignorant race, often courageous from constant exposure to danger, but invariably marked by an equal want of honour and of shame. We never see in them any of those gleams of generous and chivalrous spirit, which now and then break forth to redeem the feelings, and even the vices, of true Rajputs. The vanity of this race has lately been flattered by their having risen into such power and consideration, that neighbouring Rajput chiefs found it their interest to forget their prejudices, and to condescend so far as to eat and drink with them. The Bheelalah and Sondi chiefs were the only robbers in Malwa, whom under no circumstances travellers could trust. There are oaths of a sacred but obscure kind among those that are Rajputs, or who boast their blood, which are almost a disgrace to take, but which it is asserted, the basest was never known to break before Mundroop Singh, a Bheelalah, and some of his associates, plunderers on the Nerbudda, showed the example.—*Malcolm's Central India, Vol.* ii, *pp.* 15, 153 *to* 156. See Bangri.

SONDRI BRERI, or Sondi Breri. An ebbing and flowing spring near the Berengi river in Kashmir. It appears about the Vernal equinox. It seems to be an underground continuation of the Berengi river.

SONE. The fishermen settled along the coast from Gheriah to the north, near Surat, and at Colaba, in Bombay, are Koli of the Sone tribe; a few of them, notwithstanding, enter on board of vessels, as mariners, but the vessels must be manned by natives, the Sone fearing to lose caste, which would take place did they sail with Europeans. The chief Patel of this tribe resides at Angria; he is looked on as a legislator, being endowed with power to adjust the affairs of the Sone Koli, settle their disputes, &c. The women of the Sone Koli wear choli, or jackets, and have a number of glass bangles on their left-hand; they are frequently seen in Bombay assisting their husbands in fishing and importing fish into the fort and outside market. When they marry, the ornaments which were intended to adorn their right wrists are consecrated, and thrown into the sea, as an offering to the deity who presides over that element, and an invocation to defend her husband from the dangers of the ocean. Not a caste meeting of the Sone Koli can take place without large potations of mawa flower arrack being imbibed; and they frequently give any quantity of fish for half a tumbler of raw brandy. The chief tribes of Koli are the Raj Koli; Solesy Koli; Tonkry Koli; the Dhour Koli; Dungry Koli; the Bhil Koli; Mullar Koli; the Aheer Koli; Murvy Koli; the Sone Koli and a few others. In Bombay, Tannah, Bhewndi,

Kallian, Basseiu, Daman, &c, are a great number of christian Koli, said to have been of the Sone section and to have been forcibly converted by the Portuguese, but, terrified by the cholera in 1820-21, a portion reverted to paganism.

SONE, a tributary to the Ganges: it rises on the Amarkantak table-land, lat. 22° 44', long. 82° 7'; from 3,500 to 5,000 feet above the sea; runs N. 30 m.; N. W. 80 m.; N. 40 m.; Dinapoor.—Length, 465 m. receives the Koel, 140; Kunher, 130; Johila, 100 m. Including the Phalgu and other rivers falling into the Ganges above Rajmahal, 42,000 sq. miles drained. The navigation of the river is not considered available for purposes of important utility higher than Daudnagud, 60 miles from the confluence with the Ganges. The plains of Rewah are fertile; but the valley of the Sone to the south of the Kymore range is desolate. The people are indolent and untrustworthy; though widely different in other respects, there is one characteristic common to the Baghel of Rewah, the Bundela of Bundelcund and the Rajput of Gwalior and Malwa, a dislike to labour or service away from their homes, they generally leave tilling of the soil to the inferior and servile classes, and are regarded as the heads of the local society. Many of the Rajputs in the states of Central India, give themselves up to sloth and the immoderate use of opium. Malwa and Gwalior are great centres of trade. In Malwa, the towns of Indore, Bhopal, Oojein, Mundipore, Rutlam, Dhar, Jowra, Augur, Neemuch, Shoojawulpoor and Bhilsa are the principal marts. The Sone river, traverses the province of Bahar.

SONEPUT, was one of the five pat or prastha assigned over to the Pandava brothers, and has derived its name from raja Sonee, the son of Bhoput, who reigned 920 B. C. A little image was here turned up in December 1864 when sinking a well. It is of clay, baked and polished like Chunar pottery. The figure is sitting cross-legged with a club in each hand. Below the left knee is observed a very short inscription in a very old Nagari character. General Cunningham has read this inscription and supposes the idol to be an Aditya or image of the sun. The age of it, he thinks, to be at least 1,200 years. This agrees with the period of the seventh century when the hindoo Puranism had assumed a hundred heads and forms to contend with buddhism. There were then followers of Brahma, Indra, Ganesha, Surya, Chandra, and a host of gods, all of whom succumbed to the powerful Shivites and Vishnuvites. The only trace of the worship of Surya found in the nineteenth century, in Northern India, is in Benares, where, in a corner of the quadrangle of the temple of Unna-poorna, is a small shrine dedicated to the sun. The idol representing that luminary, however, is seated in a chariot drawn by seven horses with a glory round his head, a representation of the old Sol of Homer.—*Tr. of Hind., Vol.* ii, *p.* 384.

SONERILA. The prettiest little annual in the neighbourhood of Tavoy is a species of of Sonerila. Its bright purple blossoms peeping up in the grass attract the attention of the most casual observer.—*Mason.*

SONF, HIND. Indian Fennel, Fœniculum panmorium, *Ben. Phar., p.* 226, also F. vulgare, Aniseed.

SONF, DUK. Pimpinella anisum. See Confection of black pepper, Perin-siragum.

SONF, DUK. Fennel. Nigella sativa.

SONG, ENG.

Sir,	HEB.	Sur,	SANS.
Geet,	HIND.	Gata,	,,

Out of the 64 sciences of the hindoos, five belong to music, viz., No. 22, The modulation of sounds; 23, Art of playing on stringed instruments; 24, Art of playing on wind instruments; 25, Art of beating the tambourine; and 26, Art of beating the symbals. The musical notation extensively used by Curwen, resembles the hindoo system.

The accessible sources of knowledge of Indian music are still only two—Sir William Jones' Essay on the Musical Notes of the Hindoos, published in the third volume of the Asiatic Researches, p. 55, and J. D. Patterson on the Gramal, or musical scales of the Hindoos, Ibid., ix, 445. The chief points established in these essays are thus given in the fourth volume of Lassen's Indische Alterthumskunde, ss. 832, 833. The native musical literature is tolerably copious, and the Indians are acquainted with four systems, whose founders, as usual with them, are mythical personages. The first system is ascribed to Devarshi Narada, who in the epic poetry appears as well-skilled in stories, and goes about between the gods and men, to recite tales to them. From him Isvara or Siva received this system. The author of the second system is Bharata, the mythic inventor of the dramatic art; the author of the third, is the divine ape Hanuman, and that of the fourth, Kapila, the founder of the Sankhya-philosophy. These assertions of course only mean that the hindoos attached a high value to the practice of music; and this view is confirmed by the circumstance that in the epic mythology the Gandharvas appear as musicians in Indra's heaven. For the antiquity of song amongst the hindoos, it is important to observe that the Udgatar, *i. e.*, the

priest who sings the saman, belongs to the Vedic period. As to later times we may refer to the fact that, in the Mricchakatika, Rebhila is praised as a renowned singer. The hindoos are acquainted with the European scale of seven tones, and denote them by letters (*sa, ri, ga, ma, pa, dha, ni*). They admit, moreover, six raga or modes, and the musical treatises contain minute directions as to the employment of them in the six seasons into which the year is divided. The hindoos have also mythologised these ideas, and regard the six raga as god-like beings, whose consorts are called Bagini and are eight in number. These couples produce forty-eight sons called ragaputra, by whom the various mixtures of the chief modes are denoted. This view furnishes a very striking example of the boundlessness of hindoo imagination, as it is impossible really to distinguish so many modes from one another. In some MSS. are found portraits of these two and sixty male and female genii.

Nearly the whole of Tamil literature, including works on medicine, arithmetic, grammar, and even dictionaries, is in poetry. With the exception of the commentaries on poetical works, prose composition may almost be said to owe its origin to European influence. Only a very imperfect idea of Tamil poetry can be given. In some respects natives alone can fully appreciate its excellence; while, on the other hand, they are blind to some of its defects.

Beschi, in an Appendix to his high Tamil grammar, remarks that "the Tamil poets use the genuine language of poetry. They rarely mention any object to which they do not couple some ornamental epithet. When they speak of a tree, they describe it either as green, or loaded with flowers, or shady, or majestically large, or as having all these qualities. They never mention a mountain, without representing it as rising among woods, or watered by fountains, or decked with flowers. Sometimes they employ this embellishment to excess. They are full of metaphor and allegory. They are at times extravagantly hyperbolical. In the Tamil Naishadam, it is said of Damayanti, the consort of the hero, that when Brahma had created her, her beautiful form had only one rival in the universe, and that was the fair moon. But Brahma, determined that every beauty should centre in Damayanti, took a handful of beauty from off the face of the moon, and threw it into that of Damayanti. The deformity thus made, is still apparent, in the moon. The Tamil poets delight in similes as all eastern poets do. They indulge in fiction, and pay little regard to nature. Their Parnassus is Pudiyamalai, near Cape Comorin. They have neither Apollo nor Mercury. Their Minerva is Saraswati. They invocate Ganapati. Pathos and sweetness rather than vigour, are the characteristics of Indian poetry. They are not 'thoughts that breathe and words that burn,' so much as thoughts that please and words that charm. Milk and honey flow, but such milk and honey, as to prove an unwholesome diet to some minds.

Dr. Caldwell observes that "Whilst an elevated thought, a natural expressive description, a pithy, sententious maxim, or a striking comparison, may sometimes be met with, unfortunately elegance of style, or an affected, obscure brevity, has always been preferred to strength and truthfulness, and poetic fire has been quenched in an ocean of conceits. Nothing can exceed the refined elegance and 'linked sweetness' of many Telugu and Tamil poems; but a lack of heart and purpose, and a substitution of sound for sense, more or less characterise them all; and hence whilst an anthology composed of well-selected extracts would please and surprise the English reader, every attempt to translate any Tamil or Telugu poem in extenso into English, has proved to be a failure. To these causes of inferiority must be added a slavery to custom and precedent at least equal to what we meet with in the later Sanscrit. Literature could never flourish where the following distich (contained in the 'Nannul,' or classical Tamil grammar) was accepted as a settled principle :—'On whatsoever subjects, in whatsoever expressions, with whatsoever arrangement, classical writers have written, so to write is denoted propriety of style.'—*Dravidian Comp. Gram., p.* 89; *Madras L. S. J., July* 1864; *Rev. H. Bower.*

SONG BIRDS. The European visitor to the E. Indies, is much struck with the prevailing silence of the jungle, and the paucity of small birds even in the cold season, so different from the woods and gardens and hedge-rows of Britain, teeming with small feathered inhabitants, among which are so many pleasing songsters of all degrees and merit. The chief families amongst whom the faculty of song is found, are Merulidæ; the Saxicolinæ; Sylviadæ, Larks, some finches, a few shrikes and fly-catchers, and some starlings. All of them, by their song, contributing to the gratification of man.

SONGPU, a rude tribe near the source of the Irawadi. The Koupooee comprise two tribes, the Songpoo and Pooeer-on. The Koupooce occupy the hills between Cachar and the valley of Munipore in their whole breadth, a direct distance of about forty miles; and from 25° north latitude, they

formerly extended over nearly an equal distance to the south. The whole of the tract was formerly thickly studded with villages, some of them of considerable size, and Songpoo tradition gives, as the place of their origin, the mountain towards the south of the valley named Thungching. They and all the other races of hill people congregate in communities, composed usually of families connected with one another by blood-ties. The superior elevations being the most healthy; their villages are usually to be found on them. Before the subjugation of the Songpoo tribe to Munipore, almost every village was at war with its neighbour. On their subjugation this warfare was put a stop to, but the remembrance of their feuds remains, and, they would break out afresh to-morrow were the restraining hand of Munipore withdrawn. Munipore has been able to exert so much influence, amongst the Koupooee as to prevent feuds being openly carried on, but a state of active feud appears to be the one natural to all the tribes from Cape Negrais to as far north as we have any knowledge. The Koupooee are much attached to their villages, which are permanent. The village and its immediate precincts form their graveyard, and when, for a time, from whatever cause, they have been obliged to desert their village, they more often express their wish to return to it as being the grave of their ancestors than to it as being their own birthplace. Their attachment then to their village is created quite as much by its holding the tombs of their ancestors as by its being the place of their birth. The mountain-land around the Koupooee village, within certain fixed bounds, is usually the property of the village. This they cultivate with rice in elevations suited to it, and with other crops in situations unfitted for that kind of grain. The spot cultivated this year, is not again cultivated for the next ten years; it having been found that that interval of time is required for the formation of a cultivable soil by the decay of the vegetable matter that again springs upon it. Every village has three hereditary officers, namely, Kool-lak-pa, Looplak-pa and Lum-poo, and officers, besides these, are elected. If the hereditary chief, or Kool-lak-pa, be a man of wealth, he will be also a man of influence. The Koupooee are sub-divided into families, Koomul, Looang, Angom and Ning-than-ja. A member of any of these families may marry a member of any other, but intermarriage of members of the same family is strictly prohibited. Though not attended to with the same strict [illegible] prohibition, in regard to marriage, [illegible] tinction of families under the [illegible] tion, exists amongst the Munipooree race. All the hill-people are dirty, but amongst them the Koupooee is comparatively clean, he frequently bathes, though he does not devote much time to the purification of his skin. He is omniverous, and of course without prejudice of caste, but one species of food he never touches, milk to him is an abomination. In appearance, manners and customs, there is no essential difference between the two divisions of the Koupooee, the Songboo and Pooeer-on, but though so much alike in these respects, between their languages there is so great a difference, that when they wish to communicate with one another they have to resort to the language of Munipore. The Pooeer-on do not appear at any time to have been numerous, and they are at present confined to a few villages situated in the north-eastern corner of the space before indicated as the region of the Koupooee tribe. See India.

SONG-FAI, a money of account of Siam, the half of a fuang, and worth about 1½*d.*—*Simmond's Dict.*

SONG-SONG, also Paying bawat, JAV. Umbrella.

SONKHARSA, HIND. A kind of rice grown in Sirsa and elsewhere.

SONMAKKI, HIND. Properly copper pyrites, but usually applied to iron pyretis.

SONMEANY, a sea port of Lower Sind, advantageously situated on the southern bank of the Poorally river. In the early part of the 19th century it contained about 250 huts; it is completely defenceless, and on the side towards Bela, is overlooked by hillocks of sand. The bar at the mouth of the river has only two fathoms on it at low water, but boats lie close to the village in six and seven: In the early part of the 19th century the inhabitants generally subsisted by fishing, and with the exception of a few hindoos were wretchedly poor.—*Pottinger's Travels, in Beluchistan & Sind, p.* 11.

SON-NADDY. A little gold is found in the bed of the Son-naddy, but, hardly repays the trouble of searching for it, as even after cleaning it is somewhat impure, and only fetches from ten to twelve rupees a tola.

SONNERAT. A French naturalist who settled at Pondicherry, and made immense botanical collections which seem to have been transmitted to France. These have not been described in any regular form, but such speci- me[illegible]sented to Lamarck, have be[illegible] his Encyclopedie Metho- di[illegible] which much information [illegible] its alphabetical arrange- [illegible] difficult of consultation, [illegible] genera which have been

much subdivided of late years, Sonnerat is well-known by his 'Voyage a la Nouvelle Guinee,' and his 'Voyages aux Indes Orientales et a la Chine.' He made known many new plants.

SONNERATIA, a genus of plants belonging to the natural order Myrtaceæ, so named by the younger Linnæus in compliment to M. Sonnerat. Dr. Hooker found Sonneratia, Heritiera littoralis, and Careya, forming small gnarled trees on the banks, in the Sunderbuns, with deep shining green-leaved species of Carallia, Rhizophora, and other mangroves. Occasionally the gigantic reed-mace (Typha elephantina) is seen, and tufts of tall reeds (Arundo). The pith of the roots of a species of Sonneratia are valuable for lining insect boxes, and making setting boards. S. Alba, is a species of the Moluccas, and S. apetala, a native of Burmah, near Rangoon, as well as in moist situations along the Burmese coast.

SONNERATIA ? *species ?*

Thaumma, BURM.

A small tree of Tavoy, wood not known.—*Dr. Wallich.*

SONNERATIA ACIDA, *Willde, Linn.*

Rhizophora caseolaris, *Linn.*
Mangium caseolare, *Rumph.*

Ta bu,	BURM.	Polai of Penaug, Sinagpore	
Ta mu,	,,	Plye,	of Borneo.
La-moo,	,,	Blatti, MALEAL of Rheede.	
Orchaka,	BENG.	Gedde killala-gass,	SINGH.
Sour sonneratia,	ENG.	Tewar,	SINDH.
Paga-pate of Sonnerat,	,,		

This tree yields a light soft wood. Its branchlets are tetragonal; leaves oval, oblong; calyx 6-cleft; petals 6; berry globose. The tree grows forty feet high, and is a native of New Guinea and the Moluccas, as well as of the Malabar coast and of the delta of the Ganges. It grows in Ceylon, on the coast at Caltura and Negombo and other places; grows also, on the western and eastern coasts of peninsular India, at Salsette and, in the delta of the Indus, the supply is said to be inexhaustible. It grows in the northern Circars and, also in the deltas of the Ganges and of the Irawady. In British Burmah, it abounds in the mangrove swamps and on the banks of almost every stream on the coast as far as tide-waters reach, the natives use it for various economical purposes, and it is said to be a better substitute for coal in steamers than any other kind of wood. It grows in Malacca, Pinang and Singapore: it has an acid eatable fruit. It is abundant in the delta of the Indus. In Ceylon it grows to a large handsome tree along the banks of the large rivers. Spindle- ...scences, called Kirilimow in Sing- ...om the surface of its roots, four ...bove the surface of the ground. They are of a firm and close texture, nearly devoid of fibrous structure and take a moderate polish, some of the transverse cuttings being two feet long and two to three inches wide. The finest pin passes in with ease, and the thin slices are invaluable for linings of insect boxes. The roots of S. acida and S. alba, spread far and wide through the soft mud of the marshy banks on which they grow; and, at various distances send up like the avicennia, extraordinarily long spindle-shaped excrescences four or five feet above the surface. These are invaluable for setting boards and for lining insect boxes.—*Hooker's Him. Jour., Vol.* ii, *p.* 355; *Wight and Arn., Vol.* i, *p.* 327; *Roxb. Fl. Ind., Voigt, Dr. Mason*; *Cal. Cat. Ex.* 1862; *Thw. En. Pl. Zeyl., Vol* ii, *p.* 123; *Hartwig.*

SONNERATIA APETALA, *Buch.*

Khoura,	BENG.	Thaum-nia,	BURM.
Keora,	,,	Myouk-guo,	,,
Kam-ba-la,	BURM.		

A pretty large and elegant tree, which grows in the western side of India, in the delta of the Ganges, and is found under the parallel of Rangoon. It flowers in the hot season. It yields a strong hard wood of coarse grain. It is the timber of which boxes for packing beer and wine are made in Calcutta, is of a red colour, strong and adapted for house-building. It grows in the low wet lands near the mouths of some of the Tenasserim rivers, and is well deserving of a place in our cities. It bears a strong resemblance to the weeping willow and is one of the most graceful trees in the country. The casuarina has been removed from the coast to our compounds, and the sonneratia is quite as deserving.—*Roxb.*; *Voigt*; *Drs. McClelland*; *W. & A., Vol.* i, *p.* 327; *Mason.*

SONO KLING of the Malaya, a tree of Java, the colour of its wood is a deep brown, inclining to black, used for furnitures.

SONO KOMBANG of Java, used for furnitures, which has some resemblance to the lingoa wood of the Moluccas.

SONPAT, HIND. A kind of rice.

SONPUR, was formerly a chiefship subordinate to Patna, but was constituted a separate state by raja Madhukar Sa of Sumbulpoor about the year A. D. 1560. Since then it has been counted among the cluster of eighteen Garhjat states. It is now attached to the Sumbulpoor district, and is situated between 83° 20′ and 84° 18′ of E. long., and between 20° 41′ and 21° 10′ of N. lat. It is bounded on the north by Sumbulpoor proper and a portion of Rairakhol, on the south and south-east by Bod, on the east by Rairakhol, and on the west by Patna. The non-agricultural castes are Brahmin, Mahanti, Raj-

put; and the agricultural castes are, Tassa, Kolta, Agharia and Gond.

SON RAJA, Kesava Sena, see Inscriptions.

SONTA or Asa, HIND., a club carried by devotees.

SONTANA.

SONTH, DUK. HIND. Zingiber officinale, *Roscoe*. Ginger, dried ginger root.

SONTHAL, are the indigenes of Chota-Nagpore, and the parts about Palamow. Since the beginning of the present century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. They rose in rebellion in 1856, and gave much and prolonged annoyance to the British. The Sonthal, Munda, Bhumi and Ho speak languages nearly identical. They occupy most of the British districts of Chota-Nagpore, Singhbum, Manbhum and the hilly part of Bhagulpur, (the Rajmahal hills excepted) now known as the Sonthal pergunnahs; also, parts of west Burdwan, Midnapore and Cuttack—an extensive country west of Calcutta. The Sonthal are a simple, industrious people, honest and truthful, and free from cast prejudices. Their country is healthy, their numbers are increasing, and they are much sought after and prized as labourers, by the Bengal indigo planters, and on the railways, and other works of western Bengal, and in the Assam tea plantations. These tribes live apart in detached houses or isolated hamlets. The Sonthal are a branch of the Mundah Kol. They seem to have separated from the 'Mundah and fell back on Chota Nagpur from the Damudah river, which the Sonthal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. The Sonthal are now most numerous in the Sonthal Pergunnahs but there are many in Mohurbunj, and there are several colonies of them in the Singhbum district. They are an erratic race; but, Lt. Col. Dalton thinks that they left their chief settlements on the Damudah river, from having been pressed by the Koormi. The Sonthal, Bhumij and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirgujah and Juspur, the Kheriah tribe of Chota Nagpur and the Juanga of the Cuttack tributary mahals. Since the beginning of the nineteenth century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. The Sonthal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered at the shrine of Kali as Runkini, but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially brahminical.—The Sonthal and Rajmahali are markedly different in habits, appearance, manners and national characteristics, and on the Chota Nagpur plateau these differences are very marked. The Sonthal are a very ugly race, with flat broad-nosed features. They are a more simple, mild, industrious race than the Rajmahali, Gond or Khond. Though the Sonthal are geographically near the plains, they seem to be more shy and more socially isolated than the Mundah, Bhumi and Ho. They have kept much to themselves, preferring locations surrounded by jungle and segregated from the world, and cultivating the lower lands of their country, but they have latterly taken to labour for hire.

The Sonthal and Male or Rajmahali are regarded by Mr. Logan as a displaced portion of the prior inhabitants of the country. The Male and Kol tribes are supposed by him to resemble the coarser Binua tribes of the Malay peninsula, more than the Burman the Malay, or other Indonesian tribes. But the same type as the Male and Kol are found amongst Malayas and Burmans, although generally softened, and the short and turned up nose are Binua, as also is the small stature and the vertical, turned up head. The Male or Rajmahali are described as mostly very low in stature, but stout and well proportioned. There are many less than 4 feet 10 inches and perhaps more under 5 feet 3 than above that standard, but 5 feet 3 inches is about the average height of the men. Their nose is flat and their lips thick, though less so than the Kafir of Africa, but their lips are thicker than those of the populations of the neighbouring plains. Buchanan Hamilton says that the features and complexion resemble those of all the rude tribes whom he had seen on the hills from the Ganges to Malabar. Their noses are seldom arched and are rather thick at the points, owing to their nostrils being circular, Bishop Heber says that the Male nose is rather turned up than flattish, but they are not so diminutive as the noses of the Tartar nations, nor flattened like those of the African Negro. Their faces are oval and not shaped like a lozenge, as those of the Chinese are. Their lips are full, but not at all like those of the Negro; on the contrary their mouths in general are very well formed. Their eyes, instead of being hid in fat and placed obliquely like those of the Chinese, are exactly like those of the Europeans. Their women, though hard

worked are far from having harsh features. Bishop Heber says that the Malay or Chinese character of their features is lost, in a great degree, on close inspection. The Male head like that of the Kol has more of an elongated oval than that of a lozenge shape. The forehead is not narrow and the lateral projection of the zygomata is comparatively small. Nothing is said respecting the shape of the back of the head, a very important point in comparing Turanian tribes. The Male, or Hill man is described by Captain Sherwill as much shorter than the Sonthal and of a much slighter make. He is beardless or nearly so, is not of such a cheerful disposition nor is he so industrious.

In the mountains S. W. of Calcutta, are the Dhanga, Oraon, the Kol, the Lurka Kol or Ho, and the Khond. The Ho are a comparatively small tribe. Their country proper is the part of the Singbhum district, called Colehan, a series of fair and fertile plains studded with hills. It is about 60 miles from N. to S. and from 35 to 60 in breadth, and has, to the South and S. E., the tributary estates Mohurbhunj, Keonjur, Bonai and Gangpur, inhabited by Uryah speaking hindoos; to the east and north, the Bengali pergunnah of Dhulbhum and district of Manbhum; and to the N. and N. E. the Hindi district of Lohar laggah.

For the Male or Rajmahali, the most eastern dialect, and those which it might have been supposed, were longest in contact with the east Gangetic, we have vocabularies by Major Roberts (A. R., iv, 127) and by Mr. Hurder (in Mr. Hodgson's series, J. A. S., xviii, 553.) The Uraon vocabulary of Colonel Ousely (Hodgson's series) has so much resemblance to the Male that it may safely be set down as a dialect of the same language. It frequently agrees with the Male where it differs from the co-dialects, with which it is now in contact in Chota-Nagpore. This may be considered as confirming the tradition of the Uraon that their original country was Rotus and parts of Rewa, or the hills along the northern bank of the Sone (to the southward of Benares.) According to the tradition, they were driven across the Sone by the intrusion of Gangetic hindoos into their native land, and ultimately settled in Chota-Nagpore, the country of the Kol tribe of Munda or Ho. At a later period hindoos pushed into this territory, reduced the more civilized Uraon to slavery, drove the wilder Kol into revolt, and eventually forced them to migrate to the southward and eastward into the land of the Bhuian. The more northerly of the eastern emigrants passed out into the low country, and mixing with the Bhumij and Bhuian natives, formed the class of Tamaria. The more southerly moved into Singbhum and Kolehan, living at peace with the Bhuian pre-occupants until the intrusion of hindoos from Marwar, who first leagued with the Bhuian against the Kol and then with the Kol against the Bhuian, and finally appropriated Singbhum leaving Kolehan or Hodesam to the Kol or Ho, as this southern tribe call themselves. Remnants of the Kol are still found to the northward nearer Chota-Nagpore, and they appear to be also spread to the northward towards Rajmahal. One tribe, the Sonthal, is found in Chota-Nagpore and in the skirts and valleys of the Rajmahal hills. It is enumerated by Mr. Stirling in his list of the Kol tribes of Cuttack, and according to Captain W. S. Sherwill its range is from Cuttack through Chota-Nagpore to Rewa, thus embracing the territory of both divisions of the eastern Vindhyan.

The Male and Uraon languages are mainly Dravidian, and it is remarkable that although the Male are now confined to the N. E. extremity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the south Dravidian nations by the Kol race, their language is more Dravidian than the Kol itself. The pronouns and numerals, for instance, are Dravidian, while those of the Kol are Gangetic, Himalayan and Ultra-Indian. The explanation is probably to be found in the circumstance of the Uraon and Male having, originally, formed an uninterrupted continuation of the Gond tribes and dialects that extended from the Godavery to the N. E. extremity of the Vindhya. The Kol, again, must have formerly had a greater extension either on the north, breaking through the Male Gondian band, into the Gangetic valley, or on the south to the seaboard of Cuttack and the lower valley of the Ganges, where they would be exposed to the influence of the maritime visitors and settlers, Ultra-Indian and Gangetic. But as both the Kol and the Male-Uraon are physically Ultra-Indian more than Dravidian, and the occupation of the eastern Vindhya and the hills on the opposite side of the Gangetic valley by Ultra-Indians implies that the valley itself was at one time possessed by the same race, the simplest conclusion is that the Kol were an extension of the ancient Ultra Indo-Dravidian population of the Lower Ganges and the highlands on its eastern margin. The peculiarities of Kol, when compared with the S. Dravidian, and the Male-Gondian or purer north Dravidian dialects, are chiefly glossarial.

The Pahariah of the Sonthal pergunnah are arranged into two tribes, those who live in the Rajmahal hills, and the Naiga Pahariah on the plains to the west. The former live

by grain crops reared on the slopes of the hills, and by bartering in the plains the hill bamboos, the grass and timber which grow in luxuriant profusion in every direction. The Pahariah are given to great lying and drunkenness. The Bhagulpore Hill Rangers are principally composed of this people. But since Mr. Cleveland's settlement in the beginning of the 19th century many of them receive pensions. The other body, the Naiga Pahariah, have more than all the vices of their tribe on the hills, but are worse off, having no right of forest or well wooded hills and readily take to brigandage. Both the Pahariah tribes are low in the social scale.

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Captain Walter S. Sherwill, revenue surveyor, in his 'Notes upon a Tour through the Rajmahal hills,' says the Sonthal has the honour of being aboriginal to India. It was his forefathers who first occupied and inhabited the land then known under the name of Colar. From them the country was usurped by invaders from the Ariana of the Greek geographers. The Aryan followers of Brahma first settled in the Panjab, the Sapta Sindhoo of the Vedas and the Hupta-hindo of the Zendavesta, and the Sonthal is singled out by his short make, his thick lips, high cheek-bones, flat nose and small eyes. He has little or no beard. The Sonthal race are usually quiet, but in 1855 they were impelled by a sense of wrong to a headlong rebellion and then gave much and prolonged annoyance. In the suppression of the rebellion, half their numbers perished. They occupy the district surrounded by Bhagulpore, Berhampore and Birbhum, and are now ruled by a commissioner. The Kumea in the Sonthal pergunnahs was a person who for a period voluntarily bound himself to slavery. The Sonthal are truth-telling, patient, kind of heart, honest and ingenuous and characterised for their simplicity. They are reserved and phlegmatic. The Sonthal believes in Chandabunga, an all-pervading deity, to whom, once in 3 or 5 years, he sacrifices a goat on a Sunday. Holding the goat under his arm, he stands on one leg, and looking heavenward he calls on Chandabunga, kills the goat and eats it. They have four gods of the woods (Dryads) called Jaihirira, Monikoh, Marungburu and Gosaira, who seem to resemble the Lares and Penates of the Romans. These are represented by four stones buried in a clump of trees called the Jairthan and no Sonthal village can be settled till the Jairthan is established. A familiar deity is Manjiharam in the shape of a stone, which is buried in the centre of the village in a small open shed. The shed is called Buddhathan, for Manjiharam is also called Buddah Manji, a Manji and Sonthal being synonymous. The panchayets of the Sonthal assemble here. In the months of April and May, when the leaves are bare, 2,000 to 4,000 Sonthals as-

semble with bows and arrows, for their great Seudra or hunting expedition, during which they make great circles to enclose and kill all the smaller game. They eat the flesh of every animal. Their most solemn oath is taken when touching a tiger's skin. They dance in bodies of one or two hundred to the wild, gloomy, monotonous, music of flutes and drums. The men go round one way, while the women circle the other. The men step in time without much action, but the women drop their heels and toes in a double shuffle, and bend their bodies forward to a half-kneeling position, as though paying homage to the men. Peacock's feathers enter largely into the paraphernalia required in some dances. They marry at will, but can be divorced through the panchayet. When death occurs, the body is burned and the ashes taken to the Damudah. In the mission school in their neighbourhood about 300 boys were under education. The houses of the Sonthal are in enclosures made with the green boughs of the Sakua, planted in the ground and tied together: they keep each family distinct from its neighbours, they generally contain a Sonthal and his wife, several married children and their families, a pig-sty, buffalo-shed, and a dove-cot, a wooden stand holds the water-pots, the water from which is used for drinking or cooking, there is also a rude wooden press for expressing oil from the mustard seed. In a corner of the yard there will be a plough or a couple of solid-wheeled carts, whilst numbers of pigs and poultry are seen in every direction. Each of these enclosures contains on an average, ten souls.

The Sonthals worship a conspicuous hill called Marang Boroo. In times of drought they go to the top of the sacred mountain, and offer their sacrifices on a large flat stone, playing on drums and beseeching their god for rain. 'They shake their heads violently, till they work themselves into a phrensy, and the movement becomes involuntary.' They go on thus wildly gesticulating, till a "little cloud like a man's hand" is seen. Then they arise, take up the drums, and dance the kurrun on the rock, till Marang Boroo's response to their prayer is heard in the distant rumbling of thunder, and they go home rejoicing. They must go "fasting to the mount and stay there till there is a sound of abundance of rain," when they get them down to eat and drink. My informant tells me it always comes before evening. This curiously resembles the well-known scene in the life of Elijah, when he recalled Israel to the old faith by producing rain when the priests of Baal had failed to do.—*Tr. of Hind., Vol.* i, *p.* 181 ; *Journal of the Indian Archipelago, Nos.* iv *and* v, *April and May* 1853, *pp.* 196-98 ; *Major Dalton* ; *Sir John Lubbock on Civilization.*

SONTHAL PERGUNNAHS, see India.

SONTHI, or Allam, TEL. Zingiber officinale, *Rosc.*

SOOBAHDAR, a native officer of the British Indian army in India (lit. a holder of provinces.)

SOO-BAN, BURM. A shrub exceedingly prized by the Burmans, as yielding the best red dye of any wood they have. It is sold at a tical per viss, and seems rather rare. The leaves are a favourite article for curry. —*Malcolm, Vol.* i, *p.* 191.

SOOBANREEKA RIVER rises in Chota Nagpoor table-land, runs N. E., E., S. E., S. S. E., E., S. E., S., into Bay of Bengal.—Length, 280 miles ; receives the Karow, 80 miles. About 12,000 square miles drained.

SOOBHADRA, SANS., from soo, beautiful, and chadra, good.

SOOBHAGNA, (of good fortune) an only child, at once a maiden and a widow. It is related of her that having learned from her preceptor the solar incantation, incautiously repeating it, the sun appeared and embraced her, and she thence became pregnant. The affliction of her father was diminished when he discovered the parent ; nevertheless, (as others might be less charitable,) he sent her with a female attendant to Balabhipoora, where she was delivered of twins, male and female. When grown up the boy was sent to school ; but being eternally plagued about his mysterious birth, whence he received the nickname of Ghaibi ('concealed),' in a fit of irritation he one day threatened to kill his mother if she refused to disclose the author of his existence. At this moment the sun revealed himself: he gave the youth a pebble, with which it was sufficient to touch his companions in order to overcome them. Being carried before the Balhara prince, who menaced Ghaibi, the latter slew him with the pebble, and became himself sovereign of Saurashtra, taking the name of Silladitya (from silla, 'a stone or pebble,' and aditya, 'the sun') : his sister was married to the rajah of Baroach. Such is the literal translation of a fragment totally unconnected with the history of the Rana of Mewar's family, though evidently bearing upon it. The father of Silladitya, according to the Sanderai roll and other authorities of that period, is Sooraj (the sun) Rao, though two others make a Somaditya intervene. The Jessulmir annals affirm that the whole Turkish (Toorshka) race of Chagitai are of Yadu stock ; while the Jam Jhareja of Kutch traces his descent from the Persian Jamshid, cotemporary with Solomon

These are curious claims, but the Rana's family would consider such vanity criminal. In perusing this fragment we are struck by the similarity of production of these hindoo Heliadæ and that of the celebrated Tatar dynasty from which Janghiz Khan was descended. The Nooranyon, or 'children of light,' were from an amour of the sun with Elancua, from which Janghiz Khan was the ninth in descent. Authorities quoted by Petis de la Croix, in his life of this conqueror, and likewise by Marigny, in his history of the Saracens, affirm Janghiz Khan to be a descendant of Yezdegird, the last Sassanian prince. Janghiz was an idolater, and hated the very name of mahomedan. A courtier telling Aurungzeb of his celestial ancestry, gravely quoting the affair of the mother of the race of Timoor with the sun, the bigotted monarchy coarsely repiled, "Mama caba bood," which we will not translate.—*Tod's Rajasthan, Vol.* i, *p.* 234.

SOOBH-I-KAZIB, Pers. A false dawn, is a transient appearance of light on the horizon, which often appears about an hour before the soobh-i-sadik, or real dawn of day.

SOOBURNUK, Beng. Cassia fistula.

SOOCEY, Hind., a mixed striped fabric of silk and cotton in India.

SOOCOO, a name in Bencoolen for the fourth part of a real, and valued at 1*s.* 3*d.*

SOODALI, Beng. Cathartocarpus fistula, *Pers.*

SOODHANGSHOO, Sans., from shoodha, the water of life, and ung-shoo, rays of light.

SOODHANIDHEE, Sans., from soodha, the water of life, and nidhee, a treasure.

SOODOONIKKA GASS, Singh. Vitex negundo, *Linn., Roxb.; W. Ic.*

SOODRA, see Sudra.

SOODURSHUN, Beng. Amaryllis, Crinum defixum. See Scokh-dursun.

SOOE-PAT, Beng., see Jogi or Yogi.

SOOFEE, mystices of the east; mahomedan philosophers.

SOOGHEE, Can. Boiled coarse rice.

SOOGOONDHI, Uria? A tree of Ganjam and Gumsur, supposed to be a Calophyllum, extreme height 25 feet, circumference 2 feet, and height from the ground to the intersection of the first branch, 7 feet. This tree is tolerably common, but no use is made of the wood except for firewood, the leaves are used medicinally for rheumatism and wounds of long standing.—*Captain Macdonald.*

SOOGRIVA, Sans., from soo, beautiful, and griva, the back of the neck.

SOOIA, a pickle prepared in Japan from the Dolichos.—*Simmonds.*

SOOJEE, the Semolina of Indian wheat, ground but not pulverized, the Italians, Rolong, Semola, Semoletta, and Semola rarita, are parts of wheat flour. See Wheat, Semolina.

SOOKASA, Sans. Cucumis sativus, *Linn.*

SOOK CHINA, Beng. China root, *Roxb.*

SOOKEYT MUNDI, a district in the Kohistan of Jullundhur.

SOOKHA, Hind., dry tobacco, eaten with betel leaf.

SOOKH-DURSUN, Beng., Hind. Crinum asiaticum, also Crinum zeylanicum, Singhalese crinum, and Crinum defixum.

SOOKHA-MAYA, Sans., from sookha, happiness, and maya, fulness.

SOOKNA, or Sookahna, a river near Munnimajra in the Umballa circle.

SOOKSMA, Sans. Very small.

SOOKSOEE, a river near Beeltriaganj in Azimghur.

SOOKTA, Panjab. Chaptalia gossypina.

SOOKTA, a river near Beeltriaganj in Sindhiah's territory, 13¼ miles from Azimghur.

SOOKTOWA, a river near Kaisla in Baitool.

SOOKUL PACHA, see Belanus.

SOOLOO ARCHIPELAGO, is that chain of islands which stretch across from the N.E. point of Borneo to the island of Mindanao. The islands are numerous. Sooloo island, from which the Archipelago is named, is high and of considerable extent, being 35 miles long and from 5 to 10 broad; it lies in long. 121° E. near the centre of the Archipelago. Great Sooloo is about fifty miles in length, and twenty-five in breadth, being the largest of the group of islands forming the Sooloo Archipelago. This group of islands is inhabited by a fierce and warlike race, bearing in their personal appearance a strong resemblance to the Malays, although the two languages differ materially from each other. Great Sooloo, the residence of the sultan, is very mountainous. Many of the mountains are wooded to the summit, while others are covered with patches of cultivation. These islands are thickly populated; and if the islanders do not practise piracy as a profession, they are always ready to aid, assist and protect those who do. The town of Sooloo is well known to be the principal rendezvous of pirates, who, whenever they have made a capture, resort there to dispose off their lawless booty. The great islands of Mindanao, Palawang, and the Sooloo group of islets, forming the southern limits of the Philippine Archipelago, contain many nations and tribes speaking many languages of which little has been published. Mr. Crawfurd on the information given by Mr. Dalrymple informs us that even in the little group of the Sooloo islands, a great many different languages are spoken,

and he gives a short specimen of 88 words of one of those most current. Sooloo has for many years been the market where the Lanun and other pirates disposed of much of their plunder, and in former times itself was decidedly piratical. The mahomedan religion has made much progress in Mindanao and the Sooloo islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. Mr. Crawfurd remarks that whether the principal languages of the Philippines be separate and distinct tongues or mere dialects of a common language, is a question not easy to determine. Certainly, the phonetic character of the Tagala, the Bisaya, the Pampangan, and Iloco are, sound for sound or letter for letter, the same. Words of the Malayan languages are to be found in the language of the aboriginal inhabitants of Formosa, or Taiwan; and as this large island, about half as big as Ireland, stretches as far north as the 25° of lat., this is the extreme limit in a northerly direction to which they have reached. The aborigines of Formosa are short in stature, of tawny complexions and lank hair. Although inhabiting a great and fertile island, affording to all appearance a fair opportunity of development, they never made any progress in civilization, and at present seem to live in a state of barbarism. They are thought by Mr. Crawfurd to belong to, or much to resemble, the brown complexioned race of the Archipelago of whom the Malays are the type.—*Horsfield*; *Journal of the Indian Archipelago*; *Marryat's Indian Archipelago*, *p.* 41.

SOOLTANA, Beng. Sweet-scented Calophyllum, Calophyllum inophyllum.

SOOLTAN SURWUR, oblations offered to this saint.

SOOLTAN SURWUR, a mahomedan saint whose shrine is at Balooch, four coss from Mooltan. He was distinguished for piety and purity of manners, and died as a martyr with his brother, fighting against a troop of idolaters, and was buried with his wife (who died of grief) and his son, in the same tomb. Several miracles are related as having happened at his tomb. A camel's leg, when broken, was forthwith made whole; the blind, the leprous, the impotent were cured. *Araesh-i-Mahfil.*

SOOM, Beng., Hind. Sarcostemma brevistigma. See Soma.

SOOMALEE, Sans. From soo, good, and mala, a necklace.

SOOMBOOL, Hind. Arsenic. See Sumbul.

SOOMCHOO, see Kunawer.

SOOMEROO, Sans., from soo, good, and meroo, a boundary mark.

SOOMRA RACE, entered Sind about A.H. 445, and became the rulers of Sind in A.H. 609, from which year they continued in power till A.H. 751, when they were overthrown by the Summa. The name was originally pronounced Samra. The tribes in Kurrachee district are the Kumeerpota; Meetopota, Budeepota and the Norungpota. In the Hyderabad district the Soomra are cultivators and oil manufacturers. See Sind.

SOOMUNA, Sans. Triticum æstivum, *L.*

SOOMURUN or Gujta, Hind. Bracelets made of coloured thread, worn at the Mohurrum, and of flowers worn on other occasions.

SOONA BIRTHA. The Nepal lands are divided into four classes of tenures—first, crown lands; secondly, Kroos or Soona Birtha, belonging to brahmins or Newars; thirdly, Kohriya or Bari, barren lands granted for cultivation; and, lastly (and this is the most extensive class of the four), Kaith, in which the proprietor is at all charges of tilling, dividing the produce with the cultivator.—*Oliphant's Journey*, *p.* 179.

SOONAMOOKI, see Tripati.

SOONAREE, Uria. Cathartocarpus fistula, *Pers.*

SOONDA, a district in the south of the Bombay presidency, bordering on north Canara. It contains large forests, which, up to 1855, were under the charge of the Bombay Conservator, but were then transferred to Madras. Dr. Gibson's Reports indicate that by A.D. 1850, the timber had greatly decreased in amount. In the transfer of Canara to Bombay, this district was re-transferred along with it.—*Gibson's Bombay Forest Report*, 1849 *to* 1856, *p.* 60, *also* 1857-60, *p.* 17.

SOONDANY, a river near Nebeenuggur in Purneah.

SOONDERBUNS, see Sunderban.

SOONDHI, Beng. Nymphœa cyanea.

SOONDOROGOYAN BANSO, Tel.? Uria? In Ganjam and Gumsur, circumference $3\frac{1}{4}$ feet, extreme height 30 feet, two species of bamboo which are not common.—*Capt. Macdonald.*

SOONDREE, Beng. Heritiera minor, *Lam.* Syn. of H. fomes. A gloomy-looking tree that may be distinguished from all others for many miles distant. It is remarkably characteristic of a peculiar soil. Wherever the tides occasionally rise and inundate the land, this tree is sure to be found throughout the whole Tenasserim Coast, but is never found either on the high dry lands on the one hand, nor in the wet mangrove swamps on the other. It was described by Dr. Buchanan Hamilton, who accompanied Symes' embassy, as Heritiera fomes. It is the toughest wood that has been tested in

India. When Rangoon teak broke with a weight of 870 pounds, soondree sustained 1,312 pounds. It is not a very durable wood, but stands without a rival in strength, although so common on the other coast, as to give name, as Captain Munro thinks, to the Sooderbunds, yet the tree grows much larger in the Tenasserim Provinces, and affords finer timber.—*Mason.*

SOONDROO, see Kunawer.

SOONDARA, SANS. Beautiful.

SOONGNA, gum of Moringa pterygosperma.

SOONGNUM, see Kunawer.

SOONISHUNNA, SANS. Achyranthes polygonoides.

SOONKASOOLA WOOD.

Sunkesur ke lakree,	HIN.	Sookesooloo,	TEL.
Vadee naroinin,	TAM.		

SOONNEE. The Soonnee sect of mahomedans contend that the lawful succession to Mohamed rested in the four Imams, Aboobukur, Omar, Othman, and Ali, while the Shiah mahomedans strenuously contend that Ali alone, as the nephew and son-in-law of the Prophet, had that right.—*Pottinger's Travels in Beluchistan and Sind, p.* 61.

SOONNUT JUMMAUT, the doctrine of the Soonnee mahomedans is so called.

SOONNUT, the traditions of Mohamed.

SOONTAN, HIND. Circumcision.

SOOP, HIND. A winnowing basket.

SOOPAREE, HIND. Areca-nut, betel-nut. Nut or tree of Areca catechu. Penang nut. See Betel-nut.

SOOPLEE, HIND. A kind of basket for winnowing corn with.

SOO-PUDMU, or Soo-padma, SANS., from soo, good, and padma, a water-lily.

SOO-PURNU, or Sooparna, SANS., from soo, good, and parna, a leaf.

SOOR, a bass or drone to the shuhnaee.

SOOR, a mahomedan dynasty who ruled at Dehli, during the 15 years of Humayoon's displacement.

SOORA, AR. A chapter of the Koran; Soora-i Alhumd, or Soora-i Fateeha, the first chapter of the Koran.

Soora-i Alum, or Ullum-turkyf, or Feel, the 15th chapter of the Koran.

Soora-i-Buqr, or A. L. M. the 2nd. ditto

Soora-i-Char Qool.

Soora-i-Chahul Qaf.

Soora-i-Easeen.

Soora-i-Eezaja or Nusser.

Soora-i-Fateeha, or Alhumd.

Soora-i-Feel, or Ullum-e-turkyf.

Soora-i-Innafut-huna, or Inna.

Soora-i-Iqra, or Ulluq.

Soora-i-Qool hoo Allah.

Soora-i-Mozummil.

Soora-i-Ruhman.

Sooar-i-Tubut.

Soora-i-Ullum-turkyf, or Feel.

Soora-i-Ulluq or Iqra.

SOORACHARYA, SANS., from soora the gods, and acharya, a teacher.

SOORAH, a river of Purneah.

SOORI TREE, ENG. Cedrela toona, *Roxb.*

SOORI. The town of Zerni is forty parsangs from Herat, the population does not exceed twelve hundred, Soori and Taymooni, there are also a few Gheber families, the only ones Ferrier met with in Affghanistan.—*Ferrier's Journ., p.* 248.

SOORINJAN, HIND. A root in appearance like the pignut, imported via Pali, is bitter and sweet in taste, used as an aphrodisiac.—*Gen. Med. Top., p.* 150.

SOORIVA MARRA, SINGH. Under this name, Mr. Mendis describes, as a species of Mimosa, a plant of the central province of Ceylon, the wood of which is used for buildings and common furniture. A cubic foot of it weighs 42 lbs., and it is calculated to last 20 to 30 years.—*Mr. Mendis.*

SOORIYE. A hard, though somewhat coarse and open-grained, heavy Ceylon wood, of a deep chesnut colour.

SOORKH, PERS. Red.

SOORKH RUD, an affluent of the Kabul river.

SOORLA, a river of the W. Ghauts, rises in lat. 19° 54', long. 73° 24', runs W. S., into Indian Ocean. Length, 68 miles.

SOORMA, a river of Sylhet. About 70 miles up the river Soormah, the mountains on the north, which are east of Jyntea, rise 4,000 feet high, in forested ranges like those of Sikkim. Swamps extend from the river to their base, and penetrate their valleys, which are extremely malarious: these forests are frequented by timber-cutters, who fell the jarool "Lagerstrœmia reginæ," a magnificent tree with red wood, which, though soft, is durable under water, and therefore in universal use for boat building.

SOORMA, HIND. Preparations of antimony or of lead ore with which Indian women anoint the edges of the eyelids, the dark colour it imparts being thought to give brilliancy to the eyes, while its cooling qualities are supposed to be useful as a preservative. Any ointment for the eye, thus, has obtained the name of soormah.

SOORMA-DAN, a box for holding soorma.

SOORNAMOOKY RIVER rises in the table-land, lat. 13° 26', long. 79° 11' runs N. E. to Bay of Bengal, length 99 miles.

SOOROO, a river near the Cossyah hills.

SOORPA-NAKHA, SANS., from soorpa, a hand-winnowing fan, and nakha, the finger-nails.

SOORPUNNI, CAN. Calysaccion angustifolia.

SOORPUR, an ancient city on the Jumna, the capital of the Yadu race.

SOORPUR, an ancient city, once the capital of the Yadu race, its site is on the Jumna.

SOORSAUT, is an allowance authorized by Government to be levied on the inhabitants of towns and villages, by travellers and others. It is supposed that a deduction is made in the collection of the revenue on this account whenever it occurs, but the cultivators never reckon upon any remuneration, for, even though it should be admitted, the chief of the place usually appropriates the advantage to himself. This ruinous system is peculiarly distressing, when a mission passes through the country, as all the followers fancy that they have a right to the same indulgence, and, if not checked, would not hesitate to help themselves. Pottinger saw the mules of one party driven into fields of standing grain, when the villagers refused to obey the warrant.—*Pottinger's Travels in Beluchistan and Sind, pp.* 235-6.

SOORUJ, HIND., the sun ; see Rajputs.

SOORUN, MAHR. Amorphophallus campanulatus, *Bl.*

SOORU-PATI, SANS., from sooru, the gods, and pati, lord.

SOORUN, MAHR., HIND. Colocasia esculenta, *Sch.*

SOORWAL, (prop. Shilwar).

SOOSEE EEZAR, trowsers made of soosee cloth. See Soo-ceq.

SOORYA, SINGH. A timber tree of the central and western provinces of Ceylon, wood admirable for carriages, hackeries, and gun-stocks, also useful for blocks and buildings. A cubic foot weighs 49 lbs., and it is calculated to last 20 to 40 years.—*Mr. Mendis.*

SOORYA, SANS. The sun.

SOORYAVANSA, the race of the sun claim descent from Rama. The existing Rajput tribes of the solar race claim descent from Lava and Cush, the two elder sons of Rama. The present princes of Mewar, Jeypore, Marwar, Bikanir and their numerous clans, claim descent from Rama. See Solar dynasty.

SOORYA AYODIA, was the first city founded by the Soorya race.

SOOSHUNI-SHAK, or Soosni-shak, BENG. Marsilea quadrifolia, *Linn.* Four-leaved pepper wort.

SOOSUNI-ALOO, BENG. Dioscorea fasciculata.

SOOSWAH, a river near Khansroo Choki and Lucheewala in the Dhera district.

SOOT, or Soota-Naddi, or Yar Wafadar, a river near Moorshedabad and Bisowlee in Bareilly. A river near Aoulaganj in the Bareilly district and in the Moradabad circle.

SOOTEE, a river near Kaida in Nusseerabad.

SOOTHNEE, DUK. Dioscorea fasciculata, the Yam. Consists of many tubers, about the size and shape of an egg. They are covered with a light coloured thin skin ; internally they are white. They are not only eaten, but starch is made from the roots.—*Riddell.*

SOOTHSAYER of Ceylon, Mantis superstitiosa, *Fab.*

SOOTRA, SANS. To stitch.

SOOTREEAN or Chukoleean, a particular kind of cloth.

SOOTINOG, a river near Eetah Kollah in Sylhet.

SOOTRADHARA, SANS., from sootra, a cord, and dhree, to hold.

SOOVARNAKA, BENG. Cathartocarpus fistula.

SOOVARNA VANIK, SANS., from soovarna, gold, and vanik, a tradesman.

SOOWUNREKA, a river near Gwalior.

SOOJRYU-MUNI, BENG. Phœnician hibiscus, Hibiscus phœniceus.

SOORJMOOK-HEE, BENG. Sunflower, Helianthus annuus.

SOPHAGESENUS, the name given to Asoka by the Greeks. Evidence exists that Antiochus the Great was slain by an Indo-Scythian prince, called by the Greek writers Sophagasenus. See Kabul. Sophir or Sauvira.

SOPHORA, a genus of plants belonging to the natural order Leguminosæ, said to be so named from an Arabic name (Sophera) of one of the species. Some are ornamental shrubs and trees, found in central and tropical Asia, also in the warm parts of North America and the equinoctial and sub-tropical parts of South America. The species best known in England are S. japonica and S. chinensis, which, being from the northern latitudes of the countries from which they are named, are hardy enough to withstand the climate of England ; and it has been proposed to engraft the Nepaul S. velutina on the Japonica. Being handsome trees, with both leaves and trees differing much from European trees, they are well adapted for standing singly in lawns. They are raised from layers, but also from seeds and require a little protection when young. Wight gives Sophora glauca, heptaphylla, robusta.—*Eng. Cyc., Hogg, W. Ic., Voigt.*

SOPHORA GLAUCA, LESCH. Smooth-leaved Sophora. A Neilgherry plant, with middle-sized white flowers, tinged with rose colour.—*R. Brown.*

SOPHORA OCCIDENTALIS, *Linn.* Syn. of Sophora tomentosa, *Linn.*

SOPHORA ROBUSTA, *McClell.*

Theet wa gyee, BURM.

SOPHORA TOMENTOSA, *Linn.*

S. occidentalis, *Linn.* | Downy-leaved Sophora.

A shrub, native of Southern Asia, with pretty yellow flowers.

SOPHYTES, or Sophites, or Sopeithes, an ancient king of the western Panjab, including the Salt Range of mountains.

SOPILLA, IT. Crape.

SOPU, also Sompa, TEL. Anethum sowa, *Roxb.*

SORA or Chola, see Kurumbar, Pandiya.

SORAHEE, HIND. Gugglet, or goglet (prop. goblet.)

SORA-KAYA, TEL. Lagenaria vulgaris, *Serr.*

SORANI, a ferocious tribe, who call themselves Yezedi, after a caliph of Damascus of that name. They inhabit the mountains of Sindjar, a country to the north-west of Bilbos. They are the greatest robbers of all the Kurdish tribes.—*Porter's Travels, Vol.* ii, *p.* 450.

SORAPOOR, a town near the left bank of the Kistnah river, usually called Beder Sorapoor, because it was occupied by the Berder or Beder race. See Hindu, India.

SORBUS, see Kuhnar.

SORECIDÆ, the family of Shrews, viz :

Fam. SORECIDÆ, Shrews.

Sorex cærulescens, *Shaw, Blyth.*

Sorex indicus,		S. sonnerati,	*Geoff.*
S. giganteus,		S. myosurus,	*Gray.*
Sondeli,	CAN.	Musk-shrew,	ENG.
Musk rat,	ENG.	Chachundi,	HIND.

All India.

Sorex murinus, *Linn., Blyth.*

S. swinhœi,	*Blyth.*	S. myosurus,	PALLAS.
S. viridescens,	,,		

Mouse-coloured shrew, ENG.

Sorex nemorivagus, *Hodgson.*

Nepal wood Shrew, ENG. | S. murinus, *Horsf.*

Nepal, Sikkim.

Sorex Griffithii, *Horsf.* Khassla hills.

Sorex serpentarius, *Is. Geoff.*

S. kandianus, *Kelaart.* | Rufescent shrew.

Ceylon, S. India, Burmah Tenasserim.

Sorex heterodon, *Blyth,* Khassya hills.

Sorex saturatior, *Hodg.* Darjeeling.

Sorex tytleri, *Blyth.* The Dehra shrew. Dehra Dhoon.

Sorex soccatus, *Blyth, Hodgson.* Hairy-footed shrew. Nepal, Sikkim, Mussoorie.

Sorex niger, *Ell., Horsf.* Neilgherry wood shrew. Neilgherry hills.

Sorex leucops, *Hodgs.*

Long-tailed shrew, ENG.

Nepal.

Sorex hodgsonii, *Blyth.*

Nepal Pigmy shrew, ENG.

Nepal.

Sorex perroteti, *Duvernoy.*

Neilgherry Pigmy shrew, ENG.

Mysore, Neilgherries, Dekhan.

Sorex micronyx, *Blyth,* small-clawed pigmy shrew of Western Himalaya.

Sorex melanodon, *Blyth,* Black-toothed pigmy shrew of Calcutta.

Sorex sikimensis, *Hodg.* Darjeeling.
Sorex homourus, *Hodg.* ,,
Sorex oligurus, *Hodg.* ,,
Sorex macrurus, *Hodg.* ,,
Sorex holo-sericeus, *Hodg.* ,,
Sorex tenuicaudus, *Hodg.* ,,
Sorex ferrugineus, *Kel.* Ceylon.
Sorex montanus, ,, ,,
Sorex kelaarti, ,, ,,
Sorex purpurascens, *Temp.* ,,
Sorex horsfieldii, *Tomes,* ,,
Sorex fuliginosus, *Blyth,* Tenasserim.
Sorex nudipes, ,, ,,
Sorex atratus, ,, Khassya.
Sorex albinus, ,, China.
Sorex pulchellus, *Licht.* Central Asia.

Soriculus nigrescens, *Jerd.*

Corsira,	*Gray, Blyth.*	S. soccatus,	*Hodg.*
S. aterrimus,	,,	S. sikimensis,	*Horsf.* ,,
Ting-Zhing,	BHOT.	Tang-Zhing,	LEP.

Mouse-tailed shrew of Sikkim, Nepaul.

Crossopus himalaicus, *Gray.*

Choopitsi, BHOT. | Oong-lagniyu, LEPCH.

The Himalayan water-shrew of Sikkim.

Corsira alpina, *Jerdon.*

Sorex caudatus, *Hodgson, Bly.* | Alpine shrew, ENG.

Europe, Sikkim.

Corsira Newera-elia, *Kel.* of Ceylon.

Feroculus macropus, *Kel.*

Sorex macropus, *Blyth.*

Ceylon.

The scaly tails of Myogalea (mygale) or Musk rat of N. America are imported into India. Mr. Edward Blyth says, that in general the shrews of tropical and subtropical countries are distinguished by their comparatively large size, and slaty hue of every shade from pale grey to black, with rufous tips to the fur more or less developed, though in some scarcely noticeable. In at least some species, the rufous tips would appear to increase with age; and, to a considerable extent, the colour of

these animals is darker, according to the increase of altitude inhabited by a species. The ear-conch is conspicuously visible above the fur; the tail thick, tapering, and furnished with scattered long hairs, which certain species also exhibit upon the body; and the teeth are wholly white. To this there is a remarkable exception in the instance of Sorex melanodon, and of the following type of structure. The superior frontteeth are large and strongly hooked, and much longer than their posterior spur; while the inferior have rarely so much as a trace of serrated upper edge; of four upper præmolars anterior to the carnassiez, the first is large, the second and third are much smaller, the fourth is diminutive, and the third exceeds the second. This group of shrews is familiarly exemplified by the common large musk shrews of Asia and Africa, and constitutes the restricted Sorex, *L.*, or Pachyura, *de Selys Longchamps.* Certain small species of temperate climates were detached by Wagler from the ordinary shrews of those climates (with picious tipped teeth, &c.,) by the name Crocidura (or Suncus, *Ehrenberg*, apud *Gray*); viz., S. araneus, S. leucodon, S. etruscus, &c., but it is doubtful whether these are separable from the above; and certainly the various pygmy shrews of India are typical Sorices, except that some only of them want the odoriferous glands on the sides of the body. There is evidence of the existence of a small brown Sorex in Lower Bengal, about the size of S. araneus, the remains of one were found in the stomach of an Elanus, shot about 60 miles above Calcutta. In Ceylon four shrews are enumerated by the names Sorex murinus, S. montanus, *Kelaart*, S feroculus, *Kelaart*, S. macropus, *Blyth*, and S. ferruginous, *Kelaart*, the last described with fur soft, ferruginous-brown, washed with blue; smaller than the S. montanus; feet and legs naked. Large secreting glands in the pubis, odour very disagreeable. No sebaceous glands could be traced on the other two species, nor had they any of the smell. From this last remark, it is inferred that S. montanus and S. ferruginous of Dr. Kelaart are brought together under the name montanus. If so, Blyth still thinks them to be identical. With reference to the "large black shrew, Dr. Kelaart adds: "There are two other and larger black shrews than any of those now described—one in the possession of Mr. Thwaites of Peradenia, and the other has a very powerful musky odour, stronger even than in S. murinus, occasionally seen in the godowns at Kandy.

Sorex araneus, see Sorex.

Sorex atratus, Blyth. Of this, Blyth had only a headless specimen which was found impaled upon a thorn by some shrike, at Cherra Punji in the Khassya hills. The same fact he had observed in England of Lanius colluris and Corsira vulgaris: these diminutive shrews falling an easy prey to the "Butcher-birds;" while the larger members of the same genus are ferociously predatory upon any hapless birdlet they may chance to seize,—as is likewise the case with moles and doubtless other sorecidæ of adequate size and strength. The species is remarkable for its very dark colour, extending over the feet and tail which is even blackish underneath. Length of tail 1 inch.; and of hind-foot $\frac{1}{3\frac{1}{2}}$ inch. Fur blackish-brown above, little tinged rufescent, and with dark greyish underneath; the feet and tail conspicuously furred, besides the scattered long hairs upon the latter.

The Museum of the Bengal Asiatic Society formerly possessed a specimen of one of the minute shrews, which was found in a cellar in Madras. Blyth formerly considered it identical with S. micronyx; so that it could scarcely be so with S. melanodon of Bengal: it was, however, darker than S. micronyx; and more probably S. perotettii, (*versus*) if not distinct from the whole of the foregoing. It is even probable that several more Indian species of these most diminutive of all mammalia remain to be discriminated. Upon minute comparison of five specimens in the museum, he immediately detected four well-marked species, and presently afterwards obtained the S. melanodon fresh. He once found the nearly digested remains of an adult small white-toothed Sorex, rather larger than a common mouse, in the stomach of an Elanus which was shot on the banks of the Hooghly, about 15 miles above Calcutta.

Feroculus. Another form of white-toothed shrew, with thick and tapering tail having scattered long hairs upon it, is exemplified by the Feroculus, *Kelaart.* Teeth small; the upper quasi-incisors shorter and less strongly hooked than in restricted Sorex with the posterior spur large; the lower quasi-incisors serrated, showing two depressions and therefore a row of three coronal points, four small upper præmolars preceding the carnassiez, the two medial being of equal size, the first rather large, and the fourth small. Feet remarkably large. The ear-conch scarcely visible above the fur.

Feroculus macropus.

Sorex feroculus, *Kelaart.* | S. macropus *Blyth, J. A. S.*, xx, 163.

Length about 6½ in.; of which the tail is 2½ in.; hind-foot with claws nearly ⅞ in.; the fore-foot ½ in. broad, with long and but slightly curved claws, that of the middle digit

½ in. in length. Fur somewhat long and very soft, uniform blackish, very faintly tinged rufescent; the extreme tip of the tail naked and of a flesh-colour. Inhabits Ceylon.

Crossopus. Another white-toothed Indian shrew exists in the Crossopus himalayicus, *Gray*, but Blyth felt much doubt of its being correctly referred to Crossopus.

Myosorex, Gray, is founded on a Cape species, the Sorex varius, *Smuts*, with ear-conch concealed amid the fur, and a slender tail (without scattered long hairs?) the teeth white, and the dentition slightly modified upon that of restricted Sorex: lower quasi-incisors "with an entire sharp upper edge." The greater number of small shrews inhabiting the temperate regions of Europe, Asia, and N. America, have the teeth always tipped with ferruginous or pitch-colour, a slender mouse-like tail with no scattered long hairs upon it, and (save in Otisorex) the ear-conch concealed amid the fur. There are two distinct types of dentition. In one, the upper quasi-incisors are much longer than their posterior spur (as in restricted Sorex); and the lower have but a single posterior spur more or less rudimental: the lateral small teeth which follow in the upper jaw are four in number (as in restricted Sorex); the first two being equal, the third somewhat smaller, and the last (as usual in all shrews) minute. With this type of dentition Mr. Blyth distinguish.

Sorex cæcutiens, or S. Minutus, *Lam.*, has a wide range in India, for it has been obtained in the Neilgherries, in a cellar at Madras, from Almorah and from the Tenasserim coast.

Sorex cærulescens, Shaw.

S. pilorides, *Shaw.*	S. myosurus, *Pallas.*
S. giganteus, *Is. Geoffry.*	S. myosurus, apud, *Walker*, in Calc. J. N. H. iii.
S. murinus, *L.*, apud *Gray*: figured in Hardwicke's Ill. Ind. Zool, as S. indicus, *Geoff.*	Common Musk shrew 'Musk rat,' of Bengal, &c.

This is very different from the 'Musk rat,' or Mushquash—Fiber zibeticus of N. America, which is a rodent nearly affined to the Voles—Arvicola. The Musk rat of Bengal is described by Mr. Hodgson in the Ann. Mag. N. H., xv, 269, (1845); but the length of the tail (as given), 3⅛ in. is possibly a misprint for 3⅝ or 3⅞ in., or more than half of the length of the head and body, which is given as 6 in. Number of caudal vertebræ, 24. Total length of skull of adult male, with front-teeth in situbus, somewhat exceeding 1⅝ in.; of female, somewhat under greatest breadth of skull of former, 11/16 in.; of latter, ⅝ in. Colour uniform pale-grey, slightly tinged with ferruginous, and more conspicuously on the lower parts; the naked parts flesh-coloured. This is the common large musk shrew of Bengal, Nepaul, and, we believe, the valley of Assam, becoming rare in Sylhet, and wholly disappearing in Arakan. In Nepaul, Mr. Hodgson styles it 'the common house shrew of the plains, and also of the hills, up at least to 6,000 feet. Mr. Blyth had seen specimens from the neighbourhood of Agra: but whether it be the common musk shrew of S. India is doubtful on present evidence; though Dr. Kelaart's description of the Singhalese animal corresponds. It certainly does not appear to inhabit the eastern coast of the Bay of Bengal, from Arakan to the Straits of Malacca. Dr. Horsfield gives as its habitat 'India generally, and the eastern islands;' and he notes a specimen from Bhutan, presented to the India-house collection by Major Pemberton. Blyth suspects that its reputed existence in the Malay countries, needs confirmation. In addition to the names above cited, Dr. Gray, in his catalogue of the specimens of mammalia in the British Museum (1843), refers the following name and synonymes to this species:—

S. murinus, *L.*	S. sonneratii, *Is. Geoff.*
S. myosurus, *Pallas.*	S. crassicaudatus, *Licht.*
S. indicus et capensis, *Geoffroy.*	S. nipalensis, *Hodgson*, and
	S. moschatus, *Robinson.*

Sorex crassicaudus (nec crassicaudatus), *Lichtenstein*, refers to a musk shrew inhabiting Egypt, and stated to be common about Suez; which may therefore be presumed identical with Dr. Ruppell's S. indicus from Suez; and the description certainly seems to approximate that of S. cærulescens (length 5½ in.; tail 2¾ in.): and S. capensis, *Geoffroy*, is termed S. francicus by Prof. Schinz, who gives Mauritius as its habitat (length 3'' 8'''; tail 1'' 9''').

Sorex caudatus, Hodg., Bly. syn. of Corsira alpina, *Jerdon.*

Sorex feroculus, see Sorex.

Sorex ferrugineus, Kelaart. *J. A. S.*, xx, 185: S. montanus apud Blyth. The dimensions of the specimen described in *J. A. S.*, xx, 163, accord with those assigned by Dr. Kelaart to the next species; and he states that the two are nearly of the same size, and that the smell of the present species is very powerful.

Sorex heterodon, Blyth. Very similar to S. soccatus in general appearance, but less dark-coloured, with shorter fur, and pale instead of blackish feet and tail underneath: the feet, too, are broader, especially the hind-feet; and they have a hairy patch below the heel. The skull, of the same length as in S. soccatus,

and with equally large teeth, is much more narrow and the upper quasi-incisors are conspicuously less strongly hooked than in that and other typical Sorices. From Cherra Punji, in the Khasya hills.

Sorex indicus, Geoffroy, or S. Sonneratii, Is. Geoffroy, is accepted as a distinct species from S. cærulescens in Dr. Horsfield's Catalogue of the specimens of Mammalia in the India House Museum (1851) ; and a specimen is noted from the Dekhan, presented by Col. Sykes, and the following habitat given for the species, viz. : "Continent and islands of India." Col. Sykes terms it the Cheechonder of the Mahrattas, being the same name which is applied to S. cærulescens in Bengal, spelt Choochundr by Dr. Cantor (J. A. S., xv, 191), and the latter author gives "Chinchorot of the Malays of the Peninsula" as the name of the very distinct species referred by him and others to S. murinus, *L.* ; which latter was originally described from Java. According to Colonel Sykes, these troublesome and disagreeable animals are very numerous in the Dekhan, but much more so in Bombay. The sebaceous glands in an old male were observed to be very large, and the odour of musk from them almost insupportable ; while in an adult female the glands were scarcely discernible and the scent of musk very faint. It is tolerably strong in the female of S. cærulescens ; though more or less so, perhaps, with reference to sexual condition. "The Sorex indicus and S. Giganteus," it is added, "are regarded by Col. Sykes as specifically identical, he having killed them in the same room, and seen them frequently together." (P. Z. S, 1831, p. 99). Prof. Schinz accordingly assigns S. Giganteus, *Geoff.* Ann. du Mus, xv, pl. 4, of 3," as a synonyme of S. indicus : but the reference is erroneous, the Memoires du Museum, tom., xv, (to which Blyth had not access), being probably intended. S. giganteus, Is. Geoff, Voy de Belanger, refers to S. cærulescens of Bengal.

According to M. Isidore Geoffroy, the S. indicus (his S. sonneratii) is a smaller animal than S. cærulescens (his S. giganteus), with tail forming always a quarter of the entire length. Length of the head and body of adult, a little under 4 inches (Fr). Fur ashy, washed with russet-brown ; and pale ashy below. Inhabits the Coromandel coast, and also the Mauritius. If truly a distinct species from S. cærulescens, its natural habitat is probably W. India : but Mr. Blyth had vainly sought for information of such an animal.

In Dr. Ruppell's printed catalogue of the specimens of mammalia in the Frankfort Museum (1842) examples referred to S. indicus. *L.* (Fr. Cav. *Mamm.* 11, t. 28), are noted from Java, and also from Massowa and from Suez ; and a supposed variety termed by him S. indicus, var ; cinereo-ænea, from Shoa : and he elsewhere suggests that these animals have probably been introduced by the shipping from S. E. Asia and its islands, and so found their way over to Shoa, where a different climate had affected the colouring of the fur. On ship-board they could of course subsist on Blattæ.

Sorex kandianus, Kelaart. Sorex serpentarius, *Is. Geoff.*

Sorex macropus, Bly. Feroculus macropus.—*Kel.*

Sorex melanodon, Blyth, from the remarkable colouring of its teeth, which are piceous and white-tipped, exhibiting thus the reverse coloration of those of Corsira, &c. Length of adult female $1\frac{7}{8}$ inch ; tail $1\frac{1}{16}$ inch : hind foot and claws $\frac{5}{16}$ inch. Colour uniform fuscous, without any rufous tinge ; scarcely paler below : the feet and tail subnude, save the usual scattered fine long hairs upon the latter ; and with the ears and snout, of a livid colour, paler below ; claws white and distinctly visible. Procured in Calcutta.

Sorex micronyx, Blyth, of Kumaon and Landour, length of head and body $1\frac{5}{8}$ inches ; tail somewhat exceeding $1\frac{1}{8}$ inch ; hind-foot and claws $\frac{13}{32}$ inch : skull $\frac{1}{2}$ inch, teeth white. Claws with fine hairs impending them, and so minute as to be scarcely discernible without a lens. Fur of a paler and more chesnut brown than any other of these minute species examined, and also more silvery below. Feet and tail sub-nude, or thinly furred, showing the colour of the skin through ; browner above, whitish (or perhaps flesh-coloured) below.

Sorex montanus, Kelaart, (nec apud *Blyth*, *J. A. S.*, xx, 163.) Length of head and body $3\frac{3}{4}$ inches ; of tail $2\frac{1}{4}$ in. ; of hind-foot $\frac{2}{3}$ inch. Fur, above, sooty-black, without any ferruginous smear ; beneath lighter-coloured ; whiskers long, silvery-grey : lower part of legs and feet greyish, clothed with appressed hairs. Claws short, whitish. Ears large, round, naked ; the outer margin lying on a level with the hair of the head and neck, and being thus concealed posteriorly. Mountains of Ceylon.

Sorex murinus, L.

S. myosurus, *Pallas.*	S griffithii (?) *Horsfield.*
S. cærulescens, var., *Raffles.*	

There is every reason to suspect that this species replaces S. cærulescens along the whole eastern coast of the Bay of Bengal, and thence through the hilly country northward, to that skirting the valley of Assam. Dr.

Horsfield mentions a Nepalese specimen, presented to the India-house museum by Dr. Hodgson: but this species is unnoticed in the latter gentleman's catalogue of Nepalese animals and especially in his descriptive notices of the Nepalese shrews. With the exception of the small S. tenuis, *Müller*, from Timor, it appears to be the only well-established species of shrew throughout the great oriental Archipelago. In the Tenasserim provinces, the Rev. J. Mason states—there are at least two species of musk shrew, both of which emit an offensive odour." (*Qu.*, S. murinus and S. serpentarius ?) In S. murinus, according to Dr. Cantor, " the smell of musk, emitted by the adult animal, and which in the young is barely perceptible, is much less intense than in the Bengal musk shrew." S. serpentarius, according to Dr. Kelaart, has a powerfully offensive musky odour. S. murinus has larger ears than S. cærulescens ; and Dr. Cantor describes it as—'Dark brownish-grey above' beneath light brownish-grey. Feet and tail flesh-coloured in the living animal, changing to cinereous after death. In the young the colour is more of a bluish-grey, slightly mixed with brown on the back. A stuffed specimen from the Khassya hills has the fur longer and less dense than in S. cærulescens, the piles somewhat curly : and colour dark-ashy at base, with rufous-brown tips which give the prevailing hue. Mr. Blyth suspects that S. griffithii, *Horsfield*, is S. murinus from the Arrakan and Khassya hills, although described from Affghanistan : S. griffithii is described to be affined to S. murinus, but differing essentially by the uniform deep blackish-brown tint, and the shortness, delicacy, and softness of the fur. Colour deep blackish-brown throughout, with a slight rufous reflection in a certain light. Length of head and body, 5¾ inches ; tail 2⅓ inches.

Sorex murinus, Horsf. Syn. of Sorex nemorivagus, *Hodgson*.

Sorex myosurus, Gray. Sorex cærulescens, *Shaw*, *Bly*.

Sorex myosurus, Pallas. Syn. of Sorex murinus, *Linn.*, *Bly*.

Sorex nemorivagus, Hodgson, differs from the ordinary type by a stouter make, by ears smaller, and less entirely nude, and by a longer and more tetragonal tail. Colour sooty-black with a vague reddish smear ; the nude parts fleshy grey. Snout to rump 3⅝ in. ; tail 2 in. ; planta, $\frac{11}{16}$ in. Found only in woods and copices.—*Ann. Mag. N. H.*, *Vol.* xv, *p.* 269.

Sorex niger, Elliot, described in Dr. Horsfield's catalogue (1851). Length of the head and body 3½ inches ; of tail 2½ inches. Tail equal in length to the entire animal, exclusive of the head ; gradually tapering to a point. Snout greatly attenuated. Colour blackish-brown, with a rufescent shade to the upper parts : abdomen greyish. From Madras, (*Qu.* Madras presidency ?)

Sorex nudipes, Blyth, *n. s.*, remarkable for its naked feet and very large ears ; also for the odoriferous glands on the sides being strongly developed, whereas we can detect them in no other of these minute species. Length of female, 1¾ inch ; tail 1$\frac{1}{16}$ inch ; hind-foot $\frac{5}{12}$ inch. Ears conspicuously larger than in the others : tail almost nude, save of the scattered long hairs : and the fore-feet and toes of the hind-feet are conspicuously naked, and apparently flesh-coloured. Fur uniform brown above (like the back of Corsira vulgaris), a little grizzled and glistening ; the lower parts with a silvery gloss : tail brown above, pale (probably flesh-coloured) below ; somewhat thick and uniformly tapering. Specimen procured at Amherst in the Tenasserim provinces.

Sorex perottetii, Devernoy. Prof. Schinz's description of this species, is as follows :—" S. notæo saturate fusco-nigricante, gastræo canescente, artubus pedibusque pilosis, auriculis magnis, conspicuis. Long. corporis 1" 4"', caudæ 1 1"'. From the Nilgiris, but Mr. Blyth had a Darjeeling female which approximates this description, and may prove to be of the same species. Head and body 1¼ inch ; tail 1 inch : hind-foot and claws $\frac{11}{24}$ inch. Skull somewhat exceeding ⅝ inch. Teeth white. Colour uniform brown, with a slight tinge of chesnut ; and scarcely paler below. Feet and tail distinctly furred, besides the usual scattered long hairs on the latter. Claws whitish and conspicuous. Tail brown above, pale and perhaps flesh-coloured beneath ; more probably, however, of a livid hue ; and tapering evenly throughout. If new, Mr. Blyth names it S. hodgsonii, *Blyth*.

Sorex pygmæus, Hodgson, nec S. pygmæus, *Pallas* : if the small European species referred by Schinz, Ruppell, and others to the latter be correctly identified, S. pygmæus, *Pallas*; apud *Schinz*, is placed by the latter Zoologist among the species with brown-tipped teeth, and in the division of them which corresponds to Corsira, *Gray*; and the description—cauda basi constricta auriculis brevissimis ;—will certainly not apply either to Mr. Hodgson's animal, or to various other minute Indian shrews hitherto undistinguished from it : and therefore Mr. Hodgson's name for the present species may stand, as he states the structure of the animal to be typical. After writing the above, Mr.

Blyth saw the figure of Sorex pygmæus, *Pallas* and *Laxmann*, (S. minutus, *L.*, S. exilis, *Gmelin*, and S. minimus, *Geoff.*) in the Act. Acad. Leop., Vol. xiii, pt. 2, t. 25 (1827); and he says the species is widely different from all the pygmy shrews here described, and is evidently a Corsira. The following is his description—'snout to vent, less 2 inches; tail, $1\frac{3}{16}$ in.; head, $\frac{1}{16}$ in.; palma, $\frac{1}{4}$ in.; planta, $\frac{3}{8}$ in. Structure typical, save that no odorous glands were detected, nor had the animal any musky smell.. Colour sooty-brown, paler below. Naked parts of a dusky-flesh hue. Hab. Nepaul, where it dwells in copices and fields, and is rarely found in houses.' Of numerous specimens of minute Sorices from various localities, the only one which approaches to the above description is a species which Mr. Blyth procured in Calcutta.

Sorex serpentarius, Is. Geoffroy, S. kandianus, *Kelaart*, described in J. A. S., xxi, 350, from a skin sent by Dr. Kelaart as 'the large godown shrew of Kandy;' though scarcely corresponding with his indications. A second skin of precisely the same species, and also an adolescent specimen entire in spirit, were subsequently forwarded from Mergui by Captain Berdmore, as noticed in A. S. J., xxii, 412. In both adults, the tail (vertebræ) $2\frac{1}{8}$ inches; and the head, and body (allowing for some extension of the skin) about $4\frac{1}{2}$ inches. The Kandyan specimen is more rufescent than the others; but Mr. Blyth could perceive no further difference whatever; indeed, to judge from the two Mergui examples, it would seem that this animal becomes more rufescent with age. Dr. Kelaart states that its odour is as offensive as that of the large musk shrew of Ceylon. The Coromandel coast and the Mauritius are given as its habitats. Colour duskyish-grey with dark rufous-brown tips to the fur, more or less developed according to age, and the under parts somewhat paler.

Sorex soccatus, Hodgson. A Sikim specimen which Blyth refers to this species, bears considerable resemblance to the last, but is a good deal darker, with well-clad feet and tail; and the head and limbs are proportionally larger. Entire length of skull with front teeth in situbus, $1\frac{6}{16}$ inch; breadth, $\frac{9}{16}$ inch, (nearly); entire range of upper teeth, $\frac{5}{8}$ inch; ditto of S. serpentarius, barely exceeding $\frac{1}{2}$ inch. Tail (vertebræ), $2\frac{6}{16}$ inch; compressed towards tip, which is furnished with a pencil-tuft of stiffish hairs. Mr. Hodgson thus describes his animal. Size and proportions of S. nemorivagus, *H.* (nearly); but distinguished by its feet being clad with fur down to the nails, and by its depressed head and tumid bulging cheeks (mystaceal region). Ears large and exposed. Colour a uniform sordid or brownish slaty-blue, extending to the clad extremities. Snout to rump, $3\frac{1}{2}$ in; tail, $2\frac{1}{8}$ inch; planta, $\frac{12}{16}$ in.; This animal was caught in a wood plentifully watered, but not near the water. It had no musky smell when brought dead. Hab. Nepaul and Sikkim.

Sorex sonnerati, Geoffroy. Syn. of Sorex cærulescens, *Shaw*, *Blyth*.

Sorex swinhœi, Blyth. Syn. of Sorex murinus, *Linn.*, *Bly.*

Sorex tenuis, a shrew of Timor. *Mr. Blyth* in the Bengal Asiatic Society's Journal.

Sorex viridescens, Blyth. Syn. of Sorex murinus, *Linn.*, *Bly.—Jour. As. Soc.*, *Vol.* xx, *pp.* 165, 185; *Ann. Mag. N. H.*, *Vol.* xv, *pp.* 269, 270; *Tennent's Sketches of the Natural History of Ceylon*, *p.* 63; *Mr. Blyth's Report; Mr. Blyth in the Journal of the Royal As. Soc. of Bengal*, *Vol.* xx. *p.* 164; *Ann. Mag. N. H.*, *Vol.* xv, *p.* 269; *Journ. As. Socy*, *Vol.* xxii, *p.* 413; *Horsfield's Catalogue.*

SORGA-LOCUM, SANS. Heaven. See Hindu, Swarga.

SORGHUM BICOLOR, *Willde.*

Holcus bicolor, *Linn.* | Andropogon bicolor, *Roxb.*
Kalo-deb-dhan, BENG.

Cultivated in India: grain much used as food.—*Voigt.*

SORGHUM CERNUUM, *Willde.*

S. halepense, *Persoon.*	Andropogon cernuus, *Roxb.*
Holcus cernuus, *Willde.*	Andropogon laxus, *Roxb.*
Koonkie, E. Bengal.	Soondia, of Broach.

Cultivated by the natives of Munipore and other mountainous districts immediately east of Bengal.

HOLCUS DURRA, *Forsk.* Syn. of Sorghum vulgare.—*Pers.*

SORGHUM SACCHARATUM, *Pers.*

Andropogon saccharatus, *Roxb.* ? ?
„ caffrorum, *Kunth.* ? ?
Holcus saccharatus, *Linn.*
Broom corn ? ? of America ? ? ?

Deo-dhan,	BENG.	Sorgho-sucre,	FR.
Luh-suh; Tih-che,	CHIN.	Joar-valaiti,	HIND.
Shaloo,	DUK.	Salu,	MAHR.
Sorgho; Sorgo,	ENG.	Devata dhanyamu,	TEL.
Chinese northern sugar-cane,	„	Jonna,	„

This is a plant of Northern China. About the year 1855 it was introduced into the south of France and England, and since then into the United States. It was introduced into the Madras presidency by the Editor in the year 1859. Dr. Birdwood, however, says it is simply the Shaloo of the Dekhan and the Deo-dhan of Bengal. But Roxburgh (i, 271,) doubts if his A. saccharatus or Deo-dhan, is the H. saccharatia of Linnæus and describes it

as having seed oval, and Voigt calls it sadadeo-dhan, white, whilst the plant which the Editor introduced in 1859 has a black grain different from that of the Imphee and the Sorgho, which the Editor also introduced from the Cape of Good Hope, all of which was yellowish white. In China the black seeds are sown in April, but the plant is largely propagated by cuttings. It grows to the height of twelve to eighteen feet, with an ample inflorescence consisting of eight or ten separate stems, which group together to form the tuft of the plant. The large leaves, which make excellent green food or dry fodder, for cattle, spring from the nodes of the gradually tapering stems. The seeds, at first green, become brown, and finally of a purplish black colour, being produced only on the head of the plant. They are very nutrient and the colouring matter has been used in China to tint wine of a deep colour. The plant is not much cultivated in China. Dr. Birdwood says it is cultivated in the Bombay presidency, and that its seeds are there called shalloo. In Mysore, since A. D. 1870 it has been largely cultivated for fodder. In the Kangra district it is used as a valuable fodder for cattle, as it can be cut down, three or four times a year, and it sprouts again. Stalks have been seen there at least 12 feet high, and raw sugar (goor) is extracted from the same, but which has a less value in the market than that taken from country sugar-cane, and it seemed a doubt if the staple would pay. Professor Arduino, (*Journ. Botanique*, iii, 168,) gives an account of his experiments on the extraction of sugar from this species and they were extremely satisfactory. This has been lately recommended in the United States as a sugar-producing plant and for the sake of its juice. There its stalks furnish three important products, sugar, which is identical with that of cane,—alcohol, and a fermented drink analagous to cider. This juice, when obtained with care and in small quantities, by depriving the stalk of its outer coating or woody fibre and bark, is nearly colourless and consists merely of sugar and water. Its density varies from 1,050, to 1,075 and the proportion of sugar contained in it from 10 to 16 per cent., a third part of which is sometimes uncrystallisable. The Chinese merely chew the sweet stalks in place of the sugar-cane. According to Dr. Collins excellent beer spirit and vinegar may be occasionally made from the juice, one gallon of good alcohol coming out of twenty-three gallons of the juice. In the United States, good Sorgho sugar-cane can be produced for about five cents. the pound, whereas in S. Carolina sugar sells at from fifteen to seventeen cents. per pound. Paper has been made in the United States from the stalks, and in France they dye silks of a beautiful colour with the purple colouring matter of the hulls or bran, of the grain. It is so hardy as to grow from Florida to Maine, and produces abundance of syrup which according to Mr. Hogg, can be formed into dry sugar, as easily as from the syrup of the true sugar-cane. In the Report of the Commissioners of Patents, however, in which the Editor first saw mention of the Sorgo, the Commissioners mentioned that difficulty in crystallising it was experienced, and that it was sold in the form of syrup for sweetening. One grower stated that on ordinary soil, he had obtained from 346 to 468 gallons of syrup from an acre, and that every farmer can make his own syrup at a cost of not exceeding fifteen cents. per gallon. In Illinois, a grower procured 384 gallons from an acre, which he sold at one dollar a gallon. As a forage plant, cut while young, it is highly valuable and nutritious. The 'Indian Field' in 1858, writing of the Sorgho and Imphee, as sugar-yielding plants, says the Count de Montigny, the Consul of France at Shanghae, (who introduced several other useful Chinese plants into France) sent seeds of the 'sorgho' under the title of "the sugar-cane of the north of China," to the Geographical Society of Paris. Mr. Leonard Wray, (who had been several years previously residing in India as a sugar planter), forwarded also to France a quantity of seeds of a plant, having apparently the same properties, and almost the same appearance as the sorgho, from the south-east coast of Africa, in the country of the Zulu Kaffirs. Attracted by the appearance of the plant, and its great yield of saccharine juice, he was induced to investigate the subject more closely, and the result was the discovery, in Kaffir-land, "of no less than sixteen distinct kinds of imphee, of various degrees of saccharine richness, and differing very widely in the time required for their maturity." Mr. Wray, after introducing the plant into England, France, and other parts of Europe, conveyed it to the United States, where, it would appear to be much appreciated. The gift he made thus to agriculture, observes an American author,—may be estimated, when we reflect that we have almost every range of climate known in the world, from the torrid and fervent heats of the tropical zone, to the most rigorous winters of the north; and as Sorgho plants, require, in some instances, but ninety days to run through the whole course of vegetation and ripen their seeds,—others of greater saccharine richness requiring a more lengthened season than is necessary for the ordinary sugar-cane,—Mr. Wray

has thus given to the farmers of every section of the country, the opportunity to select from out of his collection of varieties, some one peculiarly adapted to the latitude in which he resides. In his treatise, which forms an appendix to the American publication, Mr. Wray gives a minute account of the different varieties of imphee he met with in Kaffir-land; the mode of cultivation adopted by the natives; and the manner in which he recommends they should be grown. One peculiar characteristic of the plant is the perfect immunity it enjoys from the attacks of white ants. In Natal, the white ant, it would appear, is as numerous and fully as destructive as it is in this country, consequently none but low lying swampy grounds can be used in that colony for sugar-cane cultivation; and this fact, Mr. Wray observes, places a restriction upon its extensive culture in Natal, which no human art can overcome,—whereas these most destructive insects never touch the imphee. "I have grown," adds the writer: "a fine crop of imphee on a sandy hill-top, where it would have been utterly impossible to grow sugar-cane on account of the white ants."

The writer next devotes a chapter to the production and value of Imphee, in comparison with beet-root and sugar-cane. His plant, he states, will yield 2 tons of fair dry sugar per acre, and 20 bushels of grain; the latter, useful not only for feeding animals and poultry, but also serviceable, in the form of flour, as food for man; while the leaves and long tops form excellent food for horned cattle, sheep, horses, &c., "being much more delicate than the coarse leaves of the sugar-cane." He further observes that one crop of imphee occupies the ground from three to four months only! and that as this comes off, another crop is immediately springing up from the same roots, to be ready in another three months; and even a third crop will be produced, provided the weather be warm enough; thus giving three crops in less than one year! Whereas, as we know, it takes seven months to mature the beet, and about twice that time for the sugar-cane. Mr. Wray then enters into calculations, as to the comparative yield of sugar from imphee, cane and beet, into which we cannot follow him; but proceed, in conclusion, to notice briefly the sorgho, the rival of the imphee, in the affections of the United States' planters.

Though only recently introduced into the United States by the year 1856, about fifty thousand acres of land are already under cultivation. Its hardiness is a great point in its favor, its standing uninjured, when Indian corn was destroyed by frost, is another; its ability to withstand drought; its nutritive qualities; its rapidity of growth; and, lastly, its saccharine richness, from 16 to 20 per cent., while the sugar-beet contains only 8 to 10 per cent. Of its value as a forage crop, the American farmers have not any doubts, and we now quote the words of the Patent Office Report of the United States, for 1855: —"Aside from other economical uses, its value for feeding to animals alone, in every section of the Union, where it will thrive, cannot be surpassed by any other crop, as a greater amount of nutritious fodder cannot be obtained so cheaply in a given space, within so short a time; and without wishing to present the question in an extravagant light, it may be stated, that this crop is susceptible of being cultivated within the territory of the United States, to an extent equal to that of Indian corn, say 25,000,000 acres per annum; and estimating the average yield of dry or cured fodder to the acre at 2 tons, the yearly amount produced would be 50,000,000 tons, which, to keep within bounds, would be worth at least 500,000,000 dollars, besides the profits derived from the animals in milk, flesh, labor and wool." But it is not in the United States only that the sorgho is appreciated for its sugar-yielding properties. It has been grown, with more or less success, in various parts of France, specially in Provence; in Algeria, its cultivation was commenced on a more extended scale, that it is likely to succeed there, the climate being, apparently, well adapted to it. Mr. Hardy, Director General of the Government Nursery at Hamma, in Algeria, reports very favorably of it, and the French Government proposed, in consequence, to take it up energetically. In India, this valuable plant it is said has hitherto been cultivated for its grain only, which forms so extensive an article of diet to the inhabitants of Behar and the Upper Provinces. Whether it can compete successfully with the sugar-cane and date-palm, as a sugar-yielder, remains to be seen. Major E. Boddam writing of it in the 'Bangalore Herald' on the 8th July 1872, says, this remarkable plant is a native of the north of China. Its giant growth, and it is beautiful and graceful appearance and refreshing greenness in the driest season, and the expectation of finding in it a rival to sugar-beet induced the French Consul at Shanghai to send some sorgo seed to his government. In 1854, Mr. Browne, Agent of the United States' Patent Office, took to America some French seed, which was distributed by the government. The plant was cultivated by a few farmers, but it received little attention until an ex-governor of South Carolina reported

the results of his trials to a farmer's club, which brought sorgo into notice. Since 1855 its cultivation steadily increased, and it soon became one of the great crops of the country. It is grown in France and Algeria for alcohol chiefly, but in America for seed, forage, sugar, syrup, alcohol, vinegar and beer. In the ten North-western States, where it flourishes, there were in 1864, 360,670 acres of sorgo, and sorgo sugar was selling at Chicago at 4½*d*. per ℔. For sugar, however, sorgo has turned out a failure. Its great merit as a forage plant is its principal recommendation, and on this point an official report of the United States Agricultural Department has declared that the value of sorgo for feeding stock cannot be surpassed by any other crop as a greater amount of nutritious fodder can be obtained by it in a shorter time within a given space and more cheaply. While grass yields a ton or a ton and a half of hay, sorgo will yield from 2 tons to 9 tons of dry fodder. Sorgo (Loo-tseh) flourishes wherever Indian corn flourishes.

In China, the seed is sown for transplanting on warm ground, finely broken, in the middle of April. The young plants are watered with liquid manure so soon as they appear, and in three or four days watering is repeated night and morning if the weather is dry. They are pricked out, when 6 inches high, in rows 3 feet wide and 6 inches from plant to plant, and are again watered with liquid manure when a foot high. Weeds are kept down by hoeing until the cane matures, about November. The crop begins to come to market, however, early in September, or as soon as the stalks are sufficiently sweet for chewing. A Chinese laborer earning 10*d*. a day, can cultivate about 2 acres during the six months that the crop needs his labor.

In America, sorgo can be successfully grown on all lands where a fair crop of Indian corn can be grown. Deep loose warm soil, even of poor quality, produces the sweetest and most juicy stalks. Irrigation is recommended, but can seldom be attained in the United States. In deep black loam sorgo reaches a height of 16 feet or 18 feet. The juice of the giant growth is not so sweet, nor is it easily crystallized. The seed should be soaked 24 hours in tepid water, in which 1 oz. of saltpetre is dissolved to every 6 gallons. It is then dusted with gypsum, and drilled 2 feet apart and 20 seeds per foot (for forage). In seven or eight days a horse sub-soil plough is put between the rows, up one side down the other. This cultivation is repeated as the crop advances, but the plants must not be earthed up. The upper roots spring from the stalk above the ground, and they must be left exposed. The first cutting may be made as soon as the crop is large enough for stock, and in ordinary seasons two others will follow. To dry the crop it should be set up in shocks, and the shock built with precautions for ventilation. One man with a sub-soil plough can cultivate 10 acres.

In Mysore, Major Boddam says, the Chinese and American methods of cultivating sorgo will answer each at its proper season. If the crop is to be sown in the early rains of April and May, the Chinese system is recommended, as there is less risk of failure from drought by sowing in a nursery bed and subsequently planting out in rows. Failure must sometimes occur when the seed is sown in drills at this season, as the rain often holds off for a fortnight or three weeks, and the sprouting seeds of seedlings perish from want of moisture. Later, when the rains are regular and copious, the American system will be more suitable with the following modifications: —

Plough the land well and deeply, apply manure liberally, say from 6 to 7 tons of farmyard manure per acre, and if saltpetre is procurable and cheap, add it at the rate of 100 lbs. per acre. Plough this manure crosswise to the first ploughing, harrow and level, then sow the seed in drills 26 inches apart, and 20 seeds per foot. In seven or eight days put a bullock hoe or cultivator, between the rows up one side and down the other, or hoe the rows by hand. Continue the cultivation as the crop advances, but in no case earth up the plant stems, as they send out roots above ground, which must be left exposed. The first cutting should be made just before the canes show signs of flowering; the plants will send outside shoots 2 or 3 at a time for successive cuttings, affording a supply of excellent green fodder, extending over a period of six or eight weeks. If the crop is to be used for dry fodder, the canes when cut, should be set in shocks, and the shocks built with precautions for ventilation. If the crop is required for seed only, the leader of the canes should be left to flower and mature its seed, while all the side shoots may be cut for fodder. Under this system of dry cultivation and high farming at Hunasuru near Mysore, a plot of 1,296 square yards of every rich land which had long been under cultivation, and was heavily manured before-hand, produced 12,657½ lbs. of fodder and 1,498½ lbs. of seed, equivalent to 21 tons, 1 cwt., 1 qr. and 10 lbs. of fodder per acre, and 2 tons, 9 cwt., 3 qrs. and 5 lbs. of seed. This very large outturn is attributed to the extreme richness of the land, a favorable season and high farming. Again, in the Toomkoor district, in the rich black soil of Gubbi, where

sorgo was tried, the canes attained the height of 18 feet, and a very heavy crop of fodder was cut. Unfortunately the weight per acre was not recorded. On the average light soil of Bangalore with a moderate supply of manure upwards of 10 tons of fodder were cut per acre. Even this last-mentioned crop far surpasses the out-turn of any grass grown in Mysore, and is superior to the average out-turn of an acre of the country jowar or cholam. So much for the results of high farming; no doubt in favorable seasons a fairly remunerative crop might be raised even under the native system of light ploughing, scanty manuring, and careless weeding.

The seed could be sown with the Sudiki, Sadde, or Kal-kurige (See Buchanan's Mysore, page 261, plate xi), or country pulse drill, three of these pulse drills tied to the native harrow and served by three men would do for the sowing process followed in due course by the country bullock hoe.

There are now known in the agricultural commerce of Africa, Europe, America and British India, a great many kinds of so called sorgo, (the two real sorts are the imphee or red seed already known in parts of India, and the black seed of North China,) the latter containing most saccharine matter. As the several kinds hybridise freely, they should be grown separately never near each other; when the seed is formed the crop must be watched and birds scared; parrots are particularly fond of the seed and destroy immense quantities if left undisturbed.

To sum up, the superior merits of the Sorghum saccharatum over grasses, these consist in (1) its heavy crop; (2) the rapidity of its growth; (3) its abounding in saccharine matter; (4) its power of standing heat and drought; and of being grown nearly all the year round, especially in the dry and hot months, when, every kind of grass is burnt up; and lastly, that with high farming it is a most remunerative crop.—*Powell's Hand-book, Econ. Prod., Punjab, p.* 237; *Report of the American Commissioners of Patents, p.* 220; *Madras Mail, 26th July* 1872; *Roxb. Flora Indica, Vol.* i, *p.* ; *Hogg's Vegetable Kingdom, p.* 832; *Voigt's Hortus Suburbanus Calcuttensis, p.* 704; *Smith's Chinese Materia Medica, p.* 205; *Birdwood's Bombay Products, p.* 260; *E. Boddam, Bangalore Herald, 8th July* 1862; *Proceedings of the Madras Board of Revenue, No.* 739 *of 3rd Feb.* 1862; *Surgeon Edward Balfour in Records of the Government Central Museum, Madras,* 1856 *to* 1859; *Indian Field, Calcutta,* 1858; *Dr. Mason's Tenasserim.*

SORGHUM VULGARE, *Pers.*

S. commune, *Beaur.*	Holcus durra, *Forsk.*
Holcus sorghum, *Linn.*	Andropogon sorghum, *Roxb.*

Durra; Zurrut; Zura,	AR.	Yoar,	of Kangra.
Joar,	BENG., HIND.	Joar-Kiar,	of Kangra.
Pyoung,	BURM.	Chavela,	MALEAL.
Jolah,	CAN.	Zoorna,	SANS.
Juari,	DUK.	Cholum; Soalum,	TAM.
Kaydee,	EGYPT.	Jonnaloo; Jonna,	TEL.
Great millet,	ENG.	Gidda-jonna,	,,
Indian ,,	,,	Konda-jonna,	,,
Kalamboki,	GREEK.	Pacch'hu-jonna,	,,
Juvar,	GUZ.	Ramudi talambralu,	,,
Joundri,	HIND.	Jugeri,	TURK.

Red.

Red juari,	ANGLO.-HIND.	Sagappoo soalum,	TAM.
Lal juari,	HIND.	Yerra jonnaloo	TEL.

Brown.

Brown juari,	ANG.-HIND.	Soalum,	TAM.
Jooaree,	HIND.	Jonnaloo,	TEL.

White.

White juari,	ANG.-HIND.	Vellai soalum,	TAM.
Safed juari,	HIND.	Tella jonnaloo,	TEL.

The stalk.

Karbi, HIND.

Sorghum vulgare grows on light sandy soils and requires little moisture. Its seeds are smaller than other cereals, but the numbers on each stalk counterbalance. The great millet is grown in Egypt, and in all the countries of the south and east of Asia, its grain being used as food for man, in the form of cakes and porridge, and for horned cattle, and its stalks, the karbi of India as fodder for horned cattle and horses. It is grown in all the table-lands of India, is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6,000 feet, but is grown in the N. W. Himalaya only in the valleys. It grows on a reedy stem to the height of eight or ten feet, and bears irregularly shaped clusters of innumerable round grains about twice as big as mustard seed. It is common all over the Levant, under the name of durra (or dourrah); and in Greece, where it is called kalamboki, there is likewise a coarse sort in Italy, called Melica rossa, or Sorgo rosso. This plant is mentioned in Macartney's Travels to China, Vol. ii, p. 157. On the south-east of Peking he saw fields of this saccharine plant (Holcus sorghum), which was of an extraordinary height. It grows to the height of ten or twelve feet, and yields, on a moderate calculation, many hundred fold. Major General Sir J. B. Hearsey, K.C.B., sent from Barrackpore, on 5th March 1858, the seed gathered from one plant which came up accidentally during the early rainy season of 1857, and grew to nearly eleven feet in height, he had it supported by a strong bamboo; it spread out four shoots from the stem close to the ground, and these stems also threw down roots. This often occurs with the Holcus sorghum, as also with the Zea mays.

The head from the principal shoot was very large; the side shoots also headed, but these were small. The number of seeds received from this one plant was 12,700. This millet is largely grown in the Chittledroog and in part of the Nuggur division of Mysore. It is sown during the thunder showers between the end of April and May; and the crop is reaped in September and October. The great defect in this grain is that it will not keep, being soon destroyed by insects; and the ryots have difficulty in preserving sufficient quantity of it for seed on the following year. The seed grain is mixed with ashes, and packed with paddy straw; in spite of which, however, insects obtain admittance. The stems or straw of this grain when well preserved from rain, will keep for about ten years, and are used as fodder. This is often grown by the Karens, and occasionally by the Burmese. This is the millet designated in Ezekiel iv, 9.—*Cleghorn's Punjab Report, p.* 66; *Elphinstone's History of India, p.* 12; *Timkowski's Journey to Peking, Vol.* i, *p.* 301; *Powell's Hand-book, Vol.* i, *p.* 383; *Indian Field,* 1858; *M. E. J. R. of* 1857; *Dr. Mason's Tenasserim; Macartney's Embassy to China, Vol.* vii, *p.* 157.

SOR-ALOO, Beng. Dioscorea nummularia.

SORI, Hind. Bignonia indica, *Linn.*

SORIAI-KAI, Tam. Lagenaria vulgaris, *Serr.*

SORICULUS, *Blyth.*, a genus of mammals, with the hind-feet of ordinary form and proportions, unadapted for aquatic habits; and the tail tapering and a little compressed at its extremity. See Sorecidæ.

SORICULUS ATERRIMUS, *Blyth.* Soriculus nigrescens, *Jerd.*

SORICULUS NIGRESCENS, *Jerd.*

Corsira nigrescens, *Gray,* Ann. Mag. N. H., x. 261, (1842.)	Sorex sikimensis, *Hodgson,* Horsfield's Catalogue, (1851.)

Length of head and body, 3¼ inch; of tail, 1½ inch; hind-feet and claws, ⅝ inch. Number of caudal vertebræ 15 besides the extreme tip. Colour throughout blackish, a little tinged with rufous; the feet and the claws pale. Very common in Sikkim: and was formerly sent by Mr. Hodgson from Nepaul.

SORICULUS SIKIMENSIS, *Hod., Horsf.* Soriculus nigrescens, *Jerd.*

SORICULUS SOCCATUS, *Hodg.* Syn. Soriculus nigrescens, *Jerd.*

SORICULUS CROSSOPUS, *Wagler.*

Hydrosorex, *N. Duvernoy.*	Pinalia, *Gray.*

With the hind feet large and ciliated, and the tail also compressed and ciliated beneath towards its extremity; in adaptation to aquatic habits. S. fodiens, (v. Hydrophilus), *Pallas,* and other water shrews of Europe and N. America constitute the types of this division; and Dr. Gray refers to it a Himalayan species which, having white teeth, Mr. Blyth suspected will prove to differ in other and more important particulars; even though it may, exhibit the adaptive characters of an enlarged and ciliated hind-foot and compressed and ciliated tail-tip. It is thus described:

Crossopus himalayicus, Gray, Ann. Mag. N. H., x, 261 (1842). Length of head and body 5½ inches; tail 3 inches; hind-foot ¾ inch nearly. Slate-coloured black, with scattered long hairs, which are longer and white-tipped on the sides and rump: lower part of the throat and the middle of the belly rusty-brown: tail elongate, scaly, with appressed dark brown hairs above and elongated rigid whitish hairs beneath, and brown elongated rigid hairs near the tip: feet rather naked, whiskers numerous, elongate brown. Teeth white, probably from the neighbourhood of Simla or Mussuri.

In the other type of dentition the lower quasi-incisors are distinctly serrated, with three or four coronal points; and the anterior point of the upper quasi-incisors is not prolonged beyond a level with its posterior spur: the lateral small teeth which follow in the upper jaw are five in number, and diminish gradually in size from the first backward. Tail cylindrical, not tapering and furnished with a stiffish brush at its extremity. Such is the common British land shrew, S. vulgaris, *L.*, (formerly confounded by British writers with S. araneus, *Schreber*), and which is the type of Corsira, *Gray* (v. Amphisorex, No. 1, *Duvernoy,* apud *Gray*). There are many other species. Blaria. *Gray,* (v, Blarina, *Lesson*) is founded on S. talpoides, *Grapper,* Zool. Journ. v. 28, referred by Blainville to S. brevicaudus, *Say*: a N. American species, which, we believe, only differs from Corsira in the large size of its fore-feet, and in its very short tail:—and Oti-sorex, *Dekay,* is founded on two minute N. American species, which do not appear to differ from Corsia except in having the ear-conch large and conspicuously visible above the fur. We refer to it doubtfully.

Crossopus (?) *caudata*; the *Sorex caudatus,* Hodgson, Horsfield's Catalogue (1851): the description seems to indicate a species closely affined to the European S. alpinus, *Schinz*; S. alpinus is ranged among the species having the Corsira type of dentition by Prof. Schinz in his Synopsis Mammalium: its tail however is naked and compressed at tip. Length of the head and body 2¼ inch; of the tail the same, slender, nearly naked, and very slightly attenuated. Colour saturate blackish-brown

very slightly rufescent in certain aspects. Snout moderately elongated, furnished at the sides with long delicate hair.

SOSAN, or Sosun, HIND. Iris nepalensis, any of the lilies.

SOSANBAR, ARAB. Thymus chamædrys.

SOSIRATE, see Luristan.

SOSNI-RANG, HIND., lilac colour of iris or lily.

SOSSI, see Chronology.

SOSUN, PERS., PUSHTU. A small sweet smelling iris. Hence the English christian name Susan.

SOTER MEGAS, B. C. 70, the nameless great Soter king, had coins with an Arian legend which James Prinsep and Professor Lassen ascribed to Azes. On all is a peculiar monogram with three prongs. The same monogram was continued to coins of Kadphises and of the Kanerki, but it is not found in those of the Hercules type derived from Hermæus. Mr. H. T. Prinsep considers him to have been contemporary, but not identified, with Vickramaditya, and that he assumed the title of Soter Megas, which was continued down by the Kadphises kings. He considers that the nameless kings, with those on whose coins are the words Kodes or Hyrkodes, although mere local chiefs such as now rule at Kulm, Kuudus and Balkh, preceded the conquest of the Panjab by Vikramaditya, B. C. 56. See Greeks of Asia, Kabul.

SORINJAN, ARAB. Colchicum, Meadow saffron.

SORMA, HIND. Lepidium sativum.

SORO, see India.

SORON, or Sukara-Kshetra, an old town on the Ganges.

SOROO-POTTREE MOEE, URIA ? TEL. ? A tree of Ganjam and Gumsur, extreme height 40 feet, circumference 2½ feet, height from the ground to the intersection of the first branch, 18 feet. Used for planks, doors, boxes, posts and ploughshares. It is tolerably common.—*Captain Macdonald.*

SORREL, ENG. Oxalis corniculata, *Linn.* also the Rumex acetosa, used as spinach and salad, of little value, the French sorrel, R. scutatus is a very delicate vegetable, of easy culture in light soil. This is grown by sowing the seed broadcast and thinning the plants to the distance of eight or ten inches from one another. It may be sown at the commencement of the rains.—*Jaffrey, Riddell.*

SORU PENKA, TEL. Cuttlefish bone.

SORWARNA, HINDI. An offering of money, to a beloved friend or relative, to be distributed in alms.

SOTHALI, HIND. Æschynomene aspera.

SOTTAKLA, TAM. Flacourtia sepiaria, *Roxb.*, *W. & A.*, *Rh.*

SOUBAH, AR., PERS., HIND. A province, a district. According to the Institutes of Akbar, a soubah should consist of twenty-two circars, a circar of twenty-two pergunnahs ; a pergunnah of twenty-two tuppah ; and a tuppah of twenty-two villages ; but this divisional strictness was never carried out. According to this rule, a soubah would be about three times the size of Ireland.—*Malcolm's Central India, Vol.* ii, *p.* 6 ; *Adventures of a lady in Tartary, &c., by Mrs. Hervy, Vol.* iii, *p.* 249.

SOUBAIHA, an Arab tribe, in the Lahej district of Yemen, who have been termed the gypsies of Arabia.

SOUBALLI, BENG., HIND. Crozophora plicata.

SOUCAR, ANGLO-HIND. A banker, a money-changer, from sahoo and kar.

SOUDE, also Soudes brute, FR. Barilla. Soda.

SOUF, or Souf. HIND., PERS. Fruits of Anethum graveolens, A. panmori and A. sowa. See Souf.

SOUFFRE, FR. Sulphur.

SOUJIE, HIND., the hard inner part of the grains of wheat obtained by sifting the coarsely ground wheat.

Bread of wheat.—One process is first thoroughly to clean the wheat, and for this one woman will clean 430 lbs. in a day ; and in the evening the cleaned wheat is placed on a table and thoroughly wetted and the water left to drain from it during the night. The next morning the still moist grain is ground in hand-mills by women ; a woman grinding lbs. 40 in a day. It is then sifted and as much fine flour and soujie as can be obtained, are laid aside. The remainder, then termed "Naka," is subjected to a more powerful mill and an inferior kind of soujie and a second sort of flour obtained from it. The residue is then ground in a large mill, and yields a coarse flour and bran.

Bran is what remains of wheat after the flour and soujie is extracted.

Soujie is the heart of the wheat and is obtained by coarsely sifting the coarsely ground wheat with sieves and soopas by which all the small particles of the bran are separated from it. One woman can clean lbs. 50 a day.

Flour.—The first sort of flour is produced by finer sifting from the first grinding of the wheat. Second sort flour is sifted from the first grinding of the wheat. Second sort flour is sifted from the first grinding after the fine is extracted and also from the second grinding.

Bread.—The materials for bread are lbs. 60 of 1st sort soujie, lbs. 20 of 2nd sort or naka soujie, and lbs. 20 of 1st sort flour, lbs. 100 of these ingredients produce about lbs. 128 of bread.

Biscuit is made from 2nd sort soujie and flour mixed in the proportion of lbs. 75 of naka soujie, and lbs. 85 of 2nd sort flour. This produces only about lbs. 85 of biscuit, which, after being well baked is dried for two days in a kiln.

Barm or Yeast, sufficient for 800 loaves, lb. 1 each, is made of brown sugar lbs. 2; potatoes, lbs. 1½; hops, oz. ½, with half a gallon of water. Boil and mash the potatoes: boil the hops until none appear on the surface of the water, strain and dissolve the sugar in the liquid. The potatoes are then added and the whole is strained into a jar or small tub. This quantity produces about 3½ pints and is generally ready for use in 12 hours. The addition of a small portion of the old barm hastens fermentation. Bombay wheat is whiter and heavier compared with that from Kattywar, and produces a greater quantity of soujie and flour. That of Kattywar is smaller and darker, and produces good flour though smaller in quantity, with less soujie.—*McCulloch's Commercial Dictionary, p.* 1245.

SOULAMIA AMARA, bitter soulamia, is a shrub with crowded ovate leaves tapering to the base, quite entire and veiny. It is a native of the Moluccas, and has white racemose flowers, the size of those of the vine. The fruit is compressed, thin at the edges, dry, with 2 seeds in each cell resembling cucumber seeds, but smaller, each lying in a small cavity of the cell.—*Eng. Cyc.*

SOULIER, Fr. Shoes.

SOUM, Hind. Balanties ægyptiaca.

SOUMYA, or Soamya, Sans. The son of Soma.

SOUNG-YA, Burm. This plant grows six or eight feet high. Fruit, the size of an apple, elongated, deeply fluted, brilliant yellow, contains ten seeds in five apartments. Chiefly used to acidify curry.—*Malcolm, Vol.* i, *p.* 183.

SOUNG YA LÆ, Burm. Ancistrolobus cornea, *McClelland.*

SOUR, the ancient Tyre.

SOUR, Sowrah or Saur, is a term, identical with Sairea, and is given to populations occupying the fastnesses of the eastern ghauts, along with the Khond and Kol. The Soura are wholly within Telingana, and extend from the Godavery to the southern frontier of the Khond, a large district and dependency of Bustar, in Central India, is surrounded by the Tiling in the south, Khond and Mari Gond on the east, and hindoos to the north. Tod says they possess the same moral and physical properties as the Bhil, though without the bad qualities which mark the most degraded of this tribe in the west. The Sairea are almost omnivorous.—*Tod's Travels, pp.* 46-7. See Sowrah.

SOURABAYA, in lat. 7° 13′ S., long. 112° 46¾′ E., is one of the chief towns of the island of Java, situated on the main land on the shores of a narrow strait, which divides it from the large island of Madura. It is the only perfectly secure harbour on the north coast of Java, and the only one also in which the shipping can be well defended by batteries on shore; therefore, in the event of a war between Holland and any powerful maritime state, Sourabaya will be even of more importance than Batavia. The north channel into the harbour is defended by a strong fort erected upon a low island, about nine miles from the town, but the eastern channel is unprotected, except by the shallowness of the water. The town itself, which is a mile and a half from the sea, is divided by a river thirty yards wide, which is navigable by boats one hundred miles from the sea, and is sufficiently deep at the entrance to admit vessels of two hundred and fifty tons. The land in the vicinity is very low, being little above the level of the sea; but it is not of so swampy a nature as that of the site of Batavia. A considerable number of Arabs and their descendants are settled at Sourabaya; while Grissik, a sea-port town, about five miles distant, may almost be termed an Arab colony, for it is principally occupied by these people and their slaves. There are fish-ponds, extensive tanks of salt water, in which sea-fish are fattened for the table. These are highly prized by the Chinese, who spare no expense to procure them.—*Mr. Earl, pp.* 47 *to* 78.

SOUR LIME, Eng. Citrus bergamia—*Risso & Poit., Roxb., W. & A.*

SOURNA MAYHARI, Sans. Cassia sophora, *Linn.*

SOURONTON ISLAND, an island lying off the south-west part of Caramata, 1,400 feet high, and visible from a distance of 27 to 30 miles.

SOUR SOP, Anona muricata, *Linn.*

SOURU or Soara, Sans. The disciples of Soorya.

SOUR WOOD OIL TREE, see Dipterocarpus.

SOUSEE, Hind., a striped cotton cloth: a kind of sousee is produced in France, blue striped, closer in texture than the Indian, perhaps, but belonging to the same class or category; and another called 'grivas,' in particular near Vichy, both excellent and fast-coloured fabrics, and both used for trousers and blouses. The Indian sousee are always striped or checked, woven in narrow patterns, with coloured yarns, blue and white, black and blue, red and blue

yellow, white, and blue, green and chocolate, as detailed in Dr. Watson's list; and they are worn, fine and coarse, literally by millions of the people of the middle and lower classes. Sousee is manufactured principally in the towns of Tanjore, Trichinopoly, St. Thomé or Mylapore. Those of Tanjore and Trichinopoly are made of silk and mixed with cotton of various colours and sorts; but Mylapore weavers work only in cotton: they are 7 yards by 1, the silk pieces are sold at from 8 to 20 Rs., those of cotton at 2 to 7 Rs. each. These are used for undergowns, or lungahs, by the mahomedan women and as trousers for men. See Soucee.

SOU-SOU of India, Platanista gangetica.

SOUTCHEOU, see Kalkas.

SOURI, see Inscriptions.

SOUTH ARCOT, a revenue district of the Madras presidency, in which the chief town is Cuddalore. The best coarse grindstones are from Virdachellum in South Arcot, Triputty, and Ootramaloor in Chingleput, Kurse Mungalum near Vellore, Woontimetta and Chellamacoor in the Cuddapah district, and Podelay and Woodiagherry in Nellore. A soft sandstone suited for filters occurs at Rajahmundry, and hard gritty kinds, like the Bhurr-stone of France, in the Peddaredapully talook of Nellore and near Ghooty. Some of the sandstones of the Guntoor, Bellary, Madura and Mysore districts are very similar to those used as grindstones and flour mill-stones in England. The best dry whetstones are those of Nuggur, Matoor hill in Guntoor, Triputty, Arnee and Needacheria in Bellary. Fine grained sandstones of a sharp cutting quality occur at Gootemokoda and Dyda in Guntoor, at Chellumacoor and Chettywarreepully in Cuddapah and in the Pedelay talook and Woodingherry hill in Nellore. The finest specimens of common earthenware are the ancient funeral, domestic and cooking vessels, which been dug out of the old tombs in the districts of Coimbatore and South Arcot. This kind of pottery has been found in many parts of India in tombs usually arranged in circles, each tomb being built of six slabs of stone and occasionally surmounted by large mounds of loose stones and earth. They have been thought to resemble the Druidical tombs of England, and are supposed to be of great antiquity, there being no records of them extant. The pottery found in them usually consists of tall narrow cinerary urns of 18 or 20 inches in length, with three or four clumsy feet, four inches in length, and of a variety of round oval and flattened vessels of different shapes and sizes, some having apparently been used for cooking and others as drinking vessels. The tall urns usually contain burnt human bones, teeth and ornaments of brass, or copper, they are made of a coarse clay, and have not been finished with care, some of the flattened oval and rounded vessels are made of a fine dense clay that has been carefully prepared, the surfaces are variously ornamented with wavy or crossed lines of red and yellow, carefully painted. The pottery appears also to have been smeared (it resembles the potterie antique vernissee et lustree, figured by M. Brongniart.) There is great purity of form in most of the vessels which resemble the Etruscan in the precision of the curves and in the angles at which the different surfaces meet. The art of pottery appears to have deteriorated in India, since these samples were made and one branch of it is apparently lost, viz., the smearing or thin glazing on the surface.

SOUTHERN ABYSSINIA, see Somal, Beer-el-somal.

SOUTH ASIATIC, see India.

SOUTH BABYLONIA, the country east of the Tigris, Susiana.

SOUTH CACHAR, see Kuki.

SOUTH CANARA. The district lies between the sea and the high plateau of Mysore and Coorg; most of its rivers consequently take their rise in those provinces. South Canara has a sea board of 120 miles besides about 404 miles of estuaries. In Canara, fish are almost the sole meat food of the people. Hindu mythology says that the whole of South Canara was formerly under the ocean, the boundary of which was the edge of the Mysore plateau, and that the sea was dried up by a flaming arrow of the god Parasu Rama. More modern science robs the fable of its poetry, but leaves it its groundwork of truth, by ascribing the existence of Canara to volcanic action. There are also extensive littoral upheavings. Canara and its boundary hills are the first land that meets and receives the full force of the south-west monsoon, and the annual rainfall on the coast is 130 inches.

SOUTH-EASTERN ASIA. The ancestors of the present occupants of South-eastern Asia, reached the sites which they now occupy by the valley of the Indus, the passes of the Himalayas, and the valley of the Bramhaputra. Others of them have come from Arabia, Eastern Africa, Madagascar and the south of Persia, across the Arabian Sea. Amongst the races now occupying these regions some are of Mongol and Manchu origin, of the Negro, Tartar, Semitic and Aryan families of mankind. See India.

SOUTHERN CROSS is visible to 19° N. L.

SOUTHERN INDIA, is a term applied sometimes to all the peninsula of India,

south of the Nerbudda river or to that portion of it lying south of the Kistnah river. In the latter restricted since, it is occupied by the Canarese, part of the Telugu, Tamil, Malyalam and Tulu-speaking races and comprises part of the circars, the kingdoms of Mysore, Cochin, and Travancore and the British provinces of Nellore, Guntoor, the Ceded Districts, Chingleput; N. and S. Arcot, Salem, Tanjore, Tinnevelly and Coimbatore all largely cultivated. In Southern India, tattooing is not unusual; almost all Sudra and Pariar women have tattooing marks on them. A blue line runs down the forehead to the root of the nose, a practice which some of the Sudra men and women of the Smartha brahmins also follow. The women also have their forearms tattooed with flowers, and the men put a scorpion on the hollow between the thumb and forefinger of right hand. These hand and forearm marks are for ornament, but the forehead mark is now regarded as a sectarian hindoo mark. The Khond, the higher Abor tribes tattoo, and the practice prevails among the Simang and Binua and other Ultra-Indian and Asianesian tribes. The architecture and ornamentation of the temples of Southern India have been made known by the representations and descriptions of Bejapoor, Dharwar, Ahmedabad and other cities, by Mr. Fergusson and Col. Taylor, and they are by far the most interesting and complete memorials of the sacerdotal and regal grandeur of Southern India which are in existence: and give a striking impression of the former splendour of those empires. The Dharwar sculptures are the records of Chalukya, Hoi Sala, Bellal, and other local dynasties, some of the figures are clothed with defensive armour, and there is no trace of a sewn garment. All the men's figures have short waistcloths or dhotees, like kilts with an end in some cases cast over the shoulder. The women are in the same costume, but both in the earlier memorial-stones and on some of the profuse sculpture on the temple at Hullabeed in Mysore, (Dhara Samoodra, tenth to twelfth century, A. D.), they wear bodices, tied in front, as hindoo women wear them at present. Many temples in the south and west of India, as also in Guzerat and Orissa, &c., are known to belong to periods as early as A. D. 500. Groups of figures on them are numerous beyond description, the men wear head-dresses in the form of conical crowns richly covered with ornaments, their bodies are naked, and their breasts and arms show necklaces and armlets of very ornate patterns. From the loins to the knee, or middle of the thigh, they have in most instances kilts, as it were, also composed of ornaments, and many are altogether naked, both male and female, with a girdle of ornamental pattern round the loins. These figures abound among the sculptures of Ellora, and upon the hindoo temples of Dharwar and Mysore of the eighth to the thirteenth century; also upon the 'Chola' temples at Conjeveram and elsewhere, probably of the same era. In the Jain sculpture the male and female figures are invariably naked; but ornamented in general with necklaces, bracelets, armlets and zones of exceedingly intricate and beautiful patterns, in imitation, probably, of the chased goldwork of the period. The existing tank irrigation, in Southern India, is chiefly ancient, and comprises innumerable tanks of all sizes, from what might be termed lakes downwards. These may be divided into three classes: 1. Those formed by the closing of the passage of a considerable river through a narrow gorge, in a range of hills, by means of a high dam or "bund." 2. Those formed in the plains, by embankments carried across the drainage of the country, and impounding the water of one or more streams; these tanks being often of great superficial area but shallow. 3. Tanks which might be considered intermediate between the other two, having in general a great length of dam than the first, and a greater depth of water than the second. Few examples of the first kind remain entire. The ruined Mudduk Masoor tank, one of this class situated on the borders of Dharwar and Mysore, has a length of the main bund on the crest, 550 yards; present height from 90 feet to 108 feet; width at the base, from 945 feet to 1,100 feet; area of the lake at 90 feet depth, 40 square miles; contents about 1,400 million cubic yards of water. The area of the drainage basin, which was on the inner slopes of the western ghauts, was 500 square miles. Mr. Gordon was engaged on a proposed restoration of this tank; but it was found that the present average rainfall would not suffice to fill much more than one-half of its ancient basin, and it was suggested that the depth should be reduced from 90 to 70 feet. This diminution in the supply was supposed to be attributable partly to the diminished rainfall and partly to the construction of small tanks on some of the feeders, at a date subsequent to the completion of the Great tank, which was assigned, by tradition, to the 14th or 15th century. The main bund was supplemented by two smaller ones, placed on saddles at some distance from it, in the range of hills; and it was by the breaching of one of these that the tank was ruined, as the principal embankment remained entire. There

were no traces of a waste weir or byewash of any kind. Of the second and third classes of tanks, some are ancient ones of great dimensions, such as the ruined Poonairy Tank, in the Trichinopoly district, of which the embankment was 30 miles in length, and the Veeranum tank, still in action, with a bund 12 miles long.

Channel irrigation, only rivers of the larger class, which had a continuous flow for several months are available for extensive irrigation projects. The smaller rivers are merely torrents, which quickly carry off heavy falls of rain, and then became dry again. The water, however, is in many cases intercepted by chains of tanks, of the second or third class, built across these torrents.

The deltas of large rivers, being the most easily irrigated lands, have been so treated for ages, and the works have been much extended and improved under the British government, by the construction of permanent weirs of great lengths, at the heads of the deltas, such weirs being built on the sandy beds of wide rivers subject to heavy floods. This seemed to have been beyond the skill of the ancient native rulers. They, however, built many weirs on the large rivers in the middle part of their courses; the situations being skilfully chosen, but the construction was rude and imperfect. They were generally built on a reef of rocks, with loose rubble, faced with large blocks of granite laid dry, and sometimes fastened with iron clamps. The modern weirs in similar situations are of masonry, with a vertical or slightly battering face on the down-stream side, and with heavy copings. In rivers having sandy beds, it is usual to build the body of the weir on a foundation of brick wells, sunk to the low water level, and filled with concrete. On the lower side there is an apron, having a slope of 1 in 12 from the crest, with a toe wall; and if the slope be long, intermediate walls are also built on wells, and below all there is a broad layer of rough rubble of large dimensions.

The ancient irrigation channels were generally defective in design, being too small, and having much too great a fall. In consequence of these channels being so near the river, they irrigated only a narrow strip of land; and the current being too great, excessive annual repairs were required. This system necessitated numerous off-takes from the river, involving the expense of many weirs, and a great aggregate length of unproductive channel from the off-take to the point where the channel reached such a level as to command the surface of the country. On the other hand, a canal of large dimensions, taken off from one head, having a slower current and less fall, would soon so gain on the level of the river, that it would reach districts remote from it, and consequently more in need of artificial supplies of water; and it would also command a much larger extent of country than it could supply entirely with water. This was an advantage, because it would be many years before a district could be completely changed from dry to wet cultivation, as it would require to have its population trebled. It also afforded means of assisting dry crops in years of drought, and thus preventing famine. In many districts complete failure of the crops now grown occurred every few years, and a good crop was a rare occurrence. There should, therefore, be facilities for completely irrigating detached areas at considerable intervals, and of giving occasional irrigation to dry crops.

Distribution was effected from the second class of tanks directly, by means of sluices in the bund. From the third, and more especially from the first class, it was commonly effected indirectly; thus, the natural channels of the river or rivers, which had been dammed to form the tank, were used to carry part of the water for irrigation, weirs being built across them at suitable places, and artificial channels taken off from above them. By these means the surplus of the water, which was generally wastefully used by the ryots was saved, being collected by drainage into the stream, and redistributed at the next weir. Distribution was most economically effected from a canal, when the latter ran along a ridge; but as this could rarely be accomplished in the case of a canal taken off from a main drainage, it was next best effected by leading the main distribution channels down the ridges crossed by the canal. Distribution could be carried out in the Ceded Districts for *5s.* per acre, including sluices in the main canal, and all necessary road and water crossings, but excluding the cost of terracing the land to prepare it for wet cultivation, this being done by the occupier. The nature of the ground was such, that, in many districts the drainage was effected naturally, no works being required for that purpose beyond small open trenches in the rice-fields.

The value of water to the cultivator is shown, first by contrasting the yield of dry crops with that of rice and sugar-cane, and second from actual experiments. From these it appeared that the net profit per acre on dry crops was *8s. 2½d.*; on rice, £4 *16s. 10½d.*, and on sugar-cane, £13 *6s. 6d.* In the two last cases, a very low rate for the water was assumed, viz: *12s.* per acre for each crop of rice, and *24s.* per acre for each crop of sugar-cane, as pro-

visionally fixed by government. A comparison has been made between dry crops and rice, and dry crops occasionally flooded, based on the average price of grain extending over five years, and deducting one-fourth from the gross value of the crop in the case of dry crops, and one-sixth in the case of wet crops, to cover loss in bad years. Without deducting the water-rate, the difference in the net value of the crops is as follows: between dry crops and rice, taking the most unfavourable comparison, 25*s.* 7*d.*; between dry crops and the same occasionally irrigated, 30*s.* 8*d.*; and between two dry crops and sugar cane (which occupied ten months of the year), £8 2*s.* 8*d.* But if water is stored, so as to allow a second crop of rice to be grown, the advantages are nearly doubled, and provided a water-rate proportioned to the value of the water were fixed, irrigation would benefit the cultivator to the extent of 8*s.* 6*d.*, or 50 per cent., and yield a gross return on the outlay of 14*s.* 9*d.* per acre; and if water were stored for a second crop, the gain to the cultivator would be 19*s.* 9*d.*, or more than 100 per cent., and the return to the agency supplying the water 37*s.* 3*d.* per acre, the cultivator not having to expend any capital in improvements. Of the 37*s.* 3*d.* per acre profit, 22*s.* 6*d.* was about the sum due to the storage of water, supposing such storage works to be added to distribution works already constructed. The cost of large works of irrigation might be safely reckoned at £7 per acre on an average, or £8 15*s.* if 5 per cent. on one-half the capital for ten years during construction were added. If the profits made by the application of the water were divided, in the proportion of one-third to the cultivator and two-thirds to the agency supplying the water, works of channel irrigation would benefit the cultivator, as above stated, to the extent of 50 per cent., and yielding a net return of 7·4 per cent. on the capital expended.

With respect to the cost of tanks, the construction of flat country tanks of the second class, or even of the third class, offer a very doubtful return, although in some cases it might pay the cultivators to construct them. Great profits had been made by government in several cases, by restoring or repairing tanks, and also channels which had become ruined; such net profits amounting to from 10 per cent. to 45 per cent., and in one instance, which was cited, to 250 per cent. The construction of large storage reservoirs would return a high per-centage on the outlay. Further, it appears probable that, in the most favourable localities, 7,000 cubic yards of water could be stored for £1, and in others 4,250 cubic yards, while the restoration (in part) of the ancient tank of Mudduk Masoor, would yield 9,600 cubic yards per £1.

The loss by evaporation in the reservoirs of 70 feet and upwards in depth would vary with their depth, and the time in which they were emptied. It was found, by observations of the evaporation in the locality of three proposed reservoirs, to vary from 5 per cent. to 7½ per cent. of their contents. A further loss from the same source would occur in the passage of the water to the country to be irrigated, varying of course with the distance, &c. For the purposes of calculation, the correction for evaporation was assumed at 12 per cent., and the quantity of water required for the cultivation of an acre of rice, at 5,000 cubic yards. At the most unfavourable rate of storage (4,250 cubic yards per £1, and adding, as in the case of the channel works, 25 per cent. for interest during construction) 3,400 cubic yards per £1, the prime cost after all deductions, would be £1 9*s.* 5*d.* per acre, for giving a second crop of rice, or a crop of sugar-cane; while the cost at the rate at which the restoration of the Mudduk tank was estimated would be 14*s.* 10*d.* per acre. An outlay of £1 9*s.* 5*d.* would yield a net return of about £1 1*s.*, allowing a large margin for the construction of reservoirs in still less favourable situations and supposing the reservoir to be constructed in addition to a system of distribution works already existing. With regard to the large and very remunerative works in the Kistna, Godavery, and Tanjore deltas, the works in the latter yielded, after deducting repairs and 5 per cent. on the capital, 23½ per cent. direct profit, and those on the Godavery from 50 per cent. to 60 per cent. All the deltas are occupied as to offer no opportunity for new undertakings on a large scale, while in other districts such enterprises would necessarily be more expensive. Mr. Gordon has arrived at the following conclusions: 1st, That irrigation would benefit the cultivator to such an extent as to enable him to pay a water-rate equal to two-thirds of the increased value of his crop, and still leave his own profits from 50 per cent. to 400 per cent. in excess of those derived from dry cultivation; 2nd, That the most profitable application of capital would be found in the construction of storage reservoirs as an addition to distribution works already in existence, and that these would yield a net return of 46 per cent., after paying one-third of the gross revenue to the existing works, and increasing the revenue of such works by 4¼ per cent.; 3rd, That the arbitrary water-rate of 12*s.* per acre was, on the data assumed by government, insufficient to yield a fair return directly on the

average of new irrigation works, unless these included the storage of water for a second crop; 4th, That the profitable employment of capital in irrigation depended chiefly on the recognition of the principle, that the water-rate should be fixed with reference to the value of the crop produced by and the cost of the works in each case, and that otherwise many very beneficial projects would remain unexecuted.

SOUTHERN MAHRATTA COUNTRY, constitutes the British zillah of Dharwar, and ought, likewise, geographically speaking, to include the small province of Sunda. The general boundaries are the rivers Kistnah and Bhima on the north and north-east; the Tumbudra river on the south; the Nizam's territory on the east, and the Syhadri range of mountains on the west. The latter are generally called the western ghauts; a term which however properly applies only to the passes leading through them. The general face of this tract is much diversified, and affords a great variety of elevation and of geological structure, thereby materially affecting the distribution and the habitat is a different species of animals existing within its limits. The whole of the western portion of the thick forest, extending from the outskirts of the mountainous region of the ghauts to their summits, and clothing the valleys that extend between their different ridges, abounds with the teak and various other lofty forest trees, festooned by enormous perennial creepers. The bamboo forms a thick and luxuriant underwood in some places, while others are entirely open, and the banks of many clear and rapid streams flowing through it, abound with the black pepper plant, the wild cinnamon and other odoriferous shrubs. Portions of this forest are often left entirely untouched by the axe or knife, forming a thick impervious shade for the growth of the black pepper, cardamom and Mari palm (Caryota urens). These are called kans and are favourite resorts of wild animals. To the east of the regular forest lies a tract called the Mulnad, or rain-country (though the natives of the plains often include the jhari, or forest, under the same denomination) in which the trees degenerate into large bushes, the bamboo almost entirely ceases, and cultivation, chiefly of rice, becomes much more frequent. The bushes consist chiefly of the karunda, the pallas, &c. It abounds in tanks and artificial reservoirs for purposes of irrigation. East of the Mulnad is a great extent of alluvial plain, producing fine crops of wheat, cotton, maizes, millet, Holcus sorghum, Panicum italicum, Cicer arietinum, &c. And on the Nizam's frontier are found a succession of low dry hills, with tabular summits, often rising in abrupt scarped precipices, and intersecting and traversing the plains in various directions. They are clothed with low thorny jungle of babul and acacia, and their bases, and the valleys between, composed of a light sandy soil, are cultivated with millet, vetches. Panicum spicatum, Panicum miliare, Phaseolus max, Phaseolus mungo, &c. The first or mountainous division consists chiefly of micaceous clay, and other schists, which to the northward are succeeded by basaltic or trap formation. The Mulnad is composed of undulating clay-slate hills, which become covered with basalt to the north. This trap formation extends in a slanting direction from S. W. to N. E. nearly coinciding with a line drawn from Sadasheghur on the coast, to Bejapoor and Sholapoor—and, what is remarkable, is almost coincident with that marking the separation of the two great tribes of the population using totally distinct languages, the Mahrattas and Canarese. The hills to the N. E. and E. are all of primitive sandstone sometimes resting on schists, sometimes immediately on granite, which latter is the rock nearest the surface in the central and eastern plains. A well-defined range of hills to the S. W., called the Kupputgud, is basaltic. The extensive plains lying between these different lines of hills and eminences are composed of the rich, black mould called regur or cotton ground, resulting from decomposed basaltic rocks. To the N. E. a considerable tract of limestone is found, resting on the sandstone, about Bagalcote, Badami, Hungund, Mudibihal, &c. The species of Mammalia found in the Southern Mahratta country, were described by Mr. Walter Elliot, of the Madras Civil Service in the Madras Literary Society's Journal, July 1839, and he gave the distribution in a tabular form, some of them being general, actions confined to one tract only.

SOUTHERN WHALE BONE WHALE of Nunn, Balæna australis, *Des Moulins.*

SOUTHERN WOOD, Artemisia abrotanum, *Linn.*

Downah,	HIND.	Dawanum,	TEL.
Marikolundoo,	TAM.		

The Tamil people sometimes mix the fine powder of it with gingillie oil and anoint themselves with it after bathing. The mahomedans prize it for its fragrance as a flower; and it is one of the many sweet smelling shrubs that are strewed before the hindoo gods at religious ceremonies.—*Ains. Mat. Med., p.* 44.

SOUTH POLE, Badabanala, SANS.

SOUTH SEA ISLAND COTTON, see Cotton.

SOUTHWELLIA BALANGHAS, China chesnut: seeds when roasted, highly palatable.

SOUTONG, a river near Hobrigunj in Sylhet.

SOWA, see Soya.

SOWA, also Shuta-pooshpa, GUZ., HIND. Anethum sowa, *Roxb.* Dill seed; or Bishop weed, Anethum graveolens, *Linn.*

SOWA, HIND., of Spiti, a kind of barley.

SOWAR, HIND. A trooper; a mounted soldier, belonging to the irregular cavalry.

SOWAY DO, BURM. A tree of maximum girth $1\frac{1}{2}$ cubits and maximum length 10 or 12 feet, very abundant on the sea coast and on the banks of rivers in the Tenasserim provinces. When seasoned it floats in water. The wood is much recommended for gunstocks with but one fault; that it is crooked and therefore not more than ten or twelve feet can be procured between the bends. This wood is commonly sold to Burmese at half a rupee for a piece large enough to make one gun-stock.—*Captain Dance.*

SOWEAJYA, see Inscriptions.

SOVINDA, TEL. Æschynomene sesban.

SOW-YEW, BURM. The Egg-tree of the Karenese, Chisel-handle tree of the English in Burmah. This is stated by Dr. Mason to be a species of Dalbergia. Its maximum girth $2\frac{1}{4}$ cubits and maximum length 10 feet. Found scattered all over the Amherst, Tavoy and Mergui forests, inland; always found in undulating ground only, not near water. When seasoned it floats on water. It is used by Burmese in preference to any other for handles of chisels and tools, also for helves of axes, and hatchets. It is a very hard, fine grained wood, which is strongly recommended for helves and handles of all kinds of tools, and is unequalled for those tools, such as chisels, which are struck with a hammer or mallet. This wood is of a yellowish white in colour with patches of black interspersed, looking as if iron had in some manner been drawn from the soil, and incorporated in the wood. Though widely scattered, it is in such demand as always to be procurable in the markets.—*Captain Dance.*

SOWRAH. A tribe inhabiting a small tract of country situated between 83° 30′ and 84° 30′ east longitude, and between 18° 30′ and 19° 30′ north latitude. Their name is also written Saur, Sour, and Saireah. In the Namalingāna Shāsanam of Amara, an ancient hindoo writing descriptive of the various races inhabiting the Indian peninsula, the Sowrah (Shabarah) are classed under the general head of Sudras, they are simply described as people who dress in leaves and are placed in a sub-family with the Kiratah, persons who dress in peacock's feathers, &c., and the Pulindah, persons who only know one language. This sub-family is described as a variety of the Chandalah, pariahs, out-castes. There is no distinction of caste among them, but by the progress of civilization they have gradually become divided into two bodies; 1st, the Kapu Sowrah who are dispersed over those hills of Purlah Kimedy and Palkonda which are situated in the more open country, and who, from frequent intercourse with their neighbours, the Telugu and Oriya people have picked up their language and some of their civilization. Many of the Kapu Sowrah now live in villages in the plains and at the foot of the hills, and lead a quiet and industrious life; 2ndly, the Konda Sowrah or hill Sowrah who inhabit the dense forest of hills to the north of Purlah Kimedy. These men are utterly uncivilized and retain all the customs, manners and instincts, which originally characterized the race, and to them therefore the following description will be confined. A large portion of these Sowrah are nominally under the control of the Bissoyi or hill chiefs of Goomah and Gibau, Soringhee, Byagudda, Wogayagudda, Jeringhee and Coipooram. But the greater number who go by the name of the Omanyah Sowrah are independent of all control, and as far as is known, have no chiefs among themselves. The hills they inhabit are never visited by the inhabitants of the plains—they are bounded on the north by the country of the Khond, another hill tribe, on the east by the zemindaries of Pedda Kimedy and Chinna Kimedy, on the south by Purlah Kimedy, and on the west by Goonipooram, a taluk of the Jeypore country. As viewed from the summit of Mahendragiri, a lofty mountain on its confines, this country appears to consist of a continuous mass of hills which rise behind one another, range after range, like the waves of the sea. Cultivation of dry grains is carried on, on the slopes of the hills, often at an angle of 45 degrees with the plain, while here and there crops of paddy are raised on the small level patches between the hills, advantage being taken of the numerous springs and hill streams. Besides the forts or places of residence of the Bissoyi above-mentioned, there are a few villages of tolerable dimensions among the hills, and there is reported to be a large village called Tummalo in the Omanyiah Maliahs consisting of more than 200 houses, but the Sowrah generally live in huts perched singly on the hill sides or in small groups of 4 or 5. Of the language of the Sowrah, little is known. It is of course unwritten, and is entirely different from that of the Khond

or any other neighbouring hill tribe. To the ear it sounds very monosyllabic, and is pronounced in a short quick way, the Sowrahs seldom indulging in long sentences. For the imperative "go" their word is "ma," and for "come," "ya." They sing a particular kind of song which they call "Kellaugiya." They are not peculiar in what they eat. Flesh of all sorts, snakes, red ants, mice, monkeys, birds, fruit, vegetables and grain were all enumerated in a list of the articles of food given by one of themselves,—but like the Khonds, they have a peculiar objection to the use of milk in any of its forms. The dress of the Sowrah consists of a piece of coarse cloth manufactured among themselves by a set of persons who are called by the people of the plains the Arasi Sowrah. This cloth is fastened round their waists by the women, and reaches to their knees. The men merely wear a langooty, or piece of rag fastened to a string round their waists and passing between their legs. Their ornaments consist of nose rings and ear-rings, bangles, &c., made of brass or bell metal, and as many strings of coloured glass beads worn round their necks as they can accumulate. On festivals, the men decorate their hair with peacock and other feathers. The women in their own hills never wear anything above the waist. As the cold weather approaches, the Sowrahs up to the year 1855 were in the habit of making incursions into the plains of Kimedy and Goonipooram, in small parties of 5 or 10, and way-laying travellers to rob them of their cloths—and as they are utterly reckless of life, several murders occurred annually. It was hoped that the newly organised police would do much to check these depredations, but it was thought that they can never be finally stopped till the Sowrah are brought into more frequent contact with the inhabitants of the plains, and opportunity is afforded them to possess themselves by honest means of those necessaries which they now obtain by plunder. There are openings into the Maliahs from Kimedy and Goonipooram which might be improved at no great outlay into good roads, and probably a route might be found leading from the former to the latter place at the back of the Maliahs, and thus placing the whole country within easy reach of the plains. Their religion is principally demonolatry. They ascribe every disease and other evil to the influence of a demon who must be propitiated to prevent their occurrence, or obtain their removal. They are also said to worship Rama and Bheema, and to have village goddesses, but the worship prevails probably only among the Kapu Sowrah. At the time of harvest, soon after the crops of gantelu, korralu, maize, &c., ripen, every individual Sowrah fetches a stone, fixes it in the ground a span upwards, and calls it by the name of "mountain god." He brings a little of each kind of crop and lays it before the stone; he then sacrifices a fowl, gets some toddy, and after dedicating to the god, he mixes them all together, and with his friends and relatives, enjoys the feast. When a child is born, they assign to it the name of the day on which it was born, or that of the presiding evil spirit, the latter being determined by a sort of soothsayer or priest called by them "Vejju." If born on Sunday, the child is called "Adya;" on Monday, "Somburu;" on Tuesday, "Mangada;" on Wednesday, "Budu;" on Thursday, "Lakya; on Friday, "Sukku," and on Saturday, "Sanya." These names of the days of the week are the same as those among the Telugu and Oriya people, Telugu Adivaram, Somavaram, Mangalavaram, Buduvaram, Laksmanavaram, Sukravaram and Sanivaram. The mother is not considered unclean for a period after the birth as among the hindoos generally. A stimulant prepared of roots and bark is administered to her immediately after the birth, and on the 4th day she is generally able to resume her ordinary occupations. The ceremonies observed at a marriage are as follows:—A young man, or his friends for him, having selected a bride, messages are sent to her parents, and finally the young man himself goes, bearing a pot of toddy or other present. If the consent of the parents is obtained, the ceremony is commenced by fixing 3 posts in the ground, between which the bride and bridegroom with their respective friends assemble, and a feast is commenced, at which nearly every person gets drunk upon toddy. The bride and bridegroom sit together while turmeric water is poured on their heads. Presents of cloth, beads, rings, &c., are exchanged. Fowls, and if procurable, sheep are sacrificed to propitiate the demons, and the flesh is then cooked, made up into balls with some sort of grain, and distributed among the party; on these occasions they all join in a dance which seems to consist principally in hopping from one leg to the other, at each movement snapping their fingers and uttering an ejaculation, while at intervals the whole of the dancers come bumping together and again separate. If the parents of the bride refuse to consent to the marriage, it frequently happens that the friends of the bridegroom watch their opportunity, and if the girl is found alone, they seize and carry her off. The relatives of the girl then pursue and attack the opposite party, but even though

successful in retaking her, they are prohibited by their customs from giving her in marriage to any one else. Should such a thing be attempted, the parties would have to fight it out in a more serious manner with bows and arrows.

The Sowrah burn their dead, and the following day bury the ashes on the same spot over which they erect a rude pandal ; on the 5th day the soothsayer or priest is called to the place and makes an offering of toddy, sacrificing at the same time fowls or animals according to their means, to the spirit of the dead. Another portion of the ceremony consists in placing round a pot of toddy a number of leaves to represent the ancestors of the deceased ; upon each leaf the priest sprinkles a little toddy while pronouncing the name of the person represented, after which the toddy is divided among the party. At the end of the 1st and 4th years, ceremonies are observed which also consist in feasting on various articles of food which are first dedicated to the spirit of the deceased. Though the Sowrah race is considered far more wild and savage than the Khonds, they have no share in the Meriah or human sacrifices performed by the latter. The weapon in most general use among the Sowrah, is the bow and arrow. The bow is made of a section of strong male bamboo, about a yard in length, the string being made of a thin slip of the outer coating of the bamboo, firmly bound on at each end with sinews. The arrows are of light reeds, feathered, with a head of flat beaten iron, having two or three pairs of barbs. They generally aim at the stomach or thigh of their victims, and the wounds are consequently dangerous and very often fatal. Their mode of attack is to lie in wait in some bushes close to a road whence they shoot their arrows at any passer by. Some of them also carry rude iron knives, and a hatchet called "tungi." Besides carrying on cultivation, certain of them called Muli Sowrah work in iron, making arrow heads, knives, &c. ; others called Medari Sowrah make mats out of bamboos, while the Arasi Sowrah weave coarse cloths. They are, generally speaking, extremely muscular, as an instance of which a man who was apprehended on suspicion of belonging to a party who had committed murder, seized the bayonet of one of the armed constables in his hands, and actually bent the blade double. A pleasing feature in their character is their complete truthfulness. They do not know how to tell a lie. They are not sufficiently civilized to be able to invent. The hilly tracts of India, from Moorshedabad down to Ganjam, and southwards on the skirts and in the valleys of the mountains as far as Cape Comorin, are peopled by hundreds of small tribes, who form amongst themselves independent nations, who have not yet felt the effects of civilization and, as with the Sonthal, the Sauriah and the Khond, occasionally rise in open rebellion against the British power. Since 1857, the Khonds of Kimedy have been surging up, from time to time, but the true objects are not known, though the reasons given are their hope of renewing the Meriah. It was known, in 1833, that the Khonds were addicted to the sacrifice of human beings,—Meriah,—to the earth goddess and, ever since then, the British government have made continuous efforts to suppress this rite. An insurrection in 1858 was neither aided nor led by Khonds. The principal actor in the affair was a man named Danda Sina, of Garbah Goomah, a village occupied by this Sowrah tribe of savages, armed with bows and arrows and battle axes, who occupy the hilly tract which extends from Purla Kimedy to Berhampore (Ganjam.) It is bounded on the east by the narrow belt which separates the hilly tracts from the sea, and on the west by the Khond clans of Chinna Kimedy and Jeypore. The Sowrah in habits and barbarism bear a strong resemblence to the Khond. Danda Sina was sometime before apprehended by the authorities of Ganjam, on a charge of dacoity. He was convicted, and sentenced, but the sentence required confirmation, and in the interim he contrived to effect his escape. Flying to his own village, he collected a large body of his clansmen, and with 10,000 followers attacked the manager of Purla Kimedy. Seven peons were killed upon the spot, and though the manager escaped, the whole country was immediately in a state of excitement. The Sowrah had previously been irritated by the execution of two of their number for murdering the headman of a village, and had openly threatened vengeance for their deaths. An old device also was employed to stimulate them to action, and give additional coherence to the movement. As in the Sonthal rebellion, an avatar descended. He was not, it is true, in the shape either of a cart wheel or of a piece of paper. The Sowrah appear to be advanced beyond that point in theology, and their idol is a little brazen image. But in all other respects the device was identical with that before employed among the Sonthals. The avatar issues, commands, the active leader is sole interpreter of them, and the commands authorise armed resistance to regular authority. The Sowrah are wholly within Telingana, and extend from the Godavery to the southern

frontier of the Khond. The Sowrah country is one of the most difficult in the world, a hilly tract covered with a jungle as deadly to sepoys as the lowest swamp in the Sonthal pergunnahs.

Mr. Campbell observes that the Soor while described as small, mean, and very black, and like the Sonthals naturally harmless, peaceable, and industrious, are also said to be without moral sense.—*Mr. W. S. Hooper, Principal Asst. Agent to the Governor in Ganjam* ; *Mr. Campbell.*

SAURA or SURIA, are a hindoo sect and true worshippers of the Sun ; and some of them, adore the dormant and active energies of the planet conjointly. This sect, which is not very numerous, is distinguished by the use of red sanders for the horizontal triple line, as well as for the circlet on their foreheads.

SOY.

Tsiang-yu,	CHIN.	Soya,	JAP.

This well-known sauce is made from the Soja hispida which grows in China and Japan. In Java it is procured from the Phaseolus radiatus, the green gram, haree moong or putchay payroo of India. The beans are boiled soft with equal quantities of wheat or barley, and left for three months to ferment, salt and water are then added when the liquor is pressed and strained, 1,108 piculs of soy were shipped in Canton in 1844, for London, British India and Singapore ; 100 jars, or about 50 gallons of soy were received at Liverpool in 1850. Its price is about 6*s*. per gallon in the London market, and the Japan soy is superior to the Chinese. Genuine soy is well flavoured, thick, brown, and clear ; and when shaken in a glass, it should have a coat on the surface of a bright yellowish-brown colour. It is obtained from Canton ; but the best is exported from Japan, by way of Batavia. Soy, is made in some parts of the east, from a species of the Dolichos bean (Soja hispida) which grows in China and Japan. In Java, it is procured from the Phaseolus radiatus. The beans are boiled soft, with wheat or barley of equal quantities and left for three months to ferment, salt and water are then added, when the liquor is pressed and strained. Good soy is agreeable when a few years old, the Japan soy is superior to the Chinese. Large quantities are shipped for England and America. The Dolichos bean is much cultivated in Japan, where various culinary articles are prepared from it, but the principal products are a sort of butter termed mico, and a pickle called sooja. The flavour and ingredients of soy vary considerably, even among the people who make it, and much of that exported is supposed to be more or less adulterated. Leguminous and cruciferous plants occupy the largest part of the Chinese kitchen garden ; many sorts of peas and beans are cultivated, and the pods and seeds of two species of Dolichos are eaten, and the beans of another species made into soy by boiling and powdering the kernels and then fermenting them with yeast, and mixing other ingredients, according to the taste of the maker or purchaser. The widely diffused and extensive tribe of Leguminosæ holds an important place in Chinese botany, affording many esculent vegetables and valuable products. Peas and beans form important objects of culture, and the condiment called soy (a word derived from the Japanese soya), is prepared chiefly from a species of Dolichos. One of the commonest modes of making this condiment is to skin the beans, and grind them to flour which is mixed with water and powdered gypsum, or turmeric. The common Chinese eat few meals, without the addition of one form or other of the 'bean' curd, or 'bean' jelly. The soy was at one time largely used as a condiment in the several countries of Europe but has latterly been displaced for others.—*Waterston* ; *Faulkner* ; *Simmonds' ; Commercial Products, p.* 313 ; *Williams' Middle Kingdom, Vol.* ii, *pp.* 283, 402, 403 ; *Morrison.*

SOY BEAN, ANGLO-JAP. Soja hispida.

SOYA, or Sowa, HIND. Anethum sowa, *Roxb.* Dill, an umbelliferous plant cultivated in India. Its aromatic seed is much used by the natives in cookery, as well as for medicinal purposes ; the green parts also are cut down and sold in the bazaars, as the plant is used as a vegetable both by mussulmans and hindoos. The seeds are the shubit of Avicenna, which is usually translated Anethum ; by the Arabs it seems to have been considered the Anethon of Dioscorides.—*Eng. Cyc. Ben. Ph., p.* 226.

SOYMIDA FEBRIFUGA, *Ad. de Juss.*

Swietenia febrifuga, *Roxb. Cor. Pl., W. & A.*
,, rubra, *Rottler.*

Rohuna, Rohan,	BENG.	Rohuni,	MAHR.
Swamy,	CAN.	Rohuna,	SANS.
Rouen ; Ruhun,	DUK.	Patranga,	,,
Red wood tree,	ENG.	Wonga maram,	TAM.
Bastard cedar,	,,	Shem maram,	,,
Febrifuge soymeda,	,,	Choar kullie maram,	,,
Rohuna,	HIND.	Wond maram,	,,
Rohitaka,	,,	Sumi ; Somi,	TEL.
Rheyn,	MAHR.	Somida manu,	,,

This large forest tree, is a native of several of the mountainous districts of India, in the Coimbatore and Cuddapah districts, of the Godavery forests and the Rajahmundry circars, the Chunar hills, and the jungles to the south of Hazareebaugh. Royle, indeed, states that it occurs in all the central and southern parts of India, also, in the northern

Bombay forests, where it is more common in those inland, as on the Satpura range, than in the forests of the coast. It is in considerable abundance, however, in various parts of Guzerat, also at the Sindhwah ghaut and in the Adjunta and Jowar jungles. It is very abundant in Nagpore, and grows in the Chunar hills and in the jungles south of Hazareebaugh, indeed in all the central and southern parts of India. The wood is red-coloured, light and easily worked, and is reckoned durable and strong, and good for indoor or cabinet purposes, but not adapted to those requiring exposure to sun and weather. Captain Beddome, however, says it never rots underground. In the Cuddapah district it is much used in buildings. In Nagpore logs are obtainable from 17 to 20 feet long and 4 to 3½ feet in girth, at 5 annas the cubic foot. In weight, the wood is much greater than water, but by all native accounts it is, there far from a durable wood, on exposure splitting greatly, and when seasoned becoming extremely brittle. It has a fine straight grain, and is not so difficult to work as its great weight and compactness would lead one to imagine. But, notwithstanding this and the fact that it rivals the finest English oak in strength, Captain Sankey hesitates to recommend it as a building material. The bark is a useful tonic in intermittent fevers, exactly similar to the mahogany bark, useful where astringent tonics are applicable, but of very questionable efficacy as a true antiperiodic, for mild ague, in which doubtless like all other astringent tonics it will often succeed, it may be given in the form of extract in the bazaars in Bengal, Nux vomica bark is often sold for it, and from this Mr. Piddington, procured a salt, which Dr. O'Shaughnessy found to be one of Brucine. Dr. O'Shaughnessy never succeeded in obtaining an alkaloid from the true Rohun, which, it may be observed, is of a dull red-colour, with rough grey epidermis, and yields a red powder. The value of this bark as a febrifuge has been attested by Roxburgh, Duncan, Breton and Spilsbury. Dr. O'Shaughnessy does not think so highly of this bark as others do. He accounts it useful, like its congener, mahogany, where astringent tonics are applicable, but of very questionable efficacy as a true antiperiodic ; he thinks it may succeed where other astringent tonics will so. From the reports of dispensaries it seems of considerable use, though by no means equal to the Berberis. The reporters say, that when taken beyond the quantity of 5 or 6 drachms in the course of the day it produced vertigo and other head symptoms." This is confirmed by Dr. Spilsbury, who says large doses were found to produce vertigo.—*Drs. Wight, Gibson, O'Shaughnessy, pp.* 247-9; *and Cleghorn, Voigt, Roxb. Fl. Ind., Vol.* ii, *p.* 398 ; *W. & A., Vol.* i, *p.* 122 ; *Captain Sankey* ; *Eng. Cyc., pp.* 802, 859 ; *Ind. Ann. Med. Science*, 1856, *p.* 191.

SOZILI — ? Fish maws.

SPAIN, a country in Europe, part of which was long held by Arabs. In the East Indies, Spain holds the Philippine Islands. See India, Philippines, Koran, Semitic races, Papuan.

SPALAGHZAI, of N. W. HIMM. Fagonia cretica, *Linn.*

SPA-LEN, BURM. Andropogon schœnanthus, *Linn.*

SPALMAK, PANJ. Calotropis procera, *R. Br.*

SPALYGIS, see Greeks of Asia.

SPALYPIUS, B. C. 75, had many coins in two languages, he was a vice regent, son of Vonones and perhaps brother of Spalirisus. About this time, as indicated by his coins, was a ruler, whose name is not known, styled Soter Megas, B. C. 70, the nameless Great Soter king, who had coins with an Arian legend which James Prinsep and Professor Lassen ascribed to Azes. On all, is a peculiar monogram with three prongs. The same monogram was continued in coins of Kadphises and of the Kanerki, but it is not found in those of the Hercules type derived from Hermæus. Mr. H. T. Prinsep considers him to have been contemporary but not identified with Vikramaditya, and that he assumed the title of Soter Megas, which was continued down by the Kadphises kings. He considers that the nameless kings, with those on whose coins are the words Kodes or Hyrkodes, although mere local chiefs such as now rule at Kulm, Kunduz and Balkh, preceded the conquest of the Panjab by Vikramaditya, B. C. 56. Spalirisus, B. C. 85, sometimes read Ipalirisus, supposed a Parthian king. See Greeks of Asia.

SPATULA CLYPEATA, *Linn.*. Shovellers.

SPAN, or Krok, HIND., or Pan, of Kanawar; Picea webbiana, Picea pindrow, the silver fir.

SPANG JHA, HIND. Potentilla Inglisii.

SPANIEL. King Charles' breed of spaniels is supposed to have been brought from Japan by Captain Saris in 1613. Dogs always form a part of a Japanese royal gift.

SPANISCHE FLIEGEN, GER. Cantharides. Spanish flies.

SPANISCHER PFEFFER, GER. Cayenne pepper.

SPANISH FLIES, ENG. Cantharis vesicatoria, *Latrielle.*

SPANISH JUICE, ENG. Liquorice juice.

SPANISH PEPPER, Eng. Capsicum annuum, *Linn.*

SPANMAL, Sw. Corn.

SPARADRAP D'ANGLETERRE, Fr. Court-plaster, a thin coating of isinglass with a little tincture of benzoin spread on black sarsenet. Isinglass is also employed for giving a lustre to some kinds of woven fabric; but it is more extensively used for clarifying different liquors such as wine, beer, and coffee than for any other purpose. The inferior kind called cake isinglass being brownish coloured and having an unpleasant odour is only employed in the arts and for the purposes of glue. The great consumption of isinglass, necessarily however of the inferior kinds, is chiefly by the brewer in the process of fining. This he effects by the use of isinglass which he dissolves in sour beer to the consistence of thick mucilage. A little of the solution being added to the liquor to be clarified causes the subsidence of all the suspended matter in the course of a few hours when the liquor remains perfectly transparent. The sounds of cod fish are said to be employed for the same purpose, though the principal import into England is in a salted state for food.—*Royle, p.* 12.

SPARAXIS. Is a pretty flowering genus of plants, one of the Irideæ, and is cultivated by dividing the roots.—*Riddell.*

SPARIDÆ, a family of fishes.

First Group.—Cantharina.

9 Cantharus, 3 Box, 1 Scatharus 1 Oblata, 1 Crenidens, 1 Pachymetopon, 1 Dipterodon, 1 Proteracanthus, 4 Girella, 1 Doydixodon, 2 Tephræops, 1 Gymnocrotaphus.

Second Group.—Haplodactylina.

5 Haplodactylus.

Third Group.—Sargina.

17 Sargus, 1 Charax.

Fourth Group.—Pagrina.

2? Lethrinus, 2 Sphærodon, 12 Pagrus, 7 Pagellus, 18 Chrysophrys.

Fifth Group.—Pimelepterina.

Gen. 6 Pimelepterus, 1 Boridia.

The Sparidæ, or Sparoides, family of fishes belong to the section Acanthopterygii, which are distinguished by the possession of a single dorsal fin, the anterior half of which is supported by spinous rays, and which is not divided, nor is it protected by scales; the operculum is spinous, the palate destitute of teeth, the branchiostegous membrane has five or six rays, and the pyloric appendages are few in number. The body is usually of an ovate form and, covered with large scales; the mouth is not protractile. The species of this family feed chiefly upon the animals of small shell Crustaceæ, &c., for crushing which their strong teeth are admirably adapted. The genus Pentapus is founded upon certain Sparoid fishes found in the India seas, and off the coast of Australia, which approach the genus Dentex, but have two strong canine teeth in front of each jaw, between which sometimes are two or four much smaller teeth; the other teeth are minute, prickly, close together, and arranged in a single row in each jaw. The genus Crenidens is distinguishable by the foremost row of compressed teeth being dilated at the apex and notched; behind these are numerous small globular teeth. There is but one species, the C. Forskalii, *Cuv.* and *Val.*, an inhabitant of the Red Sea.—*Eng. Cyc.*; *Gunter, Catal. of Fishes.*

SPARLEI-GUL, Hind. Arnebia echioides.

SPARROW. The cinnamon-coloured sparrow (Passer cinnamomeus) is often seen among the pine-woods of Kussowlee, and in the jungles along the lower hills. See Passer.

SPARROW-HAWK. The Sindian, like the English, sparrow-hawk, preys entirely upon birds. She flies exactly like the goshawk, low, and frequently takes advantage of a shelter to fall unexpectedly upon her quarry.

The Bashah, a kind of sparrow-hawk, and its mate the Bashin, a small, short-winged, low-flying bird with yellow eyes and dark plumage in her first year, which afterwards changes to a light ash colour, marked with large grey bars, are very much valued in Sind on account of the rapid way in which they fill the pot, especially with partridges. As they remain in Sind during the cold weather, and retire in summer to the hills around, those trained are "passage hawks," or "birds of the year;" their low price, 8*s.* or 10*s.*, makes it scarcely worth while to mew them, so they are let loose when the moulting season commences.

The Shikrah and her tiercel the Chipak, are the common English sparrow-hawks. They are flown at partridges, and by their swiftness and agility afford tolerable sport. At the same time they are opprobriously called "dog-birds" by the falconer on account of their ignoble qualities, their want of staunchess and their habit of carrying the game. They may be bought ready trained, in most parts of Sind, for a shilling or two. —*Burton's Falconry Valley of the Indus, p.* 20.

SPARTA, see Polyandry.

SPARTO, see Esparto.

SPARTUM SCOPARIUM, see Coffee.

SPATHE (the Greek σπάθη), is a term applied to the sheathing involucrum of many plants, considered by most botanists to be a modification of the bract. It is seen in the greatest perfection in the flowers of Palmaceæ and Araceæ, where, during the flowering of the plants, it embraces the entire inflorescence.—*Eng. Cyc.*

SPATHIUM CHINENSE, *Lour.*

Aponogeton monostachys, *Linn. fil.*, *Roxb. Corr.*, *Rh.*

Gotti gaddi,	TEL.	Namma dumpa,	TEL.
Kottika,	„		

The roots are much prized as food by the Yanadi. In Tenasserim one or two species of Spathium, grow in the water; one of which, Voigt says, is found on the banks of the Irrawaddy, and has roots 'nearly as good as potatoes.'—*Mason.*

SPATHIUM ROOT, ANGLO-LAT. Spathium chinensis.

SPATHODEA, a genus of plants belonging to the natural order Bignoniaceæ. One Burmese species, the Thit-linda, BURM., has a white wood not much used. A cubic foot weighs lb. 63. In a full-grown tree on good soil, the average length of the trunk to the first branch is 50 feet, and average girth, measured at 6 feet from the ground, is 6 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis.*

SPATHODEA ADENOPHYLLA, *Thw.*

Palol, SINGH.

A small tree, occasionally found in Ceylon gardens. It was introduced into the agri-horticultural gardens at Madras.—*Thwaites, Cat. Madras Gardens.*

SPATHODEA ARCUATA, *Wight, Icon.*

Mer-singi,	MAHR.	Ran-palai maram,	TAM.

A small or middle sized tree, common in the Walliar forests of Coimbatore, and in the forests on the Bombay coast. It furnishes a strong wood, used by the turner.—*Dr. Wight, Dr. Gibson.*

SPATHODEA CHELONOIDES, *DC. Prod.*, *W. Ic.*

Bignonia chelonoides.	Loonoo-madala-gass, SINGH.

The tree is very abundant in Ceylon, near the sea, but occurring up to an elevation of 2,000 feet.—*Thwaites.*

SPATHODEA INDICA, *Pers.* Syn. of Bignonia indica, *Linn.*, and of Caloeanthes indica, *Blume.*, *W. Ic.*

SPATHODEA LONGIFLORA, *Willd.* Syn. of Bignonia chelonoides.

SPATHODEA RHEEDII, *Spreng.*

Spathodea longifolia, *Kent.*
Bignonia spathacea, *Roxb.*, *Fl. Ind.*
„ falcata, *Kœn's MSS.*

Mer-Singi,	BOMBAY.	Vodi,	TEL.
Tha-khoot-ma,	BURM.	Udi,	,,
Nir pongilam,	MALEAL.	Wodi,	,,
Deya danga-gass,	SINGH.	Ganora karra,	,,
Kanpillay maram,	TAM. ?		

This small thin tree, a native of the west of Ceylon, in the hotter parts of the island and in the forests of the coast, is met with in the peninsula of India, in the forests of the Northern Circars and of the Godavery and in British Burmah. The trunk is very irregular. In a full grown tree on good soil, the average length of the trunk to the first branch is 30 feet, and, at 7 feet from the ground, the average girth is 7 feet. A cubic foot of the wood weighs lbs. 35. It is strong, of a whitish colour, and in Burmah, where it sells at 8 annas the cubic foot, it is used for yokes and cart poles.—*Mr. Latham*; *Roxb. Fl. Ind.*; *Eng. Cyc.*; *Dr. Brandis*; *Captain Beddome, Dr. Birdwood.*

SPATHODEA ROXBURGHII, *Spreng.*

Bignonia quadrilocularis, *Roxb.*, *Fl. Ind.*, iii, 107.

Bare-kalagoru,	BENG.	Baro kala goru, HIND.?	TEL.

A large tree, with a straight trunk and of considerable height. It is a native of the Northern circars, flowers in the hot season with spreading branches and large rose coloured and delightfully fragrant flowers, and is remarkable for its leaves. Roxburgh says its wood is used for many purposes by the natives, but other accounts describe it as worthless. Buffaloes are very fond of the leaves.—*Roxb.*, *Fl. Ind.*, *Vol.* iii, *p.* 107; *Voigt*; *Captain Beddome*; *Eng. Cyc.*

SPATHODEA SERRATULA, is the Ma-lwæ of the Burmese.

SPATHODEA STIPULATA, *Wall.*

Bignonia stipulata, *Roxb.*, *Fl.*, *Ind.*, iii, 108.

Bet-than,	BURM.	Palol,	SINGH.
Paet-than,	„		

A large tree of British Burmah, wood used for bows and spear handles, also for paddles and oars. A cubic foot weighs lbs. 48. In a full grown tree on good soil the average length of the trunk to the first branch is 20 feet and average girth measured at 6 feet from the ground is 4 feet.—*Roxb.*, *Fl. Ind.*, *Vol.* iii, *p.* 108; *Dr. Brandis.*

SPATHODEA SUAVEOLENS, *DC.*

Bignonia suaveolens.	Palol,	SINGH.

Grows in the south of Ceylon, in the neighbourhood of buddhist temples, and Mr. Thwaites could not hear of its occurring truly wild. Its roots are much valued by the natives as a tonic medicine, and they attribute the same properties and give the same name ('Palol') to those of Spathodea adenophylla, which is occasionally found in gardens.—*Thwaites.*

SPATHODEA UNCINATA, a trailing creeper, this genus of plants are showy and handsome, the colour of the flowers being yellow, purple and red; they are easily propagated by seed or cuttings, and require a good garden soil.—*Riddell.*

SPATTALLA, a genus of the Proteaceæ, all Cape plants, and require the same treatment as other Proteaceæ.—*Riddell.*

SPATULA CLYPEATA, (Anas clypeata, Circuit of northern regions, N. Africa: tolerably common in India. See Shoveller.

SPAWN. In Canara, men search in the the rivers for hillocks wherein spawn has been left, gather the ova and make it into cakes, which are considered a delicacy. The eggs of the kari and kalmuri are highly prized. The quantity of spawn contained in each fish has been but slightly tested. So far as examination has been made, Indian fish seem to be as prolific as others. A mahseer of 6¼ lbs. contained 13,219 roe, which is 2,115 to the lb.; a mahseer of 11¼ lbs. contained 10,587.

SPEAR GRASS, Andropogon aciculatus.

SPEAR-MINT, Mentha viridis, cultivated for the fragrant leaves, which are used in sauces, tea, &c., requires rich soil, shade and plenty of water, propagated by division of the plant.—*Jaffrey.*

SPECERYEN, DUT. Spices.

SPECKLED WOOD, ENG. Syn. of Snake wood.

SPECK, GER. Bacon.

SPECTRE BUTTERFLY of Ceylon, Hestia jasonia.

SPEEDWELL, ENG. Veronica beccabunga.

SPEELGOED, DUT. Toys.

SPEEL-KARDEN, DUT. Cards.

SPEETEE, see Kunawer, Spiti.

SPEK, DUT. Bacon.

SPEKE, a captain of the Bombay Army, a gallant soldier, who bore himself bravely in some of the bloodiest battles in the Indian wars, and a sagacious and enterprizing traveller, who by sheer pluck and endurance solved a problem which had vexed the curiosity of mankind since the dawn of history. It is not necessary to exaggerate the merit even of having solved the great geographical problem of the source of the Nile, and there is not claimed for Speke a precedence over the genius of Sturt, or Burke, or Wills; but his was a brilliant exploit. He had won the trophy, he was still battling for its possession against other candidates who would fain have taken it from him. A mixed crowd of curious and scientific folk were awaiting with forgone conclusions, or, at least, with a prepossession in his favour, to witness a great display of fence between him and his chief adversary. At the moment when every eye was turned in quest of him, word was brought that the great traveller, who had successfully confronted a thousand perils, who had been among the expecting multitude but a few hours before, and who was waited for as the disputant of the day, lay dead in a stubble field, shot to death by his own gun.

As a subaltern officer in the Indian army he had made the campaign of the Punjab, under Lord Gough, and, in the four successive victories of Ramnuggur, Saddelapore, Chillianwallah and Guzerat, acting throughout this terrible time with Sir Colin Campbell's division. He used to make hunting and exploring expeditions over the Himalayas, and in the untrodden parts of Thibet. A botanist, a geologist, and especially a lover of natural history, he toiled to collect specimens of every animal, every plant, and every mineral to be found in those wilds; shooting, collecting and mapping the country as he went, he taught himself all the knowledge which he required to enable the traveller to appreciate and utilize all he sees. He obtained his annual leave of absence easily, because he brought back such good proofs of the use he made of it. These were his preparations for his after travels in Africa, where he first struck upon the great lake which is the fountain of the Nile, reaching it from the north, and then proved what was at first but a sagacious conjecture by tracking the river upwards to this same lake from the south.

Capt. Burton was once slumbering under the shadow of the very highest prize of all. Speke and Burton were companions in the expedition during which the lake of N'yanza first became known to European science. Speke was more impressed with the importance of the intelligence than Burton was. In fact, Burton was ill and Speke was well; Speke was shooting Egyptian geese and catching perch in the lake while Burton lay in his hammock. Moreover, Speke had the happy sagacity to guess the vast importance of the discovery on which he had lighted. Burton was very near gaining this blue riband of the geographers, but he did not gain it.—*London Times.*

SPELANE, HIND. Peganum harmala.

SPELDA, HIND. Populus alba.

SPELTER, DUT., ENG., FR.

Pi-yuen,	CHIN.	Zinco,	IT.
Sung-busri,	DUK.	Zincum,	LAT.
Tutenague,	ENG.	Dasta,	NEP.
Zinc,	ENG., FR.	Schpiauter,	RUS.
Zink,	GER.	Zinco, Cinck,	SP.
Jussud,	GUZ., HIND., PERS.	Tutu nagum,	TAM., TEL.

Zinc is a metal of a blueish-white colour and lustre. Cheap, light, and when superficially oxidized, long resists the further action of air and water; it is now employed as a substitute for lead in lining water-cisterns and roofings: alloyed with copper it forms brass; and several of its compounds are used in medicine. Zinc is obtained either from Calamine, a native carbonate, or Blende, a native sulphuret: it has never been found in a state of purity. Spelter, in China is used in the manufacture of brass; it is in plates of half an inch thick of a whitish-blue colour. There was formerly in China a monopoly of spelter, so that no foreigner could either buy or sell it.—*Morrison*; *Faulkner.* See Zinc.

SPENK-I-AWAL, PERS., PUSHTU. A musk melon of Candahar.

SPERAWAN, HIND. Populus euphratica.

SPERAWANA, HIND., PUSHTU. Buddleia crispa.

SPERA WANNE, HIND. Ærua bovii.

SPER CHERAI, PUSHTU., white oak. Quercus incana, heavy oak, also Q. ilex.

SPERDOR, HIND., or Spelda, TRANS.-INDUS. Populus alba, white poplar or abile.

SPERMACETI, ENG. IT.

Blanc de Baleine,	FR.	Spermazet,	RUS.
Sperme de Baleine,	„	Esperma de Ballena,	SP.
Wallrath,	GER.		

The produce of a species of whale, Physeter macrocephalus, found chiefly in the South seas, called the Cachalot, or white whale, is of immense size, frequently 60 or more feet in length, of which the head constitutes one-third. This part is the chief reservoir of the spermaceti, which however is found in several other parts of the body, mixed with the sperm oil. It is mostly lodged in two large cavities of the upper jaw, one above and the other below, divided from each other by the nostrils. These cavities are sub-divided into numerous cells of unequal size by ligamentous or tendinous partitions ; these partitions are of the same nature as those which separate the fat in other animals, but, owing to the great size of the creature, of a larger and stronger kind. The purest spermaceti is contained in the largest and least ligamentous cells. The part in which it is lodged is quite distinct from the cranium containing the brain which spermaceti was at one time supposed to be. During the life of the animal the spermaceti is in a fluid state, and on the head being open has the appearance of an oily clear white liquid. On exposure to the air the spermaceti concretes and deposits from the oil. They are then separated and put into different barrels. Spermaceti is of a white colour, with a peculiar lustre, is brittle, smooth, but not greasy ; smell peculiar, but weak. It burns with a brilliant flame, without smell ; and is used in the manufacture of candles, also for medical purposes.—*Eng. Cyc.* ; *Faulkner* ; *History of Japan, Vol.* ii, *p.* 51. ; *McCulloch's Com. Dict.*, *p.* 1072.

SPERMADICTYON, a genus of plants belonging to the natural order Rubiaceæ. The species form shrubs, with white and light blue very fragrant flowers, with leaves lance-shaped, shortly petioled ; stipules short. They are natives of Hindustan. S. suaveolens, the S. hamiltonia of Roxburgh, ascends the Himalayas to elevations of 3,000 feet, and has been cultivated in Great Britain as a stove-plant.—*Eng. Cyc.*

SPERMAZET, RUS. Spermaceti.

SPERME DE BALEINE, FR. Spermaceti.

SPERM WHALES, Physeteridæ.

Catodon macrocephalus. Cachalot.

Physeter macrocephalus, *Linn.*	Catodon trumpo, *Gerrard.*
Physeter gibbus of *Sch.*	Cetus macrocephalus, *Oken.*
„ trumpo, *Bonnaterre.*	Northern Sperm whale.

Its principal food are the sepiadæ or cuttle fish, but it swallows small fishes. Its largest recorded size is 76 feet long by 38 feet in girth, but the average is 60 feet, and the adult female does not exceed 30 feet or 35 feet.

Catodon colneti. The Mexican sperm-whale is an inhabitant of the North Pacific, the south seas, and the equatorial oceans.

Catodon polycyphus, South Sea Sperm-whale.

Cachalot.	Sperm whale.

Inhabits the southern ocean.

Catodon kogia, Gray, taken near the Cape of Good Hope. It has a short head, and is supposed to be the young of C. polycyphus.

Beluga kingii, has been taken off the coasts of Australia, where it represents the white whale, B. catodon, Catodon macrocephalus.—*Hartwig.*

SPERMACOCE HIRTA, *Rottl.* Syn. of Spermacoce hispida, *Linn*

SPERMACOCE HISPIDA, *Linn.*, *W. & A.*, *Roxb.*

Spermacoce hirta, *Rottl.*	Spermacoce scabra *Willde.*

Shaggy button weed,	ENG.	Madana : Modina,	TEL.
Thartavel,	MALEAL.	Madana qrandhi,	„
Nutti churi,	TAM.	Madana budata kada,	„

This plant grows in southern India, and is employed in decoction as a substitute for sarsaparilla.

SPET PANNI, HIND. Delphinium brunonianum.

SPEZEREYEN, GER. Spices.

SPEZJ, also Spezierie, IT. Spices.

SPHÆNOCARPUS, SP.

Mo-Gyo-ban, BURM.

SPHÆRANTHUS. Of this genus, Wight gives Sphæranthus amaranthoides, and hirtus.

SPHÆRANTHUS HIRTUS, *Burm.*, *W. Cont.*, *Willde.*

S. mollis, *Roxb.*, *Rheede.*	S. indicus, *Roxb.*

Dookkon,	AR.	Zakhm-i-Hyat,	HIND.
Chagul nudi,	BENG.	Moondi Booti,	„
Moondi,	DUK., SANS.	Ghoondi,	JAP.
Indian Globe flower,	ENG.	Adaka majyen,	MALEAL.
Globe flower,	„	Kottang karundei,	TAM.
Khamadrus,	HIND.	Bodasaram	TEL.
Gork-mundi,	„	Bodataram,	„
Gurak moondi,	„	Bodatarapu chettu,	„

It is common near the Ana-Sagur ; used by the natives in medicine and near water banks at Ajmeer and in the Eastern and Central Punjab. Has a round pink blossom : consider-

ed heating: cleanses the blood: aphrodisiac: also opens the bowels: the flower and seed capsules are used. The small oblong seeds and receptacles of this low-growing herbaceous plant, (2) are reckoned by the Vyteans amongst their anthelmintics and are prescribed in powder. Rheede tells us that the powder of the root is considered as stomachic, and that its bark ground small, and mixed with whey, cures the piles. In the Panjab the officinal flowers are highly esteemed as alterative, depurative, cooling, and tonic. Roots anthelmintic.—*Gen. Med. Top., pp.* 135, 206; *Ains. Mat. Med., p.* 85; *Powell's Hand-book, Vol.* i, *p.* 358; *J. L. Stewart, M. D.*; *W. Ic.*

SPHÆRIA, see Fungi.

SPHÆRIA MILITARIS, see Dry rot.

SPHÆROCARYA EDULIS. This tree is a native of the forests of Nepaul, and has alternate, ovate-entire, exstipulate leaves, with axillary and terminal villous racemes of small greenish-coloured flowers, which are without odour. Its fruit is eaten and relished by the Nepaulese, though not very palatable to a European taste.—*Eng. Cyc.*

SPHÆROCOCCUS, a genus of plants belonging to the natural order Algæ. A great number of species have been described including amongst them some of the most useful of the sea-weed tribe. These species have been distributed by later botanists into the genera Rhodomenia, Gigartina, Chondrus: Gelidium and Phyllophora and the genus Sphærococcus has now only one species, the S. coronopifolius. The genus Chondrus affords the Carrageen moss, which is so much used as an article of diet. It is a species of Gelidium, with which, as some assert, the swallows build their nests in the Eastern Archipelago and which are so highly valued as articles of food by the Chinese. The gelatinous substance of which the nests are composed, however, seems, really, to be a natural secretion from the swallow itself.—*Eng. Cyc.* See Edible Sea-weed, Gigartiva, Gracillaria.

SPHÆROCOCCUS LICHENOIDES, *Agardh.* Gracillaria lichenoides, *Greville.* Ceylon moss.

SPHÆROSACME FRAGRANS, *Wall.*, a tree of Nepaul with very small yellowish fragrant flowers.

SPHÆROSACME ROHITUKA, *Wall.* Syn. of Amoora rohituka, *W & A.*

SPHENOCLEACEÆ, *Martius*, Pongatium indicum, grows all over India; Sphenoclea zeylanica, is an annual, with alternate entire leaves, without stipules; found in marsh situations in all parts of India. It is the type of the order.—*Eng. Cyc.*

SPHEGIDÆ, the family of Wasps. See Wasp, Mason wasp.

SPHENOCARPUS GRANDIFLORUS, *Wall. Cat.*

Liriodendron grandiflorum, *Roxb. Fl. Ind.*, ii, *p.* 653.
,, indicum, *Spreng. Syst.*, ii, *p.* 642.
Magnolia pterocarpa, *Roxb. Corom., Pl.* iii, *t.* 266.

Doolee-champa, BENG.

A shrub of Chittagong, Sylhet. Flowers large, white, fragrant.

SPHENURIDÆ, 24 gen., 78 sp., viz.:—

1 Sphenura; 1 Megulurus; 1 Sphenæacus; 2 Dumetia; 9 Malacocercus; 10 Drymoica; 6 Prinia; 1 Neornis; 3 Orthotomus; 1 Horietes; 2 Cisticola; 1 Pellornium; 1 Turdirostris; 10 Pomatorhinus; 1 Xiphorhampus; 1 Turdinus; 4 Trichostoma; 2 Malacopteron; 9 Alcippe; 1 Macronous; 2 Mixornis; 4 Timalia; 1 Chrysomma; 4 Stachyri.

SPHINX In front of the pyramid of Egypt, lies the huge Sphinx, a lion with a man's head, the second in size, fifty yards long. Niebuhr mentions that, in his time, the famous Sphinx was sinking still deeper in the sand; and a great part of the body was already buried. It seems to be formed out of the rock upon which the pyramid stands. He found the chin of the Sphinx to measure ten feet six inches in height; and the whole length of the countenance nearly eighteen feet.—*Sharpe's History of Egypt, Vol.* i, *p.* 27; *Niebuhr's Travels, Vol.* i, *p.* 156.

SPHODRINIDÆ, a family of the Coleoptera. The genus Sphodrus occurs in Nepaul, and the anomalous form of Mormolyce in Java and Singapore; which last has been ranged with this family, but appears to be sadly out of place, as it is most likely a subcortical feeder.

SPHONES, according to Plutarch, a name of the brahman Calanus who accompanied Alexander. See Calanus.

SPHOOTA, see Graha.

SPHOOTEE, BENG. Cucumis momordica.

SPICE ISLANDS, or Molluccas, in the Molucca and Banda seas, consist of many islands with numerous languages. Next to Java, of which they form a sub-government, the Moluccas are the most important of the Dutch possessions in India. The islands to which this term is applied are Amboyna, Banda, Ternate, Tidore and smaller islands in their neighbourhood. The islands are small, volcanic, unproductive in grain, but fertile in fine spices. But the ruinous policy of the Dutch nation in their greed to secure a monopoly of this class of products, led them, for years, to root-up and destroy, at a great cost, often by force of arms, every nutmeg or clove tree not required for the production of that quantity of spices which they calculated they could dispose of. Rosingnin, near Banda, was almost abandoned after the extirpation

of its spice trees, its people emigrating to the neighbouring islands in search of a livelihood. The people are of the Malayan race, short, squab and darker in complexion than the Malays or Javanese. The Amboynese are of a middling height and well-formed. They are gentle, very sober, brave, easily managed, and make good mounted and foot soldiers and a considerable number of them have embraced christianity. Banda is very unhealthy, and is subject to frightful earthquakes. When first discovered by Europeans, the inhabitants had made considerable advance in civilization, but one still much inferior to that of the Malays and Javanese. Sir Stamford Raffles has furnished specimens of three of the languages of this furthest east portion, viz.: those of Ceram, correctly Serang, of Ternate, correctly Tarnati, and of Saparuwa, one of the Banda isles. Of the language of Ceram, nine of the words are Malay, two Javanese, 17 are common to these two languages. Ceram Laut is the great place to which the Bugis carry the Papuan slaves whom they steal from New Guinea. No kind of native writing can be traced to the Spice islands which, notwithstanding their rich native productions, are incapable of yielding corn, iron or cattle, the rough staples of early civilization, and without the presence of which, letters have never been invented or existed. In the great island of New Guinea, with its savage negro population, and with the same deficiencies, the presence of any kind of writing is not reasonably to be looked for. No trace of a written character has been found in the wide extent of the islands of the Pacific. Most of them are, probably, too small to have furnished a population, at once sufficiently numerous and concentrated, to generate the amount of civilization requisite for the purpose. In the great islands of New Zealand, with their comparatively energetic race of inhabitants, the discovery of letters would, most probably, have been made, as among some rude nations of Sumatra, had the civilization necessary not been precluded by the absence, as in the smaller islands, of the larger animals for labour, and of all the cereal grasses for food.—*Jour. Ind. Arch.*, *Dec.* 1848, *p.* 774. See India, Moluccas.

SPICE LILIES, the Scitamineæ, includes the cardamom, turmeric (curcuma) and ginger.

SPICES.

Specceryen,	DUT.	Rampak-rampak,	MALAY.
Epiceries, Epices,	FR.	Burubu,	„
Spezereyen,	GER.	Especiaria,	PORT.
Garm-mussala,	HIND.	Pranue korenja,	RUS.
Spezj, Spezierie,	IT.	Especias, Especerias,	SP.
		Sambaram,	TAM., TEL.

Spices is the term applied to all pleasant or pungent aromatic vegetable substances, used for flavouring food and condiments, such as nutmegs, and mace, cinnamon, pimento, ginger, and pepper, cloves, allspice, cardamoms, &c. Spices and condiments are largely employed by the people of India. Some are imported and many of them are exported to a considerable extent. They are obtained from the barks, the dried seeds, the fruit, flower-buds, and root-stocks of different plants. The chiefly aromatic barks are the cinnamon and Gassia lignea ; the seeds and fruits include pepper, cardamoms, coriander, cummin seed, star anise, nutmegs and chillies. The flower buds of some furnish cloves and cassia buds, and the roots supply ginger and turmeric. The English and botanical names of the principal of the series are given below and their descriptions will be found under their several heads:

Areca or betlenut,	Areca catechu.
Betle leaf or pan...	Piper betle.
Cassia bark..........	Laurus cassia.
Cassia buds..........	Cinnamomum iners.
Cinnamon..............	Cinnamomum aromaticum.
Cloves................	Eugenia caryophyllata.
Mace & nutmegs....	Myristica moschata.
Cardamoms..........	Elletaria cardamomum.
Do. wild...	
Pepper,..	Piper nigrum.
Do. long. ...	Piper longum.
Chillies.	Capsicum, (var. sp.)
Ginger.......	Zingiber officinale.
Turmeric.............	Curcuma longa.
Coriander...........	Coriandrum sativum.
Cummin.............	Cuminum cyminum.
Mustard	Sinapis, (var. sp.)

—*Simmond's Dict.* ; *Faulkner* ; *Madras Exhibition of* 1857 ; *McCulloch's Commercial Dictionary, p.* 1,075. See Condiments.

SPIDER, Capt. W. S. Sherwill communicated to Mr. Blyth the following on the bird-devouring habit of the Epeira a species of spider. This interesting communication on the contested subject of bird-eating spiders originated in his request that the author would commit to paper the observations of which he had assured him in conversation. During one of my rambles, he says, in company with four other officers in the army, amongst the Karrapur hills, in the immediate neighbourhood of Monghyr, on the Ganges, I fell in with several gigantic webs of a large black and red spider, which, stretching across our path in many spots, offered from their great strength a sensible resistance when forcing our way through them. The webs are of a bright yellow colour, and we found them stretching from ten to twenty feet, that is, including the great ropes which are generally fastened to some neighbouring tree or a clump of bamboos, the reticulated portion being above five feet

in diameter, in the centre of which the spider sits waiting for its prey, he is of a dark-black hue with red about him, but at this distance of time, now three years, I cannot remember his exact appearance. I brought one down with me from the summit of the mountain Maruk, which is eleven hundred feet above the Ganges, and he measured six inches across the legs when set up. It was in the web of this very spider that I found the bird entangled, and the young spiders (about eight in number and entirely of a brick-red colour) feeding upon the carcase. The bird was much decomposed and enveloped in web, but the beak and feet being visible I sketched them, a copy of which sketch I enclose for your satisfaction. The bird is a Nectarinia apparently, and probably N. asiatica: it hung with his head downwards, his wings were closely pinioned to his sides by the entwined web, and was nearly in the centre of the web. The old spider which I secured was above the bird about a foot removed. Had we not been a half-starved party, we should have bottled the bird, spider and young ones, but we were at the end of a five-days' roam amongst these steep hills, covered with wet grass, without beds or covering, in the height of the rainy season, so you may imagine our commissariat was at too low an ebb to afford brandy for such a purpose. This communication from Capt. Sherwill is the more interesting, since the total demolition of Madam Merian's account of a bird-eating spider in Surinam, by Mr. W. S. McLeay, in the 'Proceedings of Zoological Society,' 1834. The spider remarkable for the "bright yellow colour" of its web, is a species of Epeira, found by Captain Sherwill, 1,100 feet high, on the summit of Maruk, south of Monghyr. Some of the webs including the guy-ropes were from 10 to 12 feet in diameter, the reticulated portions being about 5 feet, in the centre of which the spider, of a formidable size and very active, sits waiting for prey. In one web, was found entangled a bird about the size of a field lark, and eight young spiders feeding on the body. It was near the centre of the web, and its wings has been completely pinioned by the entwined web. The old spider sat about a foot above the bird. It was six inches across the legs and had a formidable pair of mandibles. Walckenaer has described a spider of large size, under the name of Olios Taprobanius, which is very common in Ceylon, and conspicuous from the fiery hue of the undersurface, the remainder being covered with gray hair so short and fine that the body seems almost denuded. It spins a moderate-sized web, hung vertically between two sets of strong lines, stretched one above the other athwart the pathways. Some of the threads thus carried horizontally from tree to tree at a considerable height from the ground are so strong as to cause a painful check across the face when moving quickly against them, and more than once in riding. Sir J.E. Tennent had his hat lifted off his head by one of these cords.

There is a Ceylonese spider with legs which would span an ordinary-sized breakfast-plate; and it seems to be a fact, now pretty well authenticated, that they seize small birds. The webs of such spiders are strong enough to entangle and hold the small birds on which they are said occasionally to feed. Small house lizards will also be seized and devoured by these spiders.—*Builder*; *Mr. E. Blyth, in Beng. As. Soc. Jour., No.* vi, *of* 1850, *p.* 474; *Gosse, p.* 239; *Proc. Ent. Soc., November* 1, 1852; *Tennent's Sketches of the Nat. Hist. of Ceylon, pp.* 469-70.

SPIDER-WORTS. Several species of spider-worts are abundant in Tenasserim. One Commelyna cæspitosa, a creeping species of Commelyna may be often seen trailing up the sides of fences. Another Aneilema herbaceum with blue flowers like the former, but with a different habit, is sprinkled among the grasses at almost every door. There are also one or two other species common.—*Mason.*

SPIEGEL ENTLEIN, also Kriekente, GER. Teal.

SPIEL-KARTEN, GER. Cards.

SPIELSACHEN, also Spielzeug, GER. Toys.

SPIESGLANZ, GER. Antimony.

SPIESGLAS, DUT. Antimony.

SPIGELIACEÆ, *Mart.* The wormseed tribe of plants. The root of Spigelia fruticulosa, is used in N. America as a vermifuge.

SPIGHWAL, HIND. Plantago amplexicaulis.

SPIKENARD.

Sunbul-ul-Tib,	AR.	Sumbul,	HIND.
Bal-chur,	BENG., HIND.	Nardum,	LAT.
Kan-sung-hyan,	CHIN.	Nardin, Narawastu,	MALAY
Narden, Nardos,	GR.	Shad-a-mangie,	TAM.
Jettamansi, Chebur,	GUZ.	Jettamassie,	TEL.

The Nardostachys jatamansi of the Himalayas and mountains of High Asia is now generally recognized to be the spikenard of the ancients. Its root is of a blackish colour, and resembles the bushy tail of the ermine. Its odour is strong and fragrant; and is much esteemed by all eastern nations. The plant is a native of the mountains of the north of India, at very great elevations; and the roots are also brought to India from the Persian Gulf. Spikenard has enjoyed celebrity from the earliest period of the world's history. It was esteemed by the Greeks and Romans, and is mentioned in the Bible, the Nard of Scripture

being supposed to be the same substance as the Nardos of the ancients called also Nardostachys (ναρδόσταχυς) and hence spikenard, the word stachys being rendered by the word spike. Dioscorides, in the first chapter of his first book, treats of the various aromatic and stimulant substances which were known to the ancients, and among these of the various kinds of Nard. Of the first kind, simply called Nardus (νάρδος), he notices two varieties, the one Syrian, the other Indian; the former so called, not because it comes from Syria, but because the mountains in which it is produced have one part turned towards Syria and the other towards India. This may refer to the Hindu-Kush. The other variety is called Gangitis from the river Ganges, near which, while flowing round a mountain, it is produced, bearing many hairy spikes from one root. These are strong-smelling, but those growing in moist situations less so than those found on the mountains. One variety, he further says, is called Sanpharitikon, from the name of a place. The second kind he calls Celtic Nard (νάρδος Κελτική,) and the third kind a Mountain Nard (νάρδος ορεινή). Nardostachys jatamansi, is highly esteemed in the east, and is the spikenard of the ancients. The Valeriana officinalis, *Linn.*, the wild Valeriana is also a Nard, Valeriana celtica and Valeriana saliunca are imported into India through the Red Sea from Austria for perfuming the bath. On consulting Avicenna, we are referred from Narden to Sunbul, pronounced Sumbul, and in the Latin translation from Nardum to Spica, under which the Roman, the mountain, the Indian, and Syrian kinds are mentioned. This proves, as has been already stated by Sir William Jones, that Sumbul, &c., was always considered by Arabian authors as synonymous with the Nardos of the Greeks. In Persian works on Materia Medica, all translated from the Arabic, as, for instance, the 'Mukhzun-al-Adwiah,' or 'Magazine of medicines,' we have four different kinds of Sunbul:—1, Sunbul Hindee; 2, Sunbul Roome, called also Sunbul Ukletee, and Narden Ukletee, evidently the above Celtic Nard, said also to be called Sunbul Italion, that is, the nard which grows in Italy; 3, Sunbul Jibullee, or Mountain Nard: hence it is evident that the kinds described by Dioscorides are alluded to, and in fact the accounts given are merely translations of his descriptions. The fourth kind of Sunbul appears to be a hyacinth or polyanthus. But the first is that with which alone we are at present concerned. The synonyms given to it are—ARABIC, Sunbul-al-Teeb, or Fragrant Nard; GREEK, Narden; LATIN, Nardoom; and HINDEE, Balchur and Jatamansi. Dr. Royle when at Saharunpore, in 30° N. lat., about 30 miles from the foot of the Himalayas, learnt that Jatamansi, was yearly brought down in considerable quantities from the mountains, such as Shalma Kedarkanta, near the Ganges and Jumna rivers, to the plains. He planted them both in the East Indian Company's Botanic garden, and in the mountains, in a nursery attached to it. The plant produced was found to belong to the natural order Valerianaceæ, and has been named Nardostachys jatamansi by De Candolle, and formerly Patrinia jatamansi by Mr. Don, from plants sent home by Dr. Wallich, from Gossainthan, a mountain of Nepaul. Mr. Don obtained the additional corroboration that spikenard bought in a chemist's shop by this name exactly corresponded with the roots of the jatamansi. Hence there can be no doubt that the Nardos described by Dioscorides is the jatamansi of the hindoos, and probably the same substance which has been mentioned by such writers as Hippocrates; and there is nothing improbable in its being the Nard of Scripture, and it has been shown to be a plant belonging to the natural order Valerianaceæ. It is curious that the Celtic and mountain nards are also Valerians, the former being yielded by Valeriana celtica and V. saliunca, still exported from the mountains of Austria to Egypt, whence it has spread into both Africa and Asia, being valued for its fragrance, and hence employed in perfuming baths; and the other by V. tuberosa. Dr. Royle mentions it as a curious coincidence, if not allowed to be a sign of accurate knowledge, that the Persains should translate the φου of Dioscorides, which he also calls Wild Nard, Foo of the Arabians, by the term Bekh-i-Sunbul, Root of Sunbul. The plant correctly ascertained by Sibthorp has been named by him Valeriana dioscoridis. Dr. Smith says it is met with in Cochin-China and in China, and is the fifth of the five odorous plants of the Chinese, viz., lign-aloes, cloves, sandalwood, Aglaia odorata and spikenard. Sir W. Jones identified Nardostachys jatamansi as the spikenard of the ancients. In South India, the term is also applied to the sweet-smelling tubers of various species of Cyperus, and in Upper India, to the lemon-grass (Schœnanthus) and other species of Andropogon, which are also known under the names of Askhar and Sikhunas (σχῖνος). Nard is twice mentioned in the Canticles, iv, 13, 14; St. Mark xiv, 3, tells of the ointment of spikenard very precious, and John xii, 3, mentions a pound of the ointment worth three hundred denarii.—*Harris', Nat. Hist. of the Bible*; *Faulkner*; *Smith's, Materia Medica of China*; *Elliot's Flora Andrica*; *Royle's Illust.*

Himalayan Botany, p. 242; *Simmonds' Dict. McCulloch's Com. Dict.*; *Eng. Cyc.*; *Hogg's Vegetable Kingdom*. See Jatamansi, Nardostachys; Valerian.

SPIKER, Ger. Nails.

SPIKSO, Hind. Arundinaria falcata.

SPILGOED, Dut. Toys.

SPILANTHES ACMELLA.

Hin-ka-la, Burm.

This species of spilanthes is planted by the natives of Tenasserim for its medicinal properties.—*Mason.*

SPILANTHES OLERACEA.

Akarkarha, Hind.	Pokarmul, Hind.

Considered by natives a powerful stimulant and sialogogue, useful in headache, paralysis of the tongue, affections of the gums and throat, and for toothache, also in fever, cough and special diseases.—*Powell's Hand-book, Vol.* i, *p.* 357.

SPILECHA, Hind., Pushtu. Fothergilla involucrata, also Parrotia jacquemontiana.

SPILSBURY, a medical officer of the Bengal Medical Service, wrote an account of fossil bones on the Nerbudda in Bl. As. Trans., Vol. vi, 351, 487; Ibid., 1839, Vol. viii, 950; Ibid., 1833, Vol. ii, 151, 205, 586. Also geological notes on the valley of the Nerbudda. Ibid., 1834, Vol. iii, 388. On fifteen varieties of shells in the Saugor and Nerbudda territories.—Ibid., 1839, Vol. viii, 708—*Dr. Buist.*

SPINACIA, a genus of plants belonging to the natural order Chenopodiaceæ.

SPINACEA OLERACEA, *Wight.*

Ispanaj, Arab., Pers.	Sag-paluk, Hind.
Common spinage, Eng.	Isfanaj; Isfanak, „
Paluk, Hind.	Vusayley-keeray, Tam.

Is well known on account of its use in the kitchen. It has an herbaceous stem, one or two feet high, branches, and hollow, arrow-shaped leaves; male flowers in long spikes, abounding with pollen; female flowers on another plant, axillary, herbaceous, and small. The fruit is a small round nut, which is sometimes very prickly. Both Spinacea oleracea and New Zealand Spinach are commonly cultivated in all gardens, as culinary vegetables. It grows in rich soil, requires plenty of water, should be sown thinly in drills or broadcast every month or six weeks, may be had during the hot months in sheltered situations, with attention to water.—*Jaffrey.* See Vegetables of Southern India.

SPINACIA TETRANDRA, *Roxb., W. I.*

Pinish, Beng., Hind.	Dumpa bachchali, Tel.
Choolai, „	Bachchali, „
Isfanaj, Pers.	Mattu bachchali, „

The hindustani name is indifferently given to Spinacia tetrandra, Tetrandous spinach and Amarantus polygamus. The former is a common sort of native greens, and, when boiled, resembles spinach; it is procurable nearly all the year round. The latter is much cultivated by the natives. It is sown broadcast in beds from June to March. The leaves are sold in the bazaar at one pie the seer. Used as a greens and also in curries.

New Zealand Spinage, is a hardy annual, with fleshy leaves and numerous branches, and as a spinage, it is as valuable as the orache. If watered, grows freely, and produces leaves in the hottest weather.—*Riddell, Jaffrey.* See Choolaee.

SPIN AGHZAI, Hind. Astragalus multiceps, Ballota limbata.

SPIN BAJJA, Hind. Withania coagulans.

SPINDLES, of the hindoos have been made from time immemorial from a species of Euonymus.

SPINDLE TREE OIL, Oil of Euonymus europæus.

SPINDLE TREES, or Spindle wood, species of Celastraceæ. See Celastrus paniculatus.

SPINEL, a precious stone, composed of alumina, magnesia, silica, protoxide of iron and chromic acid: it occurs in the bed of the river Maha-welli-ganga, at Kandy in Ceylon, also in Siam, the Malay peninsula, the eastern side of the Peninsula of India and in Sweden. It is of various shades of red, violet or yellow, and is sometimes black, the blue variety is called Ceylon stone. By lapidaries, the scarlet-coloured, is termed spinel ruby; the rose-red, balas ruby; the yellow or orange-red, rubicelle; and the violet-coloured, almandine ruby. The first is the most valuable. Spinel is not so hard as the oriental ruby; and is readily distinguished both by its colour and crystallization.

SPINELLE RUBY, see Ruby.

SPINIFEX SQUARROSA, *Spreng, Rh.*

Sea pink, Eng.	Maha-Rawana-ræwula, Singh.
Water pink, „	Ravana suruni misalu, Tel.

This curious diœcious grass grows abundantly on the Coromandel coast. When the seed is ripe, the spherical head of the plant is detached and blown before the wind.—See Is. xv, 11 and 13; and Psalm lxxxiii and 13. Its great seed balls are known to the Singhalese as Maha-Rawana-ræwula, the great beard of Rawana or Rama. See Sand-binding plants.

SPIN KHALAK, Hind. Aristida depressa.

SPIN KHARNAR, Trans-Indus. Verbascum thapsus, *Linn.*

SPINNING, of yarn, for weaving, is practised by all classes of women in India; even the highest at one time used to amuse themselves with the spinning-wheel. Among the agricultural classes the occupation is constant, or fills up time not required for other

household occupations. At the latter part of the 19th century, the imports of yarn into British India, had increased enormously, and the weavers had also largely increased. But at the early part of the century, Dr. Buchanan, estimated the annual produce of yarn hand-spun in one district alone at thirteen lacs of rupees = £130,000. The spindle in use is not much thicker than a stout needle. It is from ten to fourteen inches in length, and attached to it, near its lower point, is a ball of unbaked clay to give it weight in turning. The spinner holds it in an inclined position, with its points resting on a piece of shell, and turns it between the thumb and forefinger of one hand, while she at the same time draws out the single filaments of cotton from the roll of cotton in the other hand, and twists them into yarn upon the spindle. Dryness of the air prevents the filaments of cotton from being sufficiently attenuated or elongated, and is therefore unfavourable to the spinning of fine yarn. A certain degree of moisture, combined with a temperature of about 82 degrees, is the condition of the atmosphere, best suited to the carrying on of this operation. The Dacca spinners usually work from soon after dawn to nine or ten o'clock, and from three or four in the afternoon till half an hour before sunset. The finest yarn is spun early in the morning before the rising sun dissipates the dew on the grass; or, when this is wanting, and the air is unusually dry, it is not unfrequently made over a shallow vessel of water, the evaporation from which imparts the necessary degree of moisture to the filaments of cotton, and enables the spinner to form them into thread. As a proof of the fineness of the yarn thus delicately spun, Mr. Taylor mentions that one skein which was carefully weighed, proved to be at the rate of 250 miles in length to the pound of cotton. Dr. Watson gives the result of microscopic examinations of French, English and Dacca muslins, in an elaborate table; and he reports that the diameter of the Dacca yarn is less than that of the finest European: that the number of filaments in each thread is considerably smaller in the Dacca than in the European yarns. That the diameter of the ultimate filaments or fibres of which the Dacca yarn consists is larger than the European. That it appears from the investigation that the superior fineness of the Dacca yarn depends solely on the fact that it contains a smaller number of filaments. These causes, combined with the ascertained result, that the number of twists in each inch of length in the Dacca yarn amounts to 110·1 and 80·7, while in the English it was only 68·8 and 56·6, not only accounts for the superior fineness, but also for the durability of the Dacca over the European fabric; and as already a very great advance has been made in the spinning of yarn by machinery, it may be possible, perhaps, to raise the standard of quality, both in fineness and strength, to that of Dacca. The manufacture of these very delicate muslins is, however, not confined to Dacca. At Nandair on the Godavery, and at Muktul, Dhanwarum and Amerchinta, all towns in his Highness the Nizam's dominions, and at Arnee near Madras—muslin, which rivals that of Dacca, is made in considerable quantities, and is sold in Madras and Hyderabad, as well as supplied to the west and south of India. In these localities, the process of spinning by the spindle is the same as that of Dacca; but as the climate is dryer, the spinners who are both men and women, work in partially darkened rooms, the floors of which are watered to produce the necessary amount of moisture. The manner of dressing the thread and weaving it, does not differ from the Dacca system in any great degree; and if the muslins are probably not so fine as the Dacca, they have an advantage in superior clearness and transparency. The hand-spinning of fine thread used for Brussels lace, according to Mr. Palliser's account of it, is spun by women in darkened rooms. The manufacture of muslins of such qualities as are produced at Dacca, and indeed in Europe, must necessarily be always of a very limited character, and their use confined to very rich purchasers. For the masses of the people, the British manufacturer sends to India the plain and striped dooria, mulmul, aghabani, and other figured fabrics, which have established themselves there, and which, both from their good quality and moderate prices are acceptable to the numerous classes who make use of them. Some of the chintzes of Masulipatam and of the south of India are as beautiful in design as they are chaste and elegant in colour. Printed cloths are worn occasionally, as in Berar and Bundlecund, for sarees; and the ends and borders have peculiar local patterns. There is also a class of prints on coarse cloth, used for the skirts or petticoats of women of some of the lower classes in upper India; but the greatest need of printed cloths is for the kind of bed cover called palampore, or single quilts.

In the costlier garments woven in India, the borders and ends are entirely of gold thread and silk, the former predominating. Many of the sarees, or women's cloths, made at Benares, Pyctun, and Boorhanpore, in Guzerat, at Narraiupett and Dhanwarum, in the Hyderabad territory, at Yeokla in Kandesh, and in other localities, have gold

thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey ; and in silk, black, shot with crimson and yellow, crimson, with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects ; but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country ; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as a lady of England or France.

Another exquisitely beautiful article of Indian costume for men and women is the doputta, or scarf, worn more frequently by mahomedan women than hindoo, and by the latter only when they have adopted the mahomedan loonga, or petticoat ; but invariably by men in dress costume. By women, this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head ; by men across the chest only. Doputtas, especially those of Benares, are perhaps the most exquisitely beautiful of all the ornamental fabrics of India ; and it is quite impossible to describe the effects of gold and silver thread, of the most delicate and ductile description imaginable, woven in broad, rich borders, and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns of the ribbon borders or broad stripes. How such articles are woven at all, and how they are woven with their exquisite finish and strength, fine as their quality is, in the rude handlooms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colour ; the creamy white, and shades of pink, yellow, green, mauve, violet, and blue, are clear yet subdued, and always accord with the thread used, and the style of ornamentation whether in gold or silver, or both combined. Many are of more decided colours—black, scarlet, and crimson, chocolate, dark green, and madder ; but whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing ; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to its original beauty, at least to a very wearable condition. The doputtas of Pyetun, and indeed most others except Benares, are of a stronger fabric. Many of them are woven in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Deccan ; not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares. Scarfs are in use by every one—plain muslins, or muslins with figured fields and borders without colour ; plain fields of muslin with narrow edging of coloured silk, or cotton (avoiding gold thread), and narrow ends. Such articles, called 'sela' in India, are in every day use among millions of hindoos and mahomedans, men and women. They are always open-textured muslins ; and the quality ranges from very ordinary yarn to that of the finest Dacca fibres.

The textures of the dhotee, saree, loonghie, manufactured in Britain and sent to India, are not those required by the people ; nor what they are accustomed to. It is in general too close, too much like calico in fact, which of course makes the garment hot, heavy in wear, and difficult to wash. Again, the surface becomes rough, and, as it is generally called 'fuzzy,' in use, from which the native fabric remains free. Comparatively few native women of any class or degree wear white ; if they do wear it, the dress has broad borders and ends. But what all classes wear are coloured cloths ; black, red, blue, occasionally orange and green, violet, and grey. All through Western, Central, and Southern India, sarees are striped and checked in an infinite variety of patterns. Narrainpett, Dhanwaram, and Muktul, in the Nizam's territories ; Gudduk and Bettigherry in Dharwar ; Kolapoor, Nassik, Yeola and many other manufacturing towns in the Deccan ; Arnee in the south, and elsewhere send out articles of excellent texture with beautifully arranged colours and patterns, both in stripes and checks. The costly and superb fabrics of cloths, of gold and silver (Kimkhab), and the classes of washing satins (Mushroo and Hemroo) even if European skill could imitate them with the hand-loom, it would be impossible to obtain the gold and silver thread unless they were imported from India. The native mode of making this thread is known, but the result achieved by the Indian workman is simply the effect of skilful and delicate manipulation. The gold and silver cloths, kimkhabs, are used for state dresses and trousers, the latter by men and women, and ladies of rank usually possess

petticoats or skirts of these gorgeous fabrics. Mushroo and hemroo are not used for tunics, but for men's and women's trousers and women's skirts; as also for covering bedding and pillows; they are very strong and durable fabrics, wash well, and preserve their colour however long worn or roughly used; but they can hardly be compared with English satins, which, however, if more delicate in colour and texture, are unfitted for the purposes to which the Indian fabrics are applied. For example, a labada or dressing-gown made of scarlet mushroo in 1842, had been washed over and over again, and subjected to all kinds of rough usage; yet the satin was still in 1867 unfrayed, and the colour and gloss as bright as ever. Many of the borders of loongees, dhotees, and sarees are, like plain silk ribbons, in some instances corded or ribbed, in others flat. The manufacture of Cashmir shawls is peculiar to that province. Those formally issued from that province were exquisitely woven, with unrivalled elegance and chasteness of design, softness and finish in quality, arrangement of colours and use of dyes which the finest Paisley and French shawls do not approach. The exquisite shawls of Cashmir grow rarer and rarer every year, and their place has been usurped by hand embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Punjab and Delhi, of late years, workmen have commenced to embroider Cashmir cloth and net with floss silk and braid, but solely for sale to Europeans, who wear them as tunics, jackets, scarfs and the like. In the hand worked Cashmir shawls, as also in the Delhi work, wooden needles of hardwood are used slightly charred, with a hole in the centre of the needle to receive the yarn, *Dr. Watson.*

SPIN TERIN, or white Terin. See Affghan, Kaker.

SPIN WEGE, HIND. Aristida depressa.

SPIRÆA, a genus of plants of the natural order Rosaceæ. Thunberg names the following as plants of Japan:—

Spiræa callosa,	*Thbg.*	Spiræa japonica,	*Sieb.*
„ chamædrys,	„	„ betulæfolia,	*Pall.*
„ Thunbergii,	*S&Z.*	„ palmata,	*Thbg.*
„ prunifolia,	„	„ aruncus,	*L.*
„ chamædryfolia,	*L.*	„ salicifolia,	*L.*

Fortune mentions amongst Chinese shrubs the Spiræa callosa and Spiræa reevesiana, and he found Reeves's Spiræa and Spiræa prunifolia in great profusion. Several species of the Chimonanthus or Japan allspice, Forsythia viridissima, Buddlea lindleyana, and numerous Daphnes, Gardenias and Azaleas, were also met with. Many kinds of mosses and Lycopods were growing out of the crevices of the moist rock; amongst the latter, and very abundant, was a fine species, named Lycopodium willdenovii.—*Fortune's Tea Districts, p.* 57.

SPIRÆA KAMTSCHATIKA, used in Kamtskatka to make an ardent spirit.

SPIRÆA ROXBURGHIANA, *Wall.*, is a plant of China and Japan.

SPIRÆA HYPOLEUCA, S. cullosa and S. lindleyana, occur in the N. W. Himalaya.

SPIRÆA LINDLEYANA, *Wall.*

Kapru, Kurkni,	CHENAB.	Dodal,	RAVI.
Ranthul,	„	Kangtar,	SUTLEJ.
Kikri,	JHELUM.	Boogli,	„
Karkni,	KAGHAN.	Krust,	„
Dor: Bat-Pis,	KANGRA.	Kanoori,	„
Sarbashtai,	PUSHTU.	Sar-lakh-tei,	TR.-INDUS.

A shrub with fine white flowers, the handsomest and one of the commonest of the Himalaya. It resembles the English Meadowsweet, especially S. kamschadica S. Lindleyana grows from 4,000 to 10,500 feet, up to and beyond the Indus. Is of no special use. It is a plant of Kaghan.—*Dr. J. L. Stewart, M.D.*

SPIRÆA PRUNIFOLIA, see Edgworthia chrysantha.

SPIRAXIS, a genus of molluscs.

SPIRIT.

Ar'k,	AR.	Bram: Chu-ar'k,	MALAY.
Daroo, Ar'k,	DUK.	Sopi gilang,	„
Daru,	GUZ., HIND.	Shrab,	PERS.

All inflammable liquids obtained by distillation as arrack, brandy, rum, gin, votkey, whisky, &c., are comprised under this designation.

The arrack of Madras is made of jaggri and the bark of the Acacia leucophlœa. A spirit distilled from rice is the only distilled spirit used by the natives of Ganjam and that only by those of the lower classes. It is the same to the use of which the wild tribes of Orissa, the Khond, Sahar, and Kol are so addicted. It is unpalatable and nauseous. It is made 25 below London proof, 1 maund of rice making 8 gallons. An intoxicating spirit is distilled also in the Sumbulpore district, chiefly from the fruit or flower of the Bassia latifolia, met with throughout the forest jungles. Its sweet flower is a favourite food of wild animals, especially the bear, and it is believed that the saccharine matter, which apparently abounds in the flower, might be turned to the very best account.

Rice arrack, from Penang rice, is made at Penang.

The country spirit, Joobabee, is made at Calcutta.

An ardent spirit distilled from sugar-cane is used by the hindoos of the lower order. Backerkatee is the spirit distilled in which cardamom is put and weakened with water, and called 'Allachee,' 'Cumlaka' with orange peel: 'Joobabee,' and 'Pattaha', are adulterated with tobacco leaf and 'Atturee' is

scented with uttur. 'Annish' is the only pure spirit distilled from aniseed.

Mango spirit is prepared from the mango fruit. The taste of the spirit is not unlike whiskey, and far superior to anything of the sort sold in the Indian bazaars for every purpose to which the latter is applied.—*Dr. Thompson*; *Cat. Ex.* 1862; *Faulkner*.

SPIRITO ARDENTE, It., also Spirito divino, also Aquarzente, It. Alcohol.

SPIRITS OF HARTSHORN, Eng. Liquor Ammonia.

SPIRIT OF SALT, Eng. Muriatic acid.

SPIRIT OF VINEGAR, Eng. Vinegar.

SPIRITS OF VITRIOL, Eng. Sulphuric acid.

SPIRITUS LETHALIS, Lat. Carbonic acid.

SPIRIT-WORSHIP, has been practised by all races and up to the close of the 19th century continues to be a form of belief, everywhere in the south and East of Asia. Ancestor worship is a recognition of the existence of spirits freed from the body. This faith was exhibited, from early times, by the Egyptians, it was as a faith deeply-seated also, in Greece and Rome it has always been and still is the popular religion of the Chinese, and it forms the belief of all the aboriginal races and of most of the hindoo religionists of India. The Egyptians were the first to teach the immortality of the soul. The Egyptian belief in the transmigration of the human soul into the bodies of animals, was connected with it. Animal-worship, there, dates from the earliest times in Egypt and soon after the time of Menes (B. C. 3,400,) it became the established religion throughout the empire. This form of faith had evidently its origin in their belief in the identity of the principle of life in all living beings, and in the identity of the soul with life; grounded in a consciousness of moral responsibility and a belief in the personal indestructibility of the human soul. At the point of death, the deeds of this life are examined, judged and rewarded or punished, in the latter case condemned to be degraded from human to animal life, and one regulated by brutal instincts. In Virginia and Florida, the evil spirits were worshipped and not the good, because the former might be propitiated, while the latter was sure to do all the good he could. The Balinda of South Africa look on the dead as vindictive spirits whom they regard with more fear than love. Ask the negro, says Mr. Du Chaillu, where is the spirit of his great grandfather, he says he does not know; it is done. Ask him about the spirit of his father or brother who died yesterday, then he is full of fear and terror; he believes it to be generally near the place where the body has been buried, and among many tribes the village is removed immediately after the death of one of the inhabitants. According to Thomson, the natives of Cambodia assumed that the deity did not understand foreign languages. The Kyoung-tha of Chittagong are buddhists. Their village temples contain a small stand of bells and an image of Boodh, which the villagers generally worship morning and evening, first ringing the bells to let him know that they are there. The Sin-to temples of the Sun-goddess in Japan also contain a bell, intended to arouse the goddess and to awaken her attention to the prayers of her worshippers. According to the brahmans two things are indispensably necessary to the sacrificer in performing the religious ceremony, several lighted lamps, and a bell. The Chinese of Kiatka thought that eclipses were caused by the evil spirit placing his hand on the moon, in whose defence they immediately made as much noise as possible. The Stiens of Cambodia, like the Cambodians themselves, account for eclipses by the hypothesis that some being has swallowed up the sun and the moon; and, in order to deliver them they make a frightful noise, beat the tomtom, utter savage cries, and shoot arrows into the air, until the sun re-appear. During an eclipse the Sumatrans also make a loud noise with sounding instruments, to prevent one luminary from devouring the other as the Chinese do to frighten away the dragon; a superstition that has its source in the ancient systems of astronomy, particularly the hindoo, where the nodes of the moon are identified with the dragon's head and tail.

The natives of Mysore at the new moon observe a feast in honour of deceased parents. The Kurumbar of the Dekhan also sacrifice to the spirits of ancestors, and the same is the case with the Santhal, and all the aboriginal tribes of Central India. Among the Tipperahs of Chittagong, if a man die away from home, his relatives stretch a thread over all the intermediate streams, so that the spirit of the dead man may return to his own village; it being supposed that without assistance spirits are unable to cross running water; and the streams therefore are bridged. A somewhat similar idea existed in Europe, and it occurs also, in the Fiji Islands. Among the Kol of Nagpore, as Colonel E. T. Dalton tells us, all diseases in men and in cattle are attributed to one or two causes, the wrath of some evil spirit who has to be appeased, or the spell of some witch or sorcerer; the Circassians and some of the Chinese have also the same belief. Hence it is that mad people are in many countries

regarded with so much reverence, since they are looked on as the special abode of some deity. Dr. Mason remarks that when Thales taught that the whole universe is pervaded by spirits, he was proclaiming both the primitive and the existing faith of all India and China. They are not recognized as objects of worship ; they are not thought to be gods, but beings subordinate to some greater power whose ministers they are and with whom men have to do, and the people are in the constant habit of offering them food. In Guzerat, in British India, Bhoots, are "perturbed spirits," who wander still in this world of men. The Bhoot and the Pret reside, it is said, in the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where death occurred, or at crossroads, for which reason people set at these places food for the use of the Bhoot. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of the god called Wuroon Dev, however, are stationed wherever there is water, to prevent the Bhoots from drinking, and their thirst is therefore as continual as it is intense. The Bhoots feed upon all kinds of refuse. The goblin of the best class, he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects, is called a "Poorwuj Dev," and resides in his own house or in a sacred fig-tree. The Poorwuj Dev, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Guzerat, that serpents are always to be found wherever a hoard is buried, and that these are the Bhoots of the deceased owners who have remained upon earth from affection to their wealth. In the shraddhu or funeral ceremonies of the hindoo of Guzerat the son repeats before an image many incantations, to the following purport. Before thee, O bramhun, I perform my father's shraddhu. He next offers to his deceased parent, on a plantain-trunk dish, seven blades of kooshu and seven of doorva grass, flowers, dry rice, cloth, red paint, and a brass lamp. He next cleanses the place before him with his hands, and scattering upon it a few blades of kooshu grass, presents other offerings to his deceased father, repeating many incantations, which contain the names of the offerings, and an invitation to the deceased father to partake of them. From what remains of these offerings the son makes two balls, the smallest of which is offered in the name of those of the family who have not received the benefits of the shraddhu, and the other he presents to his deceased father, and then lays it on some kooshu grass as before, and worships it, presenting flowers, water, &c. He now places both hands open against a lamp which is burning, as though he were warming himself; after which he prostrates himself to the sun, and presents a fee of from one rupee to five to the officiating brahmin; salutes all the brahmins present, and makes prostrations to the shalgramu, which he afterwards sends into the house. All the offerings are sent to the houses of brahmins. The family now return home, where an entertainment is provided, both for brahmins and others, consisting principally of sweetmeats, milk, curds, sugar, cakes, &c. The brahmins eat in an enclosed spot, the uninvited brahmins near the house, and the poor in the street or road. At the close of the entertainment, if the person making the shraddhu be rich, he gives presents to all those who are not guests, whether brahmins or the poor, and thus dismisses them. The next morning he dismisses the learned brahmins with presents: to the most learned he gives five rupees perhaps, and to those less learned one. The brahmins who were invited are also dismissed with presents. About one o'clock a feast is provided for the relations who are dismissed the next morning with presents of money, cloth, &c., and on this day another dinner is provided for nearer relations. At the close of the shraddhu a number of mendicant musicians play on certain instruments of music, and sing verses celebrating the rivals of Krishna; they are often dismissed with large presents. The next day the family return to their accustomed diet; but the sons, for twelve months after the decease of the father, must refuse every gratification, and cook with their own hands, or eat what has been prepared by a wife, or some near relation dwelling in the house. Gunga Govindu Singhu, a person of the writer caste, head servant to Mr. Hastings, expended, it is said, 1,200,000 rupees at his mother's shraddhu; and Raja Nuvu Krishna of Calcutta, nearly as much in the shraddhu for his mother. This expense was principally incurred in presents to the brahmins, such as bedsteads, at two or three hundred rupees each; water pitchers of silver and gold, some worth a thousand, and others two thousand rupees; dishes of silver and gold, at five

hundred, two hundred and one hundred. At the time of bathing, the person who will perform the shraddhu, purifies himself by putting water, seeds, fruits, &c., in parts of the trunks of four plantain trees, repeating incantations. He sends some of this water home to purify the family.

The monthly shraddhu for the first year after the death of the parent, is upon a very small scale, and the expense is from ten rupees to twelve annas. Besides these, there are other shraddhus for deceased ancestors, as, in every month at the total wane of the moon; on the last fifteen, or ten, or five days of the moon in bhadru; once during the first fifteen days of the moon in ugruhayunu; and again in the same month, in poushu, and maghu, on the eighth of the wane of the moon; in voishakhu and shravunu, on any of the first fifteen days of the moon. At some of these times all hindoos perform this ceremony; at other times only a few persons. The expense is trifling, as scarcely any persons are entertained at them. In this shraddhu the flesh of cows was formerly offered in sacrifice. In the kali-yogu this is forbidden, and that of deer or goats is substituted, herbs, bread and barley are used, as also fresh rain water.

After death, the spirit of the hindoo is conveyed by the messengers of Yama through the air to the place of judgment. After receiving sentence, it wanders about the earth for twelve months, as an aerial being or ghost; and then takes a body united to his future condition, whether he ascend to the gods, or suffer in a new body, or be hurled into some hell. This is the doctrine of several pooranas; others maintain, that immediately after death and judgment, the person suffers the pains of hell, and removes his sin by suffering; and then returns to the earth in some bodily form.

The facility with which the hindoo gods are formed is shown in many ways. An officer of the Bombay army, who died about 1830, and was buried near Siroor, on the Gor naddi, was worshipped by all the people near. The late Brigadier General Nicholson, who was killed at the siege of Delhi, while serving on the Panjab frontier was so reverenced by the people as a perfect embodiment of physical mental power that they formed a sect, to Nicher Singhi, in his name, recognising him as their Pir, and no harshness on his part sufficed to prevent their reverence of him. A little west of the village of Assaye, is a fine banyan tree, growing on the right bank of the Jin naddi, at the place where the left of Sindiah's guns were placed on the battle. Beneath it is a tomb, now in ruins, of some officer, at which, brahmins excepted, all the hindoo villagers both men and women worship on the full moon and on moonless days, the punnam and awar and on other days at their pleasure. They sacrifice goats and sheep at the tomb, they offer malidah, a mixture of ghee, and goor and flour, part of which they sprinkle at the foot of the tomb, they burn frankincense, the ood, and bow down there in reverence, paon parna. The person who was interred beneath is recognised by them as a deo, under the name of Assil Sahib maharaj (Russel Sahib) whose shade, (chuya) is ever present there. He is a beneficent deity.

Sacrificial offerings are taken home by the worshippers, and used as food as is alluded to by St. Paul, I Cor. ix. "Do you not know that they who minister about holy things live of the sacrifice; and they who wait at the altar are partakers with the altar?" and it is when such are offered to idols that christians are forbidden to eat them In the northern districts of Bengal, if an infant refuse the mother's breast, and decline in health, it is said to be under the influence of some malignant spirit. Such a child is sometimes put into a basket, and hung up in a tree where this evil spirit is supposed to reside. It is generally destroyed by ants, or birds of prey; but sometimes perishes by neglect, though fed and clothed daily. If it should not be dead at the expiration of three days, the mother receives it home again, and nurses it: but this seldom happens.

As an instance of the hindoo belief in the powers of demons, Col. Tod tells us that Ood Sing died thirteen years after his inauguration on the cushion of Joda, and thirty-three years after the death of Maldeo. About A. D. 1645 when he was returning home from court he beheld a girl whom he determined to have. But she was the daughter of a brahmin, an Aya Punti, or votary of Aya-Mata, whose shrine is at Bai-Bhilara. These sectarians of Maroo, he says, are very different from the abstinent brahmins of Bengal, eat flesh, drink wine and share in all the common enjoyments of life with the martial spirits around them, and as there was no other course by which the father could save her from pollution but by her death, on that he resolved. He dug a sacrificial pit, and having slain his daughter, cut her into fragments, and mingling therewith pieces of flesh from his own person, made the 'homa,' or burnt sacrifice to Aya-Mata, and as the smoke and flames ascended, he pronounced an imprecation on the rajah: "Let peace be a stranger to him! and in three pahar, three days and three years let me have revenge!" Then exclaiming "My future dwelling is the 'Dabi Baori

sprung into the flaming pit. The horrid tale was related to the rajah, whose imagination was haunted by the shade of the brahmin; and he expired at the assigned period, a prey to unceasing remorse.

Up to the close of the 15th century, it was customary to place food for demons. In the dialogue of Dives and Pauper, printed by Richard Pynson, in 1493, among the superstitions then in use at the beginning of the year, the following is mentioned :—'Alle that take hede to dysmal dayes, or use nyce observances in the newe moone, or in the new yeere, as setting of mete or drynke by night on the benche to fede alholde or gobelyn.' So in British India, to the present day with hindoos, Chitapinda or funeral cakes are offered at the pile, at the time of burning the body. On the 4th day after decease, Chaturtha-pinda, funeral cakes, are again offered. On the thirteenth day after decease the Pret, or newly-embodied spirit, is compelled by the emissaries of Hades to set forth on his journey towards Yampoor. Its attendants aggravate the miseries of the wicked soul by their threats and upbraidings. They cry to the Pret, "Come quick, evil one! We will carry you to Yama's door; we will cast you into Koombheepak, or some other hell!" The Bhut-bali of the hindoos is an offering to evil spirits, ghosts. On the 14th of the dark half of the month Aswin, the Bhuta Chaturdasi offerings are made to evil spirits, and the Bhuta devata is a spirit worshipped as a deity.

Mr. Forbes in the Ras Mala (p. 378), says, the Bhoot and Pret are said to reside, at the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where a death has occurred, or at cross-roads, for which reason people set at these places food for the use of the bhoot. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of Wuroon Dev, however, are stationed wherever there is water, to prevent the bhoot from drinking, and their thirst is therefore as continual as it is intense. The bhoot feed upon all kinds of refuse. The goblin of the best class, he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects, is called a "Poorwuj Dev," and resides in his own house or in a sacred fig tree. The Poorwuj Dev, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Guzerat that serpents are always to be found wherver a hoard is buried, and that these are the bhoots of the deceased owners who have remained upon earth from affection to their wealth. The Arabian Jin also frequents cross-roads; and the fairies of the Scottish low-lands carry bows made of the ribs of a man buried where three laird's lands meet, as in "A Midsummer Night's Dream," (Act iii, Sc. 2:—)

> "Damned spirits all,
> "That in cross-ways and floods have burial."

"Desert places," in Guzerat, correspond exactly with the "dry places," (ανυδρων τοπων) assigned to the evil-spirits in Matthew xii, 43; Luke xi, 24.

The bhoot and pret can take possession of a corpse, and speak through its mouth; they exhibit themselves in the form which they possessed when living; they enter into a living man, and cause him to speak as they please; sometimes they afflict him with fever, or various other diseases; sometimes they assume the forms of animals, and frighten people by suddenly vanishing in a flash of fire; sometimes, remaining invisible, they speak in whispers. A bhoot has been known to come to fisticuffs with a man, and to carry a man off and set him down in a distant place. It is even said that women are sometimes found with child by bhoots.

The Jain shastras teach a different doctrine in regard to spirits from that which is taught by the purana. They assert that there are eight kinds of Vyuntur Dev, and eight of Wan-Vyuntur Dev, who reside below the earth. Each of these has two Indra, or sovereigns, ruling respectively the northern and southern regions, and who are in colour black, white, or blue. The Vyuntur and Wan-Vyuntur Dev appear upon earth, where they possess the bodies of men, exhibit themselves in various shapes, and perform many strange feats, whence their common name of Kootohulee (or surprising) Dev. Below them reside the Bhuwunputee Dev, who, also, sometimes appear on earth. Below them again are the Narkina or infernal spirits. Above this earth, in the atmosphere, five kinds of "Dev of splendour" reside:—the sun, moon, stars and others. Above them, in twelve Dev-Loka, the Dev who ride in chariots dwell; these, sometimes drawn by their own desire, or compelled by charms, appear in the world; but they do harm to no one. Above them are nine classes of Grivek, and five of Unootur Veemani. They

are of great power and never visit the earth. Men who have lived a life of austerity and righteousness are born again in these classes of upper or lower Dev, but the sinner is not born in them. Of old, a man who had performed the rite of "Uthum" by fasting for three days, acquired the power of calling the Dev to him, but now, it is said, these Dev never visit the earth at any one's call.

In Gazerat, where people wish to prevent the removal of a jungle tree, they paint a trident upon it with vermillion, or, if that be inconvenient, they collect a number of stones and throw them down at the root of the tree. Whoever, after this, passes by, is sure to add a stone or two to the heap, believing the place to be the residence of a bhoot. Some, however, throw without taking heed to what they are doing. If the place be one where stones are not easily procurable, a bit of old rag is thrown so as to adhere to the tree, and every one who passes by follows the example once set. They call the spot the "Rag-uncle's." In places where trees are scarce these uncles are very common, and people are much annoyed with the dread of touching them. The name "uncle" is given to the bhoot by women as a term of respect. Men are less superstitious. Similarly, whenever in any place there is a hillock or mound upon which a few stones have been piled one above the other, every passer-by considers himself bound to add a stone to the heap, considering that the spot is the residence of some Dev, and that if any one raise a little temple there, his house will flourish. Such monuments are also set up in places where a person has been slain or wounded. "Cairns" of this kind are frequently connected with the dead—

"On many a cairn's grey pyramid,
"Where urns of mighty chiefs lie hid."

We may imagine man primeval worshipping the elements as spiritual existences, which benefitted him or injured him at their will, and which had to be propitiated with presents of food and drink such as he himself liked. Thus, with the Aryans, Agni, or fire, became the principal deity, because it consumed the butter and rice given to it, or carried them away to Indra and the other gods. But, the tendency of the human mind being to personify such conceptions, the elements became personified into gods and goddesses until they were shaped into tangible forms. The hymns in the Veda are simply invocations to those deities to give abundant harvests, plenty of children, and especially plenty of cattle, and to endow the worshipper with health, wealth, strength, good fortune, and victory over enemies. Then, again, the benefits supposed to be conferred by the elements were regarded as the achievements of the gods, whose praises were to be mingled with the invocations. The nature of these sacrifices, which appear to have been confined to the Arian race, were of a very simple character as compared with the bloody offerings, orgiostic worship, dancing, torturing, and other abominations practised by the Turanian or aboriginal races of India. The sacred kusa grass was cut and strewn upon the ground, which might be within the dwelling-house of the family or in the open air; the logs of wood were brought for the fire, and the offerings in most cases appear to have simply consisted of melted butter and wine, which, under the names of ghee and soma juice, were poured upon the mysterious flame which was in itself an emblem of the deity. During this ceremonial the hymns of the Veda were chaunted or sung; and perhaps we cannot do better than lay before our readers one of these simple prayers. It is an invocation to Indra, which will be easily understood from its simplicity, and which probably is one of the most ancient that have yet been published. It is from Wilson's translation, vol. i, p. 73:—

1. Voracious drinker of the soma juice, although we be unworthy, do thou, Indra, of boundless wealth, enrich us with thousands of excellent cows and horses.

2. Thy benevolence, handsome and mighty lord of food, endures for ever: therefore, Indra, of boundless wealth, enrich us with thousands of excellent cows and horses.

3. Cast asleep the two female messengers of Yama (death); looking at each other, let them sleep never waking: Indra of boundless wealth, enrich us with thousands of excellent cows and horses.

4. May those who are our enemies, slumber, and those, O hero, who are our friends, be awake: Indra, of boundless wealth, enrich us with thousands of excellent cows and horses.

5. Indra destroy this ass, our adversary, praising thee with such discordant speech: and do thou, Indra, of boundless wealth, enrich us with thousands of excellent cows and horses.

6. Let the adverse breeze, with crooked course, alight afar off on the forest: Indra, of boundless wealth, enrich us with thousands of excellent cows and horses.

7. Destroy every one that reviles us; slay every one that does us injury: Indra, of boundless wealth, enrich us with thousands of excellent cattle and horses.

Out of this ancient simple form of nature worship, acted on and moulded by the progress of history, sprang that wild and complicated mythology which is set forth in the Puranas, and forms the ground-work of the popular

religious belief of the modern hindoos. The links in the chain of development are still obscure, though we believe they may be recovered by a rigid sifting of the ideas which find expression in the Epics and Puranas, and we predict that the results will prove to be somewhat as follows:—The Veda worshippers were originally Arians who invaded India from the North West at some remote period, and gradually penetrated towards the South. Of their early history, which must have spread over several thousands of years, three if not four great events took place, which have left a lasting impress upon the religion and institutions of the masses in British India, the first was a primeval struggle between the priests and the soldiers, of which, strangely enough, a counterpart is to be found in the history of Egypt as recorded by Herodotus; in both countries the struggle terminated in the triumph of the priest over the soldier, or, to use Indian phraseology, in the triumph of the brahman over the Kshatriya; and which apparently led to that deification of the brahman caste which still exists though in a greatly modified form. The second event was the Arian conquest of the south, which is represented in the epic of the Ramayana; and this event may have given strength and definiteness to the division into four castes which is scarcely recognized in the Vedas. The third event was the great civil war known as the Mahabahrata; and the fourth was the introduction of Buddhism as opposed to the caste system, which, after maintaining a firm hold in India for many centuries was at length fairly vanquished in its turn and driven out by the persevering and ever-intriguing brahmans. These events added many heroes to the hindoo pantheon, who were regarded after death as incarnations of deity; it likewise added many rites and ceremonies, and even forms of belief, which were borrowed from the aboriginal or subject races. Meantime, whilst hero worship, snake worship, monkey worship, &c., found their way into the hindoo ritual, that process of personification, which in the Vedas was apparently confined to the elements, or powers of nature, was extended to the human passions; and love and anger, hope and terror, were transformed from mere affections into imaginary deities. But still from beneath this mass of error and superstition, the human soul obeyed that upward instinct which leads men to yearn for the spiritual and the pure; but though they attained grand ideas they could not get out of the slough of speculation; and such truths as they succeeded in apprehending were wanting in that inspiration without which the mass could not be even leavened, and certainly never could be purified. It was during this later development, when the caste rules, which are not to be found in the Vedas, were in full working order, that the code of Manu seems to have been compiled, not as a utopian body of laws, as some have supposed, but as a body of substantive laws suitable to the requirements of the age. It was, in fact, an abridged codification of the Puranas, and as such it should be considered more by the light of the Puranas than that of the Vedas.

The Revd. Dr. Caldwell in his work on the Devil-worship of the Shanars, has shown how continuously the people of India are making new deities or demons. Sir Bartle Frere mentions that he accidently found an order in existence at Government House, Dapoorie, handed down by each non-commissioned officer for the native sentry on guard to present arms if a cat or dog, jackal or goat entered or left the house or crossed near his beat during certain hours of the night, because it was the ghost of a former governor who was still remembered as one of the best and kindest of men. The rajah of Wanparty, one of the Reddi race who have founded small principalities along the banks of the Kistnah river, died in 1868, at Hyderabad. He had led a turbulent life and retained to the last much of the spirit of his youth. At the close of that year, an out-break of cholera occurred in that neighbourhood which the people attributed to the spirit of Wanparty, and they made a clay image of him, riding on an elephant, and placed near him the clay of a Binjarni, and worshipped all with the great Mahabala sacrifice. The superstitious fears of the hindoos extend to innumerable objects: they dread the wrath of the following invisible beings; the messengers of Yama, bhoots, prets, pish-ache, dakinee, yoginee, hakinee, yukhshu, rakshusu, shunkinee, gooma, brumhu-doitya, aluya, &c. They also fear the cries of the following animals, at particular times, and in certain situations; viz., jackals, owls, crows, cats, asses, vultures, dogs, lizards, &c. They also dread different sights in the air, and many kinds of dreams.

It is the universal opinion of the hindoos, that all the tricks of jugglers are performed by the aid of an attendant sprite:—

> "the fiend
> "Who dictates and inspires illusive feats
> "For knavish purposes."

King James I. thoroughly believed the same, and confesses it unblushingly in the preface in his Demonology:—"They (magicians) can suddenly cause to be brought unto them all kinds of dainty dishes by their familiar spirit, since as a thief he delights to steal, and as a

spirit, he can subtilely and suddenly enough transport the same." To obtain such a sprite for a familiar, is, as might be expected, a work of no ordinary difficulty. The two following receipts were presented by a hindoo, of the peninsula, as having been tried and found efficacious.

In the dense darkness, at the time of new-moon, let the person who would obtain a devil, walk naked into a lake, and standing in the water up to his middle repeat the mantra (a charm previously taught him by some proficient), the appointed number of times, taking care of his reckoning by casting into the water a pebble, a jasmine flower, or a pepper-corn, from a collection which he has previously counted and brought with him. At every repetition of the mantra let him give himself a stroke with a rattan. The charm is to be repeated boldly, and without mistake, or the devil will certainly kill the charmer.

Or, go to the temple sacred to the demon whose services are required. Having closed all avenues by which so subtile a subject may escape, stand on the threshold of the temple and boldly conquer the demon by a powerful mantra. Then you must raise the pedestal on which the image of the demon is placed, and take from under it the money placed there when the image was inaugurated. Instead of this money place there a copper-plate on which you have engraved a kolam (magical inscription.) From that day the demon becomes your slave, and will perform for you any service, or bring you whatever you may require. Some say the spirit must, when caught, be confined in a little golden box, called a Simil.

A devil sometimes appears in visions of the night, and promises under certain conditions, to conduct the dreamer to hidden treasures and to become his servant for life. The usual condition is that a human sacrifice should be offered, and the more closely related, in kin or friendship, the victim is to the offerer, so much the more grateful to the demon is the sacrifice. All these demons are much under the power of spells, mantra and charms, and there are many tales of demons vanquished by the power of the poet. As grammar took the rank of 'grammorye' in the dark ages of Europe, it still holds a rank not much less mysterious in the vulgar opinion of India. And not altogether without reason, for to the uninitiated the Sutra (grammatical rules) of many of the vernaculars are, as Sir William Jones long ago observed of the Sanscrit, 'dark as the darkest oracles.' An examination of a manuscript book of spells, kolam and cabalistic figures, collected by a Tamil man of low caste, shows that very many of the incantations commence with the sacred syllable Om! or the mantra 'Nama Sivayah,' salutation to Siva. The invocation is never addressed to either Brahma or Vishnu. The following is a specimen of a charm given by Mr. Murdoch in his catalogue of Tamil books :—

"Om ! Adoration to the Supreme power,
Kali, ratri, black night !
To whom the bloody flesh of man is dear ;
Whose very form is fate and death
Seize, seize on the life of such a one
Drink blood ! drink blood !
Devour flesh ! devour flesh !
Make lifeless ! Make lifeless.
Hum ! Phut !"

It seems to have been the practice of the brahmans (founded perhaps partly on the policy of conciliating the children of the soil, but more on a secret terror,) to adopt the local demons into their pantheon, disguised under Sanscrit names. Hence almost every town, high hill, green grove, and fountain of water throughout the peninsula, has its deity, its temple and its sacred legend (sthala purana.) And in process of time, so low did brahmanism sink, that every animal, be it beast or bird, was made either itself a god or the vahanam (vehicle) of some deity, so that, in fact, there was only the broom-stick left to serve as a vehicle for the witches of the west. Still, the pride of caste has never yet allowed the priestly tribe, openly and collectively, to worship the demons of the people as such. It has been computed that in South India, the number of Sivites to that of Vishnuvites is as four to one. The Sivite brahmans accommodated that system most to popular notions, especially in the adoption and worship of the Phallic emblem ; and hence they obtained a firmer footing in the south, the last stronghold of the aborigines. The greater part of the southern sudras have become converts to saivism, doubtless, from finding its genius more consonant than vaishnuvism with the fierce and bloody rites of their demon-worshipping forefathers. The highest brahman authorities have taught that the case of the devils themselves, is not altogether hopeless. There is a well-known aphorism in the Sankhya, which is illustrated by the story of a devil (Pisacha) who was enlightened and obtained felicity by overhearing the religious discourse between Krishna and Arjuna. Burns, it will be remembered, expresses a like hope for the 'puir de'ils :'—

" But fare ye well, auld Nickie ben !
O wad, ye tak'a th thought and men !
Ye aiblins might—I dinna ken,
Still ha'e a stake,
I'm wae to think upo' your den
E'vn for your sake."

But it is in the extreme south of the peninsula, that devil-worship is found least intermixed with image-worship or with any of the other forms of brahminical institutions. Indeed the whole race of Shanars (except in the christian villages), may be said to be wholly given to demonolatry. Though they acknowledge a Supreme Being, yet they never pay him any worship, and they seem to have no belief in the future life—the metempsychosis in which the other inhabitants of India so firmly believe. They dread the devils purely on account of the physical evils which they believe them to have power to inflict; and to avert these evils by propitiatory sacrifices and ceremonies, constitutes their religious worship. And it is worthy of remark, that every word in the Tamil language denoting an image, is from the Sanscrit, and therefore introduced by the brahmans, while the terminology of demon-worship is, in the south, pure Tamil. Among the Shanars too, are most common the devil-dances not unknown in other parts of India. The devil-dancer dances all but naked; the body being painted with stripes of black, yellow and red paint; bells dangle from the wrists, waist and ankles; sometimes a burning torch is placed under the left arm, sometimes pans of fire on the head. He dances, burning himself with the torch, cutting himself with knives and yelling. When at length he is fully possessed, he strikes in his frenzy the head from a goat, and then he is believed to be inspired with knowledge of the future. Women flock round him to ask for offspring; sick people to enquire about their diseases; and farmers to know whether their crops will succeed, or where they will be likely to find cattle or property, 'lost, stolen or strayed.'

It has been conclusively shown on the evidence of language, that the Tamil races belong to the great Scythian or Turanian family; therefore it is the less surprising to find such a similarity between the Shamanite demonolatry of High Asia and the Dravidian or Tamil demonolatry of South India. We are, at the same time, free to confess, that we should have considered such similarity, if it had been unsupported by philology, very unsatisfactory evidence to be adduced in proof of identity of race, for the rites of demonolatry have been practised by Arians and Semites as well as by Turanians from remote antiquity. The fear of demons and the desire to propitiate them, seem in fact, as Scott remarks, to be natural to the human mind and, like the common order of vegetables which naturally spring up in every climate, these naturally arise in every bosom. A tropical country will best favour the growth of such superstitions; and when we wonder most at what appears to us, the extraordinary credulity of orientals, we are apt to omit to take into account the peculiar influences to which they are subject. Striking the key-note which has since been sounded by Professor Kingsley, Humboldt says the forces of nature exercise a magical power over us so long as their action is shrouded in mystery and darkness." The inhabitants of tropical countries are brought into the most intimate communion with nature, and therefore in those climes this magical power will be most felt. Statistics too have shown that the natives of South India are peculiarly susceptible to nervous affections, to attacks of hysteria and epilepsy. When therefore we witness the extraordinary gyrations and paroxysms of the Tamil Shamans or devil-dancers, it is not necessary for us to suppose the existence of imposture or insincerity. These paroxysms, it is true, can, as Sir John Lubbock observes, be always apparently produced under given conditions; still there is a mystery, and the mystery is probably none other than the grand mystery of the pathology of the nervous system.

Col. Tod thus describes a custom in Harawati:—"Half way we passed a roofless shed of loose stones, containing the divinity of the Bheels; it is in the midst of a grove of thorny, tangled brush-wood, whose boughs were here and there decorated with shreds of various coloured cloth, offerings of the traveller to the forest divinity for protection against evil spirits. He adds, in a note, that the same practice is described by Park as existing in Africa. The mahomedans of the south of Asia believe in spirits, and in the science of dawat or exorcism, to which they have recourse to command the presence of genii or demons, who when it is required of them, cause anything to take place. The genii spirits are believed to reside in the lowest firmament, and possess the power of rendering themselves visible to human beings in any form they please. The evil spirits are called shaitan. The spirits of mahomedans are supposed to rest in the graves till the resurrection; on being laid in the grave, the two angels Nakir and Mankir, interrogate the departed as to his life: dogs, women and horses are not allowed inside the burial ground. Annually oblations called Ooroos are offered in the name of Mahomed, or in the names of the Pir or spiritual guides, or in the names of the Walli or saints. *Khajah Khizr*, a mahomedan saint often appears to travellers in different guises, but generally as an old man. The people of Sind believe in the Rijal-ul-ghaib; in the Jin or Genii; in Bhut, ghosts or

disembodied spirits; in Ghool, or demons of the wilderness: in Pari, fairies, and in Dev, Rakas and Pap, powerful fiends, corresponding with the Arab "Marid." The Dakan or Dev, is the same as our witch, usually an old woman, decrepid, poor, of humble family, and angry disposition. She has the power of turning men into beasts, killing cattle, flying to any distance on a tree by reciting a mand (magical formula) and mounting a hyæna. Unlike the Arabian witch, she is, however, unable to ride a besom. The Bandh and Maun are frightful beings, half-female, half-hellish. They live in the hills and jungles where they frequently appear to travellers, are covered with hair like bears, have large pendant lips, and live on fruits and herbs. The Shir is a creature that partakes of the satanic nature. He, generally speaking, appears like a low caste man, very dark, tall, and frightful: sometimes as a headless body. He lives in the makam, or burial ground, where he lights fires, and amuses himself by throwing the brands about, frightening folk by vociferating their proper names, or pursuing them in the form of some beast. Hence the universal fear of approaching a burial ground by night. The shaitan (satan) curious to say, is only seen by learned and religious men, to them he appears as a young man of white complexion and handsome form which he can change at discretion. It is interesting to observe that in Sind, as nearly all the world over, popular superstition has created Marhun Machhi (mermen and mermaids), by mistaking some kind of fish for a human being. The science of Osteomancy is the Ilm-el-Aktaf (knowledge of the shoulder-blades) of the pagan Arabs and some Bedouin tribes of the present day, the Ilm-i-Shaneh of the Persians and Affghans, and is known to the shepherd clans of Sindhis and Beluchis by the name of Phaunia-jo-fannu. The instrument of divination is the scapula of a sheep divested of its muscles and integuments. The dorsum is considered. The Ilm-i-Kaf, or Palmistry, is common among moslems and hindoos, but better known in Cutch than in Sindh. The "canons of true and catholic chiromancy" are much the same in Asia as in Europe, and the pages of Torreblanca, or the notable volume which boasts Aristotle's name, prove that the art is of purely oriental origin. The Sona-jo-Ilm, or knowledge of omens, taken from the flight of birds, the appearance of beasts, and other similar phenomena, closely resembles the art of the Indian Thugs. The Beluchis are considered great adepts in this branch of the occult sciences, and the Sindhis have a short treatise upon the subject called Sungun-namo. Isaiah viii, 12, says "Neither fear ye their fear, nor be afraid." Superstitions of the grossest type have always been known to take root and cling to India, after having been driven out of Europe and the greater part of Asia. The religious and social life of hindoos is but a reflection of superstition, in a great measure. Bishop Heber was right. To a native of India the famous "credo—quia impossibile," of Tertullian is, in effect, the most convincing argument after all. Friday night is a dangerous one, for these local ghosts go about intent on destruction. Each marsh has its unseen evil genius. The dryads of the wood are an evil company. The nymphs of the rushing streams delight to gaze upon the corpses of drowned men. In the south of the Madras presidency, especially, localized demons have exercised this mysterious, yet therefore not less potent, power for centuries. A man dies under the slightest exceptional circumstances —and lo! his spirit goes abroad! It lurks in yonder hut, it crouches under yonder banyan tree. It must be propitiated with plantains or fruit, rice or sweet toddy. There is an English ghost in Tinnevelly. It is the ghost of a certain gallant captain who died in the storming of the Travancore lines early in the 19th century. Mortally wounded, and retreating to the northward, his body was left behind by his affrighted servants. The poor man breathed his last near a village in which, latterly, a Mission of the C. M. S. has been established, and which is called Gospel town, Suviseshapuram in the vernacular. The dead man, after his death, was deified by the simple instincts of the neighbouring Shanars. He has a rude hut to his honour. And the offerings which appease him are brandy and cheroots. He may be invoked. His opinion may be elicited.—*Rajasthan, Vol.* ii, *p.* 662; *Burton's Sindh, pp.* 175, 176, 189, 194; *Ward's View of the Hindoos, Vol.* ii, *pp.* 140–7; *Forbes' Ras Mala or History of Guzerat, Vol.* ii, *pp.* 378-80, 386-87; *Sir John Lubbock's' Origin of Civilization.*

SPIRULA, a genus of molluscs of the family Spirulidæ. There are three recent species.

SPITI, a British province, forming portion of the Ladak country, comprises the whole valley of the Spiti river. Its mean area is 1,900 square miles, and mean elevation of its inhabited parts 12,986 feet The inhabitants of Spiti trade with their neighbours on the other side of the Himalaya; the exports are wool, borax, salt, and blankets; and the imports are articles from the plains, and a great deal of iron. In Spiti, in the N. W. Himalaya, when a person dies, the body is sometimes buried, or burnt or thrown into

the river, or cut into small pieces and burnt, admonitions are made over the body to the departed spirit, such as do not trouble yourself, you cannot enter it (meaning the dead body,) in summer it quickly becomes corrupt, in winter it freezes and is too cold for you. Spiti has a peculiar importance as being the only portion of British territory bordering on Chinese Tibet. Spiti forms a valley in the extreme north-east angle of British India, the inhabited portion is said to have an elevation of nearly 12,986 feet. The valley of Spiti was annexed principally with the view of preventing the evils which would result from allowing a foreign territory to intervene between the districts of Kangra, &c., and the wool-producing valleys beyond. Spiti is approached, says Captain Hay, from our own territories and Kanawar, by six different routes, and from Ladakh and Tartary by three routes, through the two chains of mountains ; many of the passes are at great elevations, varying from 14,000 to 18,000 feet. Spiti is bounded on the north by the Parang range, separating it from Ladakh to the north-east by inaccessible mountains ; on the east, a valley called Kurateetakpo separates it from Chinese Tartary, on the south and west, it is enclosed by the portions of the snowy range, dividing it from Bishahr, Kulu, and Lahoul. The Ghoout is a hill-breed of horses of the Himalaya mountains, generally small, strongly made, hard-mouthed, and sometimes almost unmanageable. In ascending hill faces, or passing along the declivities of mountains, it is best to let them have their own way, for in an intricate passage they often show more sagacity than the rider ; their common pace is a kind of amble, and they stop every now and then to breathe, when no application of the whip will move them ; they are sure-footed, and sometimes halt at the edge of a precipice, to the terror of the rider ; they are not so quick in ascending hills as the low country horses, but they descend with double the speed, and endure great fatigue. The ghoout, though a useful animal, seldom carries any burden but a man, the total number in Spiti is 295 ; they are bred chiefly for sale. They have two breeds, one a small ghoout, never above 12 hands high, peculiar to the country ; and the other a large breed, from 13 to 13½ hands high, is bought from the Chinese, and usually comes from Choomoortee, for a Chinese ghoont two years old they give a Spiti ghoont four years old. All are equally hardy and kept out the whole winter, except the yearlings, which are housed. During winter the ghoont live on the roots of the stunted bushes, and are very expert at scraping the snow from off them with their fore-feet. The breed of ghoout might be improved with a little care. Many are killed during winter by wolves and leopards. A liquor is distilled in Spiti from barley, and called "Chang," and is sold at 30 puttahs for the rupee. A "puttah" is a liquid measure of 2 seers = ¾ of a pucka seer. "They consume," writes Captain Hay, "large quantities, and one man is said to drink on occasions of festivity as much as four puttahs." "Chang" can be made from other grains besides barley, that made from rice is superior, the wealthier classes in Spiti, &c., use a weak spirit, called arak which is distilled from rice. The Spiti river, rises near the Baralacha pass, the ranges to the north are 20,000 feet. Spiti is in 5 kothee or sub-divisions, each under a Gyatpo or elder.—*Powell's Handbook, Econ. Prod., Panjab, Vol.* i, *pp.* 124-25, 312 ; *Capt. Gerrard's Account of Kunawar, p.* 112. See India, Ladak, Maryul or Lowland.

SPITZEN, Ger. Lace.

SPIUG, Hind. Arundinaria falcata.

SPIZAETUS ALBOGULARIS, *Tickell.*

Limnaetus kienierii. | Spizaetus limnaetus, *Horsf.*

The race of these birds in the Dehkan and Ceylon are rather more crested originating the Sp. cristatellus, of authors.—*Tennent's Sket. Nat. Hist., p.* 245.

SPIZAETUS MILVOIDES, *Jerd.* Syn. of Aquila pennata, *Gmel.*

SPIZAETUS NIPALENSIS, *Hodgson.* Peculiar, so far as previously observed, to the Himalaya.

SPIZALAUDA, see Mirafra.

SPLINT COAL, see Coal.

SPOGEL SEED, Plantago ispaghula.

Buzr kaluna,	Ar.	Fusliun,	Gr.
Barz-katuni,	„	Ispagul,	Pers.
Buzra kotuna,	„	Ispoghul verei,	Tam.
Esubgul, Ispagul,	Hind.		

The seed of the plant Plantago ispaghula, grown in the upper provinces of India, Guzerat, Persia, &c. The seeds are of a very cooling nature, and form a rich mucilage with boiling water, which is much used by native practitioners, and occasionally by European medical men in India, in cases with inflammation of mucous membranes. The seeds met with in Bombay are brought from the Persian Gulf, Guzerat and Sonmeeanee. In India the Plantago ispaghula is cultivated during the cold season for the seeds, the seeds are used as an emollient and light article of diet for convalescents. In making a decoction of Ispaghool take of Ispaghool seeds two drachms, distilled water one pint. Boil and strain ; this preparation is a simple demulcent. That of Ispaghool is used in dysenteries, and was recommended by Mr. Twining.—*Faulkner ; O'Shaughnessy p.* 510.

SPONDIACEÆ, *Kth.* The Hog-plum tribe of plants, comprising 2 genera, 7 species, viz., 6 spondias, 1 poupartia.

SPONDIAS ACUMINATA, *Roxb.*

Ambut, DUK.

A most elegant middle sized tree, with shining leaves. It grows on the western side of India, being sufficiently common in all the Bombay forests, both coast and inland. The wood, in its natural state, is not of any value, but could be creosoted with advantage.—*Roxb., Fl. Ind., Vol.* ii, *p.* 453 ; *Drs. Gibson and Riddell.*

SPONDIAS AMARA, *Lam.* Syn. of Spondias mangifera, *Pers.*

SPONDIAS DULCIS, is much cultivated in the Society Islands. Introduced into Bombay. In Fiji, *Ivi,* it yields a kind of Hog-plum, *Riddell.*

SPONDIAS ELLIPTICA, *Rottl.* Syn. of Buchanania latifolia.

SPONDIAS MANGIFERA, *Pers., Roxb., W. & A., Vol.* i, *p.* 173.

Spondias amara, *Lam.*	Mangifera pinnata, *Kœn.*
„ amra, *Ham.*	Poupartia mangifera, *Bl.*
„ paniculata, *Roxb.*	Condondong of *Rumph.*

Amra,	BENG.	Canana amra,	SANS.
Ambalam,	„	Æmbæ-rælla,	SINGH.
Ran-am,	BOMBAY.	Kot-dong-dong of Rumph.	
Ky-wæ,	BURM.	Kat-mavu,	TAM.
Bahamb,	CHENAB.	Kat maaam maram,	„
Jangli am,	DUK.	Mirri-mangi maram,	„
Wild mango tree,	ENG.	Kat mavu,	„
Hog plum tree,	„	Ambara,	TEL.
Amra,	HIND.	Amra,	„
Ambalam,	„	Ambala chettu,	„
Amb,	MAHR.	Jvuru mamidi.	„
Ambalam,	MALEAL. of	Pita vrikshamu,	„
Rheede.		Amatum,	„
Kat ambalam,	MALEAL.	Adavi mamidi	„
Amrataca,	SANS.	Ambud'ha ?	URIA.

This is a large tree in the Coromandel mountains, but as a cultivated plant, it is small. It flowers in the hot season. It grows in various parts of India, in some, as in Ganjam and Gumsur, is sufficiently common. It there has a straight trunk and attains an extreme height of 30 feet, with a circumference of 2½ feet, and its height from the ground to the intersection of the first branch, is 7 feet. The wood is soft and of little or no use, except for firewood. From wounds made into the bark, in the beginning of the hot season, very large quantities of a transparent juice issue, which soon hardens into a mild insipid gum, like gum-arabic. The fruit got its name from its resemblance to a mango, but it is harsh and little deserving of notice : on the Malabar coast, the root is considered as emmenagogue ; the bark is supposed to be of use in dysenteric affections and a decoction of the wood serviceable in gonorrhœa. The Karens have a tradition that in those golden days when God dwelt with men, all nations came before him on a certain day, each with an offering from the fruits of their land, and the Karens selected the hog plum for their oblation ; which gave such offence, that God cursed the Karen nation and placed it lowest among all the nations by whom they are surrounded. The fruit is eaten raw when ripe, and before ripe is pickled, put into curries, made into tarts, &c. The fruit when fully ripe is of a pale yellow color of a pleasant flavour, but a little too acid. The sour leaves are used in chatneys.—*Ainslie, p.* 221, 222*; Roxb., Vol.* ii, *p.* 451 ; *Wight and Arnott, Vol.* i, *p.* 173 ; *Voigt, p.* 143 ; *Capt. Macdonald* ; *Mr. Jaffrey* ; *Drs. Riddell* ; *McClelland* ; *Mason* ; *Rohde, MSS.* ; *Col. Lake* ; *Dr. J. L. Stewart, Punjab plants* ; *Sir William Jones, Asiatic Researches, Vol.* iv, *p.* 284.

SPONDIAS PANICULATA, *Roxb.* Syn. of Spondias mangifera, *Pers.*

SPONDYLUS, a genus of molluscs : the species called Spondylus regius is so rare that only three broken shells exist in Europe.

SPONGE.

Isfanj : Isfenj,	AR.	Spunga,	IT.
Tsok-tsa-ya,	BURM.	Uniwatta,	JAP.
Hai-jung : Shwui-p'au-myen,	CHIN.	Spongia officinalis,	LAT.
Ling-siau-hwa,	„	Halispongia,	„
Esponge,	FR.	Bunga-karang,	MALAY.
Schwamm,	GER.	Abar-murdah,	PERS.
Mun-badul,	GUZ., HIND.	Esponja,	SP.

Sponges from the coasts of Asia Minor and Syria are dived for by the people of Calymnos, Chalee, Syme and other islands near Rhodes. In May a little fleet of caiques set sail from Calymnos manned by the greater part of the able-bodied of the male population and they return in the autumn and sell to their richer townsmen who trade in sponges, and these are despatched to Trieste, Syria or Smyrna. A diver can descend to thirty fathoms and remain for 3 minutes. A caustic fluid at the root of the sponge is apt to cause ulcers. They are cleaned and dried in the fields, and then filled with sand to ensure equality of sales. Numerous species are known, with soft porous bodies, traversed by tortuous canals ; but the officinal sponge is imported from the Mediterranean and Red Sea ; some of the coarser kind from the West Indies. Those of the British seas would probably answer equally well for burning. When collected, sponge contains numerous small fragments of corals and minute shells, from these it must be freed before it can be used. Sponge is composed of gelatine and coagulated albumen. When burnt, its ashes give carbon, and some silex, carbonate and phosphate of lime, carbonate of soda, chloride and iodide of sodium, bromide of magnesia, with a little oxide of iron. That known as Turkey sponge, the Spongia officinalis of Linnæus, of the natu-

ral order Spongiæ, is the peculiar skeleton, whole, and is produced in southern and eastern seas, though imported into Great Britain from Turkey. The imports are in cases, each containing about 500 sponges of various sizes, averaging in value about 55s. per pound. The following imports took place into Liverpool in the years

1851....95 cases.	1854....163 cases.
1852....175 „	1855....146 „
1853....110 „	

Sponge is a zoophyte, a word made from the Greek ζωον animal, and φυτον a plant. The characteristic example of this creature is to be seen in the coral, and the best authors divide them into

i.—Protozoa, including Infusoria, Foraminifera, and Spongiadæ.

ii.—Polypifera, including the Hydræ, Sertularia and Pennatularia.

iii.—Echinodermata or Sea-urchins and Star fishes.

The Protozoa class of Zoophytes, are divided into Rhizopoda and Infusoria. The Amibæ, Foraminifera and Noctilucæ, are three orders of Rhizopoda. The Infusoria exist in all waters. They are said to have 71 species. The Ganges annually transports them to the ocean, to the extent of six or eight times the size of the great pyramid of Egypt. And the waters at a depth of 22,000 feet between the Philippines and Marianne Isles, yielded 116 species. Polypifera, the polypi, correspond with the Polype of science and the Acalephous zoophytes of Cuvier. In nearly all the polype, the sexes are separate. They are arranged into the classes, Sponge, Alcyonidæ, Zoantharia, Discophora and Cteuophora. The sponge animal lives at the bottom of the sea, and consists of a mass of light elastic tissue. Nearly three hundred species are known, amongst them are the Feather, Fan, Bell, Lyre, Trumpet, Distaff, Peacock, Tail and Neptune's Glove sponge. River sponges are irregular sandy masses, piled on plants and solid bodies in fresh water. The sea sponge is found in the Mediterranean, Red Sea and Mexican Gulf, attached to rocks, at from 5 to 25 fathoms deep. The Syrian fishermen fish for sponges from June to October. In the Red Sea, the Arabs dive for them and sell them in Egypt and at Aden. The Spongia, Calcispongia, Halispongia and Spongella constitute a group of which the constituent structure is known. The Geodia, Cæloptychium, Siphonia, Myrmecium, Scyphia, Eudea, Halirrhoa, Happalimus, Cnemidium, Jerea and Tethium constitute another group, depending on characters of surface and general figure. Sponge is gathered from the rocks of Vizagapatam, at about 12 feet below the sea.—*Newton's Levant, p.* 293; *Hatchett; Royle*; *Figuier, pp.* 116-121; *Madras Ex. Jur. Rep.*

SPONGE TREE, Eng. Vachellia farnesiana, *W. & A.*

SPONGIA, a genus of Zoophytes, from which as also Calaspongia and Halispongia, the sponges are obtained.

SPONGIA OFFICINALIS, see Sponge.

SPONGITEÆ, see Corallinaceæ.

SPONIA ? *Species ?*

Tella kaka mushtee, Tel., of Circars.

Captain Beddome says that this appears to be Celtis wightii of Wight's Icones, and has one of the hardest woods he had ever met with—light coloured and well worthy of attention.—*Captain Beddome.*

SPONIA ORIENTALIS, *Voigt.*

Papyrus sphærica, *Kæmpf.*
Celtis orientalis, *Roxb, Fl. Ind.*

Chicolee,	Beng.	Morali chettu,	Tel.
Jeebun,	„	Bndu muru,	„

A small erect tree of Ceylon, the Coromandel coast, common along the foot of the ghauts, and occurring in the Kennery forests, Salsette, in Nepaul, Bengal, Sylhet and Assam. Roxburgh says it is neither useful nor ornamental. Voigt mentions that the under bark consists of numerous reticulated fibres, and forms a natural cloth used by the Garrow race, and that its leaves are used for polishing horn.—*Roxb. Fl. Ind.*, ii, *p.* 65; *Voigt, p.* 294; *Flor. Andh.*; *Mr. W. Jacob.*

SPONIA WIGHTII, *Planch.*

Marni,	Beas.	Kanghi,	Umballa.

A small tree found very sparingly in the Siwalik tract up to the Beas, and occurring also in the Salt Range, occasionally west of the Jumna, in some parts of India its exceedingly harsh rough leaves are employed to polish wood and horn.—*Dr. J. L. Stewart's P. Plants, p.* 210; *Powell's Hand-book.*

SPOOKDIER VAN MENADO or the Ghost animal of Menado, which is adapted for climbing in trees, being provided with sharp-nailed toes on its four legs. The animal is about eight inches high, covered with greyish hair, has large flabby ears, piercing eyes, and a long thin tail on which the hair stands out at right angles.

SPOROTRICHUM, Dry Rot.

SPORTING BUFFALO. In the thick forests which cover the Passdun Corle, to the east and south of Caltura, the natives of Ceylon use the sporting buffalo to assist in hunting deer and wild hogs. A bell is attached to its neck, and a box or basket with one side open is securely strapped on its back. This at nightfall is lighted by flambeaux of wax, and the buffalo bearing it, is driven slowly into the jungle. The huntsmen, with their

fowling pieces, keep close under the darkened side, and as it moves slowly onwards, the wild animals, startled by the sound, and bewildered by the light, steal cautiously towards it in stupified fascination. Even snakes, Tennent was assured, will be attracted by this extraordinary object, and the leopard also falls a victim to curiosity.—*Tennent's Sketches of Nat. Hist., p.* 55.

SPOTTED DEER OF INDIA, Chitra, SANSCRIT ; and Chittal, HINDI of Continental India and Southern Mahratta country of the Malayan peninsula, is the Axis maculata of Gray and Ham. Smith and the Cervus axis of Erxleben and Elliot.

SPOTTED HEMLOCK, ENG. Conium maculatum.

SPOTTED HOGDEER, of Hodgson, Axis maculatus, *Ham, Smith, Gray*.

SPRAT. The Bristle-finned sprat, Setipinna, a small fish of the herring tribe is found in Burmah seas. It is, however, easily distinguished by a long filament or bristle, which is attached to each pectoral fin. This and another species are often called sprats by Europeans, and they belong to the same tribe. —*Mason.*

SPREADING CYPRESS, see Evergreens.

SPREADING HOGWEED, Boerhaavia diandria, Boerhaavia tuberosa, Boerhaavia procumbens.

SPRENGEL, author of Systema Vegetabilium.

SPRENGER, a medical Officer of the Bengal army. A philologist, who contributed much to illustrate Persian and Arabic literature.

SPRINGS. The Tenasserim Provinces are well supplied with hot springs ; and some of them are probably not inferior in their medicinal qualities to the fashionable Spas of Europe and America. Though their waters have never been subject to any minute analysis, yet we know there is a great variety in the properties of different springs. They may be arranged in three different classes,—carbonated, sulphureous, and saline.

Carbonated Thermal Springs—The hot springs on the Ataran, according to Dr. Helfer's description, belong to the carbonated class. They are situated within two miles of the old town of Ataran, and Dr. Helfer thus writes : "There are ten hot springs or rather hot water ponds, of which I could only examine the nearest, as the access to the others was through deep water at 130° Fahrenheit. This one was a semi-circular pond about fifty feet in circumference. In one place it was thirty-five feet deep. The quantity of carbonic acid which the springs evolve, seems to render the neighbourhood peculiarly adapted to support vegetable life. The ground around the spring is strongly impregnated with iron, and the water which runs over the ochre mud has a strong styptic taste. The springs on the Ataran approach in their composition nearest to the celebrated waters of Tœplitz. Their medical properties would render them excellent remedies in a number of diseases : liver complaints would find a powerful remedy in them. If Amherst should be selected as a resort for invalids, the hot springs on the Ataran could easily be turned to advantage. In a direct line, they would be only four or five hours distant, and a road could be cut through the country without difficulty, so that patients could be removed there and bathe in loco." Dr. Morton found on analysis, that the waters contain a considerable quantity of calcareous matter, and that the tufa, which it deposits on the border of the springs, is a carbonate of lime. They appear to arise from the mountain limestone, and thus to hold a geological position similar to that of the hot springs of Great Britain, most of which rise from strata below the coal, and hence from, or through, the limestone.

Sulphureous Thermal Springs.—About four miles below Matah at the forks of the Tenasserim and a few miles north of the latitude of Tavoy, there are hot springs highly charged with sulphuretted hydrogen gas, so readily recognized by its smell which is precisely that of the washings of a gun-barrel ; the odour in both instances being produced by this same gas. All the stones in the springs are of a bright brass-colour, produced apparently by the deposition of the sulphur ; and although the virtues of these waters are hidden from man, they appear to be well-known to the beasts of the forest. To judge from the tracks around in the morning, the most incongruous parties held here every night. The delicate little tread of the chevrotain and barking deer, are seen side by side with the massive steps of the elephant and rhinoceros ; and the tiger, and the leopard seem to lay aside their fierceness, and peaceably walk away satisfied with a draught of the much coveted beverage. Dr. Helfer said these springs belonged to "the class of sulphureous mineral waters, tinged slightly with chalybeate, like the water of Brighton." Their heat above the atmosphere is not great. Mr Bennett at a recent visit, found the thermometer to rise in the hottest spring to only 119°. They rise from the slate rocks, like the warm springs of a considerable part of Germany.

Saline Thermal Springs.—On the margin of the granite range east of Tavoy, either

near the junction of the slate and granite, or in the granite itself, is a series of the hottest springs in the provinces. I have visited, says Mr. Mason, four or five in a line of fifty or sixty miles, and found them uniformly of a saline character. Around one nearly east of Tavoy, the stones are covered with an efflorescence resembling epsom or glauber salt. Mr. Bennett found the thermometer in this spring, to rise to 144°. Major McLeod visited one of the series at Palouk, and writes: "There are two spots where the springs show themselves. One immediately on the right bank of the river, and another two or three minutes' walk to the north-east inland. There must be 30 or 40 bubbling up along a line of about 50 feet by 20. The hottest was 196°, another 194°. No disagreeable smell or taste." The hottest springs are at Pai, ten or fifteen miles north of those visited by Major McLeod, and according to Phillips they are hotter than any on record out of volcanic regions, with the questionable exception of three springs in China, which, probably exceeded the temperature of the air from 70 to 120 degrees. The principal spring at Pai,—for there are several,—is in a little sandy basin in the midst of granite rocks on the margin of a cold-water stream, where it bubbles up from three or four vents, and on immersing the thermometer into one, the mercury rises to 189°, within fourteen degrees of boiling-water. Its location is rather peculiar, not being in a valley like the others, but on the side of a hill more than a thousand feet above the level of the sea, and surrounded by large masses of coarse grained granite rocks, which seem to have been detached from the summit above.

The districts, richest in mineral waters, appear to be the Tenasserim provinces.

A mineral spring occurs in the Saugur talook, Nuggur division of Mysore. A district round Hazareebaugh stretching in almost every direction for about 130 miles, in many places literally teeming with hot springs, the upper part of the Jullundur Doab, or rather the hills beyond its northern boundary, the Salt Range and Northern and Western Sind; next is the Concan, and, though not to be compared with any of the foregoing, the peninsula of Guzerat. Sulphurous springs appear to be pretty equally diffused: several in Hazareebaugh, some in the Nerbudda, some in the Concan and Guzerat, some in Sind and the Salt Range, many at the base of the Himalaya, and in the upper part of the Jullundur Doab. Only one has been noticed in the Madras presidency, (Chittoor is scarcely an exception to this,) and no true one in Tenasserim. The great majority of them are thermal. The most frequent of all appear to be the hot springs without any very strong mineral impregnation, which are so abundant in the Tenasserim provinces and in the Hazareebaugh districts, in some parts of the Himalaya, in the Concan, also in Sind, where, as in many other places, an impregnation with carbonate of lime is common. One or two such have been found in Rajpootana and the Dekhan.

The Sulphuretted Spring at Chaunch is only twenty miles from the terminus, and about three miles off the Grand Trunk Road. It is prettily situated, not far from the Pachete hills, and there is a colliery near. But there is a much more abundant and hotter one called Tanloie, on the banks of the Damooda, two or three miles off. Those at Bum Buklesir are about fifteen miles from Mungulpore and the same distance from Sooree: they are further off the high road, but are more powerful and abundant. The hot spring at Lakarakoonda is not far off, and there is said to be another near at Kisshun. The elevation of all them may be about 300 feet above the sea level. Of these places, Bum Buklesir, is particularly deserving of an early investigation, for no analysis of its waters has yet been made. There are four or five springs, the temperature at least of the hottest, which is 162°, exceeds that of the most popular springs of the kind, Aix la Chapelle, or Bareges and Cauterets in the Pyrenees. During the four cold weather months the climate is probably not inferior to that of any of those places in their short bath season.

Doctor Gerard notices a few mineral springs impregnated with salt, iron and alum, that may possess medicinal virtues, and the famous wells of Zungsum, at the meeting of the Speetee and Parati rivers, 4 miles north of Shealkhur, where inscriptions in the Tartar language on tablets of stone describe the particular virtues of each spring, are scarcely beyond the limits of Kunawur.

Within two days' sail of the port of Kurrachee, within a hundred yards of the sea, commences the group of mud volcanoes known by the name of the Koop of rajah Rama Chundra, believed to be of divine origin, and to be possessed of miraculous virtues. Three of these were visited by Captain Hart; a fourth was seen by him at a distance, and they are said to be very numerous, and to extend some way along the shore, and far into the interior. About two miles from the wells of Tilook Pooree, three hills, of extremely light-coloured earth, rise abruptly from the plain. The centre hill is conical, slightly flattened and divided at the top: it is about

400 feet high : its southern and western sides are more precipitous than the others. The second of the group is about half the height of the first; the two are connected by a causeway about fifty yards in length. The third covers a greater area than either; its apex seems destroyed or broken off, otherwise the characteristics of the three closely resemble each other. They are all indented at the base with numerous chasms and fissures, which run into the interior, and their sides are stroked from the summit down as if with sluices of mud or water overflowing from the crater. A basin of liquid mud about thirty yards in diameter occupies the whole summit of the largest of the three. Air bubbles and jets of mud arise from the basin continually, the semi-fluid mass within being constantly disturbed by them. The whole summit of the hill is crusted over with caked mud. The same appearances almost exactly are presented by the craters of the two other hills,—with this difference, that in the case of one of them the mud was said to rise and fall, occasionally overflowing the crater, sometimes sinking in it above 15 feet. A fourth hill, similar to those just described, occurs at some six miles off. The water and mud all round is salt. The ground at the base of the hills is full of cracks and rents. The same volcanic agency, most probably, which gives rise to the hot springs of Peer Muggen, that supply the famous crocodile tank, feeds or stimulates the mud volcanoes. Abundance of brimstone is found at no great distance, and one eminence some twelve miles off is known by the name of the sulphur mountain." Capt. Robertson describes the whole district, for an area of probably not less than 1,000 square miles, from the Hara range westward as covered with mud cones, active or quiescent. He spent a fortnight amongst them in 1849 and could discover no particular day on which they were unusually affected : Captain Hart had been told that on Monday they were more active than they were on other days. There is an aperture in the rock three inches in diameter, from which, until of late years, a jet of flame used to issue; it was called the peri's fire by the natives, and is believed to have become extinguished on some infidel having bathed in the neighbouring well.

There is a very copious hot and sulphurous spring at Gurrumab or hot well, in the Bolan Pass, about 200 miles to the northward.

The area of the volcanic field of Beila has never been precisely determined : it extends some fifty or sixty miles inland, and at least three times as much along shore.

Vaypi island on the north side of Cochin, it is said rose from out the sea in the year 1341 : the date of its appearance is determined by its having given rise to a new era amongst the hindoos, called Puduvepa, or the new introduction. Contemporaneously with the appearance of Vaypi the waters, which during the rainy season were discharged from the ghaut, broke through the banks of the channel which usually confined them, overwhelmed a village, and formed a lake and a harbour so spacious that light ships could anchor where dry land formerly prevailed"

Some of the thermal springs, as the Seetakand, at Monghyr, the water of which is highly prized and often carried on long voyages, are probably slightly carbonated, and observers talk of Indian springs effervescing, for instance the so-called chalybeate at Bangalore.

There are hot springs in Ladak, Nepaul, and Sikkim, at Uchebul in Cashmere, and hot sulphur springs near Rajourie, in Goolab Sing's territory.

The thermal springs of the southern Concan do not appear to be powerful, and they have no advantage as to climate.

At the Lukkee Pass, hot springs appear to be of exactly the same description as those at Peer Muggen their position in all likelihood due to volcanic influences of comparatively recent existence. The hot springs of Peer Muggen, attain a temperature of from 100 to 160, and yield a very copious discharge. The water is perfectly pure, and fertilises the soil around. The hot spring takes its name from Peer Muggen, a mahomedan saint, whose shrine is close by. The coincidence of the sound with the designation given to the long-snouted crocodile (muggur) has led to the inference that it was Peer Muggur, the crocodile saint. The crocodiles in the tank are of the kind called Garial: they are precisely similar to those of the Nile and Ganges. One of the tanks contains nearly 200 crocodiles: there is a spring at no great distance which affords large deposits of sea salt. At Hinglaj, are a series of mud volcanoes, very similar in point of form to those of Chedooba, along the sea board of Lus, and now in great activity. Here there is no appearance whatever of there ever having been any eruption of lava.

Almost all strongly carbonated springs in other parts of the world are found in the neighbourhood of extinct volcanoes, as in Auvergne, the Rhine provinces, the Caucasus, or near active ones as at Ischia, they are scarcely to be looked for in India. Hot springs are not necessarily indices of volcanic action; they are most common at points of great displacement of strata, or at the junction of stratified and unstratified rocks.

1. *Sulphuretted Mineral Springs.*

Malacca, thermal, *Ward.*

Spring, 27 miles N. from Hazareebagh, thermal.—*H. H. Wilson.*

Bum Buklesir, thermal, 13 miles, W. and S. of Sooree in Bheerbhoom.—*Sherwill.*

Jorya Booree, not far from Chaunch, near meeting of Barakur and Damooda rivers, thermal.—*Oldham.*

Tantloie, near it, on other side Damooda, thermal.

Tata Pani, Sirgoojah, Chota Nagpore, thermal.—*Breton.*

2 springs at N. base of Maha Deo mountains, Nerbudda, thermal.—*Spilsbury.*

Well at Gwalior.—*Col. Tod.*

Below Landour.—*Murray.*

At Sonah, 30 miles from Delhi, thermal.—*Ludlow.*

At Lousah, in Noorpore.—*Marcadieu.*

At Bishisht, in Kulloo, thermal.—*Gerard.*

In the Bukh Ravine Salt Range, thermal.—*Flemg.*

At Jubba in Salt Range, 10 miles E. of Indus, do.

Chihalee Pass, W. of Indus below Kalibag, do.

Mittah near Esau Kail, W. bank of Indus, do.

Peer Mungal and Guzee Peer in Sind, thermal.—*Major Baker and Lieut. McLagan.*

At Lukkee Pass, near Sehwan, thermal.—*Gibson.*

Within high watermark in Kattywar.—*Sandwith.*

Temple of Somnath in Guzerat.—*Col. Tod.*

Arowlee in the Concan, thermal.—*Duncan.*

At Bhadrachellum on the Godavery, thermal.—*Heyne: Malcolmson.*

At Chittoor, slightly thermal.—*Hardy.*

2. *Saline.*

Several springs at Sooroojkoond near Belcuppee and Burkutta, Grand Trunk Road.—*Sherwill and Hooker,* thermal.

Tevah in Kangara district.—*Marcadieu.*

Mukhdoor Rusheed in Multan.—*Edgeworth.*

Shahpore near Jhung.—*Neelmadub Mookerjee.*

Lahard Khad on Sutlej above Roopur.—*Wade.*

Universal throughout Salt Range.—*Fleming.*

Sumoondur and Kullur khar lakes in Salt Range?—*Fleming.*

Doozeekoostuck, Sind, thermal.—*Viccary.*

Ooch, Sind.—*Viccary.*

Lukkee Pass.—*Gibson.*

Well at Banda?—*Prinsep.*

Near Hyderabad Deccan.—*Voysey.*

a. brine.

Sambher lake?

Many springs in Salt Range.—*Fleming.*

Old spring near Jeypore in Assam?

Brine springs in Becaneer and Jessulmere.—*Irvine.*

Cachar Hills.

Peer Muggen, Scinde.—*Baker and McLagan.*

b. alkaline.

Loonar lake, 50 miles from Jaulnah.—*Malcolmson*?

At Mean Meer, and others in Punjab.—*Baddely.*

Kairi water, or Soda water wells in Ajmeer.—*Irvine.*

Well at Jowali Mookhi?—*Marcadieu.*

c. aluminous.

Well below Landour.—*Murray.*

d. iodine.

Traces of iodine in well at Jowali Mookhi and Arlun in Kangra.—*Marcadieu.*

Ditto, Thunga Bara near Hurripore.—*Marcadieu.*

Strong iodide of potash well at Jawali, Mr. Marcadieu states, that though bronchocele is very common in the district—the inhabitants of Jawali are exempt from it.—*Marcadieu.*

e. lime.

Many in Murree hills above Rawul Pindee—*Fleming.*

Peeth in Hala mountains, thermal.—*Viccary.*

Kye in ditto, thermal.—*A. Young.*

Near Sunjabundia, Kurnool, thermal, (*Newbold*) temperature decreasing.

f. silicious.

Burrare and Bheem Bhand, Kurruckpore Hills, thermal.—*Sherwill and M'Clelland.*

Umballa.

Hot springs at Jummotrie, Gungotrie.

Kedarnath and Buddrinath in Gurhwal, valley of the Sutlej.

Chalybeate at Nagconda.

Springs and fountains have with most races been objects of worship, and continue to be so in India. In the great majority of instances, they have been regarded by the natives of the country as emanations of a deity, and as objects of worship. Wherever there is a hot spring, there is pretty sure to be a temple, visited by pilgrims. Many waters have, however, been used medicinally. Some of those, which appear to be most resorted to, for their healing virtues, are the springs at Malacca, those at Sonah near Delhi, where considerable buildings have been erected for the convenience of bathers, at Munnee Karn, and at the Lukkee Pass. All of them are thermal, and except Munnee Karn, are sulphuretted, and natives have undoubtedly faith in them in certain cases. Such springs might easily at a small expense be made more extensively useful to natives. Europeans can scarcely be said to have ever made a fair trial of any of the mineral springs of India.

The worship of springs and wells was practised by the followers of Baal, the Scythians and their descendants, but also by the Hindoos, the Chinese, the Moors, the Mahomedans, the Celtic races and the Indian nations of North America. In England, under the reign of Canute and Edgar, edicts were promulgated against venerating devils. The Irish Celts suspended pieces of linen to the branches of trees as preservatives against the geasa-dravidect, or sorceries of the Druids, to keep their cattle from epidemics and to obtain the favour of the davini maithe or fairies. The Irish peasants throw pieces of butter into Lough Cin as a preservation against the geasa dravidect. The fountain of Jobbar-na-Molcht at Tubrid, is one of the most celebrated in Ireland and is resorted to on Saturday to drink the water of the fountain. The Zunis of North America make annual offerings to the spirit of fountains. The Peruvians and Mexicans, like the red Indians worshipped the sun, the moon, the stars, the earth, the fountains and the rivers. The Lares of the Peruvians were generally stones.—*Mason*; *Dr. H. R. Oswald, M. D.*; *Cat. M. E. of* 1857. See Mineral springs, Hot sp.

SPRUCE FIR, Eng. Abies smithiana, *Hook.*

SPUDUKEI, Hind. Microrhynchus nudicaulis.

SPULMEI, PUNJ. Calotropis procera, *R. Br.*

SPUMA DI CERVOZIA, IT. Yeast.

SPUN, HIND. Picea webbiana.

SPUNK, ENG. Amadou.

SPURGE, ENG. Euphorbia lathyris. Euphorbia tirucalli, *Linn.*

SPURGE FLAX, ENG. Daphne gnidium.

SPURGE OLIVE, ENG. Daphne mezereum.

SPURGE, TRIANGULAR, ENG. Syn. of Euphorbia antiquorum, *Linn*,

SPURGEWORTS, Euphorbiaceæ.

SPURSHANA, SANS., from sprish, to touch.

SPYKERS, DUT. Nails.

SPYUG, HIND., of Kanawar, Arundinaria utilis, hill bamboo.

SQUALUS BARBATUS, or Watt's Shark. See Fishes, Sharks.

SQUALUS CARCHARIAS, *Linn*, or White shark. See Fishes, Sharks.

SQUAMIPINNES a family of fishes, as under

FAM. 8.—Squamipinnes.

FIRST GROUP.—Chætodontina.

Gen. 67 Chætodon, 5 Chelmo, 4 Hemochus, 36 Holacanthus, 1 Pomacanthus, 5 Scatophagus, 4 Ephippus, 1 Drepane, 1 Hypsinotus.

SECOND GROUP.—Scorpidina.

Gen. 3 Scorpis, 1 Atypus.

THIRD GROUP.—Toxotina.

Gen. Toxotes.

The Squamipinnes, include the Chætodons and other curious fishes, as the Coachmen, the Horsemen and others.

SQUARE-STALKED VINE, ENG. Vitex quadrangularis, *Wall., W. & A., W. Ic.*

SQUARE ISLAND, in the Straits of Singapore, a name of Barn island.

SQUARE-HOLED COIN. Tempo, says Hodgson, is a handsome copper coin, with a square hole in the centre for a string to pass through; when he arrived at Nagasaki he obtained fifty-two tempo for one Mexican dollar. When he left Japan in October 1860, the treasury at Hakodate gave fifty-one.—*Hodgson's Nagasaki, p.* 23.

SQUASH GOURD, Cucurbita maxima, *Duch.* See Cucurbita melopepo. Vegetable marrow.

SQUATAROLA HELVETICA (S. cinerea; 'Grey Plover.') Circuit of northern regions, Japan, Java, N. Guinea, Australia: tolerably common in India.

SQUID, FLYING, Loligo sagettatus.

SQUILL. Scilla maritima.

Ansul,	AR.	Kanda,	HIND.
Pen-lay-pa-dein.	BURM.	Scilla; Cipolla marina,	IT.
Sea onion,	ENG.	Scilla,	LAT.
Oignon marin, Scille,	FR.	Cebolla albarrana,	SP.
Meerzwiebel,	GER.	Nurri vangayam,	TAM.

Squill is a perennial bulbous-rooted plant found on the shores of Spain, Portugal, North of Africa, and the Levant, and one species occurs on the coasts of India. The bulbs are pear-shaped, and vary in size from that of the fist, to the compass of a child's head. The root is very nauseous, intensely bitter, acrimonious, and causing inflammation when rubbed in the skin. As met with in the shops, squill is commonly in the form of the dried shreds of the root. It is one of the most useful remedies in the materia medica.—*McCulloch's Com. Dic., p.* 1077; *Faulkner.*

SQUILL, COUNTRY. Indian squill.

Erythronium indicum, *Rot.* | Scilla indica, *Roxb.*

Unsool, Iskeel,	AR.	Nurriala	SINGH
Junglie piaz,	DUK., GUZ.	Nurri vangayum,	TAM
Kanda; Junglie piaz,	HIND.	Nurri vunjayum,	,,
Erythronium indicum	LAT.	Addivi-tella guddalu,	TEL.
Scilla indica,	,,	Kanda,	,,
Peyaz-i-dhashtia,	PERS.		

The Indian squill, scilla indica, resembles the true squill in medicinal virtues. Ainslie did not find the native medical practitioners employ it. Farriers are in the habit of using it, in conjunction with other articles, for horses, in cases of strangury and fever. It grows in abundance in waste, sandy soils.—*Ains. Mat. Med., p.* 44. See Scilla.

SQUILLA MACULATA, see Stomapoda.

SQUILLA STILIFERA, see Stomapoda.

SQUINANTHUM, a species of rush called Sweet rush or Camel's hay, sometimes brought into China from Turkey and Arabia, tied up in bundles about a foot long. The stalk, in shape and colour, resembles a barley straw. It is full of fungous pith, like the British rush, leaves like those of wheat. When in perfection, it has a hot, bitterish, not unpleasant taste, and a very fragrant smell. It was formerly used in medicine.—*Comp. Descr.*

SQUINE, also Esquine, FR. China root.

SQUIRRELS, belong to the genus Sciurus, of which the following are E. Indian species,

S. malabaricus.	S. lokriah.	S. palmarum.
S. maximus.	S. barbei.	S. tristriatus.
S. elphinstonei.	S. europæus.	S. layardii.
S. macruroides.	S. laticaudatus.	S. sublineatus.
S. macrourus.	S. lokrioides.	S. maclellandi.

Sciurus layardi, which eats the coffee berries, is common on estates, the pulp alone is digestible, and the coffee beans are dropped on logs of wood and on the ground. Two kinds frequent the mountains of Ceylon, one which is peculiar to Ceylon is the Sciurus tennentii. Its dimensions are large, measuring upwards of two feet from head to tail. It is distinguished from the S. macrurus by the predominant black colour of the upper surface of the body, with the exception of a rusty spot at the base of the ears.

The long tailed Squirrel, of N. S. Wales is one of the Phalangistidæ.

The flying squirrels, are the genera Peteromys and Sciuropterus.

Pt. oral *Tickell.*	Pt. petaurista, *Pallas.*
Flying squirrel.	Sc. fimbriatus.
Pt. inornatus.	Sc. alboniger.
Pt. magnificus.	Sc. villosus.
Sc. caniceps.	Sc. fuscocapillus.

—*Tennent's Sketches of Nat. Hist. of Ceylon, pp.* 41-42 ; *Jerdons Mammals.*

SRADADEVA, see Surya-vansa.

SRADDHA, amongst the hindoos, an obsequial ceremony, in which food and water are offered to the deceased ancestors of the sacrificer, or to the Petri or manes collectively. The Preta or Dasapiuda Sraddha is an offering of a ball of rice to a deceased person, by the next of kin, increased by one, daily, for ten days, other Sraddha are

Ekadasi Sraddha.

Masika or Anwaharya Sraddha.

Sapindana and about 13 others.

The Ekoddishta, or Ekadasi is the obsequies for one (Ek) deceased individual. The Abhyu dayaka sradda, is an offering to deceased ancestors, or to the manes collectively, on some prosperous event, as the birth of a son or the like. The Adya Sraddha, is the first obsequial ceremony after a persons decease. The obsequies performed monthly, on the day of the new moon are called Anwaharya-sraddha. The social or legal uncleanness of the hindoo, is called Asauch, and occurs from the death of a relative or the like. The day preceding a sraddha, is held as a fast day, and called Ativasa. Srad'has, as commonly understood are obsequies paid by hindoos to the manes of deceased ancestors, to effect, by means of oblations, the re-embodying of the soul of the deceased after burning his corpse, and to raise his shade from this world (where it would else, according to the notions of the hindoos, continue to roam among demons and evil spirits) up to heaven, and then deify him, as it were, among the manes of departed ancestors. A hymn is recited among the ceremonies of the Srad'ha, and followed by the music of flageolets, lutes, &c. In the Srad'ha, in honor of deceased ancestors, Lakshmi is among most other deities, earnestly invoked, particularly when a votary, by gifts to brahmans, is "desirous of obtaining celestial bliss for the defunct."—*Coleman, p.* 162 ; *Moor, p.* 75 ; *Wilson's Glossary.* See Hindoo, Lakshmi, Narayana, Spirit worship.

SRADDHA DEVA, see Ravana, Surya-vansa, Yama or Dhermarajah.

SRADHA VEDA, see Yama or Dhermarajah.

SRADMA, or Sranma, TIBET. Peas of Zangskar.

SRAMANA, see Inscriptions, Shaman, Brahman.

SRAVAKA is the generic term of the Jain laity, and Savanga Dhamma laho hodu, for Sravaka Dherma labha bhavatu as used by Jivasiddhi in one place, is still the ordinary salutation a Jeti, or religious Jain, proffers to the laity. See Jains.

SRAVAN, see Rahtor.

SRAVANA, SANS. The fourth month of the hindoo solar year, when the sun is in the sign Carcataca, answering to the Tamil Audi; also the fifth month of the Luni-solar year, owing to that sort of year beginning with Chaitra.

SRAVANA, SANS. The 22d Lunar mansion. See Serpent, Varsha.

SRAVASTI, in Pali Sawatthi, or Sewet, a famous city in ancient Oudh, now called Sahet-Mahet. It is on the Rapti, and is famous for Buddha's preaching. The position of this famous city, one of the most celebrated places in the annals of buddhism, long puzzled the best scholars. The ruined city of Sahet-Mahet is situated between Akaona and Balrampur at 5 miles from the former and 12 miles from the latter, and at nearly equal distances from Bahraich and Gonda. Sravasti is said to have been built by raja Sravasta, the son of Yuvanaswa of the solar race, and the tenth in descent from Surya himself. Its foundation therefore reaches to the fabulous ages of Indian history, long anterior to Rama.—*Cunningham's Ancient Geography of India, pp.* 408, 410-411. See Sakya Muni.

SRAWANI, see Hindu.

SREBRO, POL. Silver.

SREE-CHUND, a son of Nanuk, one of the founders of the Sikh faith. The Sikh sects are as under—

1st.—Oodasee, founded by Sree-Chund, a son of Nanuk. The Oodasee were rejected by Ummer Das, as not being genuine Sikhs.

2nd.—Behdee, founded by Lukshee Das, another son of Nanuk.

3rd.—Teehun, founded by Gooroo Unggud.

4th.—Bhulleh, founded by Gooroo Ummer Das.

5th.—Sodhee, founded by Gooroo Ram Das.

The Behdee, Teehun, Bhulleh and Sodhee are rather Sikhs of the sub-divisions of Kshutrees, so called (*i. e.*, of the tribes of certain Gooroos,) than distinct sects.

6th.—Ram Rayee, seceders who adhered to Ram Raee when Tegh Bahadur became Gooroo. They have a considerable establishment in the Lower Himalayas, near Hurdwar.

7th.—Bunda-Punt'hee, *i. e.*, of the sect of Bunda, who succeeded Govind as a temporal leader.

8th.—Mussundee, Mussund is simply the name of a sub-division of the Kshutree; but *it is* also specially applied to the followers of those who resisted Govind; some say as adherents of Ram Raee, and others as instigators of the Gooroo's son to opposition. The more common story, however, is that the Mussund were the hereditary stewards of the household of the several Gooroos and that they became proud and dissipated, but nevertheless arrogated sanctity to themselves, and personally ill-used many Sikhs for not defering to them; whereupon Govind, regarding them as irreclaimable, expelled them all except two or three.

9th.—Rungret'ha, converts of the sweeper, and some other inferior castes, are so called.

10th.—Ramdasee, *i. e.*, Rao or Raee Dasee. Sikhs of the class of Chumars, or leather-dressers, and whot race to the Rao Das, or Raee Das, whose writings are inserted in the Grunt'h.

11th.—Muzhubee, converts from mahomedanism are so called.

12th.—Akalee, worshippers of Akal (god), the most eminent of the orders of Purists or Ascetics.

13th.—Nihung, the naked, or pure.

14th—Nirmulleh, the sinless. One who has acquired this title usually administers the Pahul to others.

15.—Gheiance, the wise, or perfect. A term sometimes applied to Sikhs who are at once learned and pious.

16th.—Soothra Shahee, the true, or pure: said to have been founded by one Sootcha, a brahmin.

17th.—Sutcheedaree, likewise the true or pure: the founder not ascertained.

18th.—Bhaee, literally, brother. The ordinary title of all Sikhs who have acquired a name for holiness; and it is scarcely the distinctive title of a sect, or even of an order.—*Cunningham's Hist. of the Sikhs, pp.* 378-9.

SREE MUNGALA VADOO. Tel. Barber.

SREEPHUL, Beng. Bengal quince, Ægle marmelos.

SRI, Sans. All hindoo books are commenced with this word, written at the top of the first page, it is an invocation to Ganesh the god of learning, to favour the undertaking. It is similar to the ♃ Greek and Roman invocation of Jupiter, the alif, initial of the mahomedans, the Laus Deo of the christians. Sri is now a hindoo honorific appellation, answering to Lord when applied to deity, and Mr. when used for man. Sri Rangapatnam, is the hindoo name of Seringapatam: in all letters to hindoos, Sri is prefixed as an honorary appellation.

SRI, a name of Lakshmi, the goddess of prosperity but also very frequently used as an adjective, meaning illustrious. Sri, is the Venus Aphroditus of the Indians, born like the Grecian Venus from the sea. According to the hindoos, every city has its own Sri, its own fortune or prosperity, which in former times seems to have been represented by an image with a temple of its own. The practice amongst the ancients of considering a city under the protection of well-known divinity is more familiar to Europeans, but an analogous superstition with that of the hindoos also prevailed amongst the polytheists of Europe. Thus in the seven chiefs before Thebes, the Theban women seek their shrines of the gods who are the guardians of the city.—*Hind Theat., Vol.* ii, *p.* 64. See Lakshmi and Krishna.

SRI-AI-TAURKUM, Sans. Calotropis gigantea.—*Brown.*

SRI ANAND, see Vairagi.

SRI BHAGAVATA PURANA, see Bhagavata, Rama.

SRI BHAGHAVAT, see Avataram, Iswara.

SRI BHATARKA, see Inscriptions.

SRI BUTAN, see Tibet.

SRI DARGA RAJA, see Inscriptions.

SRIDHARA SENA, 1st, 2nd and 3rd. See Inscriptions.

SRIGALA, Sans. Jackal Canis aureus, *Linn.*

SRI-GANDA, also Srigunda, Can. Sandalwood.

SRI-GANESA, see Inscriptions.

SRI GHATOT KACHA, see Inscriptions.

SRI GUPTA, see Inscriptions.

SRI HARISCHANDRA DEVA, see Inscriptions.

SRIHARSA, see Inscriptions.

SRIHASTINI, also Bhurumdi, Sans.? Heliotropium indicum.

SRI JAYA VARMA DEVA, see Inscriptions.

SRI-KAYA, Malay. Anona squamosa.

SRI-KRISHNA is the 9th, and Sri-Rama the 7th incarnations of Vishnu, as a Kshetria and a Dwarf Brahmin, the anniversaries of which incarnation are observed.

SRIMAT LAKSHMANA, see Inscriptions.

SRINAGAR, the capital of Cashmir is 5,146 feet above the sea.

SRI-NAGAR, the ancient capital of Gurhwal, in lat. 30° 14′ N., and long. 78° 37′ E., was built in the 16th century, on the bank of Alakananda, the principal branch of the Ganges, formerly the residence of the rajas of Gurhwal.—*Cal. Rev., Jan.* 1871.

SRI NANDA RAJA, see Inscriptions.

SRI NAT'H DWAR, see Rudra Sampradayi.

SRINATH GHOSI, see Inscriptions.

SRI NETRI BHANJA, see Inscriptions.

SRINGA TAKAMU, Tel. Trapa bispinosa, *Linn.*

SRINGAGRI GURU, see Bharati.

SRINGAVERA, the modern Sungroor. Sringavera was a city on the north bank of the Ganges (or more properly a village, as the country on both sides of the Ganges was here a forest), inhabited by Nishadas or wild tribes, of whom Guha was the chief, by whose assistance Rama, Lakshmana and Sita were ferried over to the south bank of the Ganges, a day's march above its junction with the Jumna.—*Hind. Theat., Vol.* i, *p.* 300.

SRINGERI, near the Tumbudra famed as a monastery established by Vyasa.

SRINUGGUR, is on the south bank of the Alacnanda, about twenty miles above its junction with the Bhagmuttee at Deo Prague, where a strip of level ground stretches along for three or four miles, forming the valley known by the same name as the town. The people of Gurhwal are Bhot, dwelling in the passes and their neighbourhoods, at heights above 6,000 feet. The passmen state that ridges which within the memory of man were covered with forest and pasture lands are now covered with snow, showing the extension of the snow zone. The Bhot, here, as elsewhere is an agriculturist, and is assisted by slaves who live under the roofs of their masters.

SRIPADA, or Adam's Peak, is in lat. 6° 51′ N., long. 80° 35′ E., in Ceylon.

Top of peak 7,385 ft., *F. & S.*, or 7,420 ft. *Tenn.*
Source of Kalu Ganga... 4,345 feet *F. & S.*
Bangalow, foot of Sripada peak................ 5,114 „ *F. & S.*
Lower limit of Rhododendrons, on the slopes of Sripada.............. is 6,550 „ *F. & S.*

Sripada is the impression of the footmark of Buddha, on Adam's Peak, Ceylon, left on his departing. It is noticed in that part of the Mahawanso, written by Mahanaama, prior to B. C. 301. Models of this are shown in the Alu Wihara at Cotta and at other temples of Ceylon. The buddhists are the guardians of the Sripada, but the devotees of all religions meet here freely around the object of their common adoration. Christians, mahomedans and hindoos have reverence for the impressions of feet. This on the top of Adam's Peak in Ceylon, is a natural hollow artificially enlarged, said to be the impression of a foot of Budd'ha. It is, however, called by the hindoos, Sripada, or Sripad, meaning the divine footstep, Vishnu having, they say, alighted on that spot—in his avatara of Rama, although mahomedans and christians have also claimed that foot-mark as of their religious relics. Hindoos make pilgrimages to the Sripada in Ceylon and in other places, where similar proofs of an avatar or descent have been discovered. Christians and mahomedans ascribe the mark to Adam. See Serapada.

SRI PARVATA means the same as Sri Saila, the mountain of Sri or Lakshmi, a place of sanctity in the Dakhan, near the Krishna river. It still retains its sanctity, but has lost the splendour it formerly seems to have possessed by the extensive remains of sculptures, on the mountain, and great labour and cost bestowed on the causeways by which it is approached. It is described by Col. Mackenzie in the 5th and 6th Vol. of the Asiatic Researches, and was afterwards visited by the late Dr. Voysey. In this temple was one of the twelve great Lingas, the worship of which seems to have flourished particularly about the period of the first mahomedan invasion. Prior to the same date, also, it seems to have been a place of great resort for Yogis or saiva ascetics.—*Hind. Theat., Vol.* ii, *p.* 18, 277.

SRIPHAL, the fruit of Egle marmelos so called by the hindoo poets because it sprung, they say, from the milk of Sri, the goddess of abundance; who bestowed it on mankind at the request of Iswara. The Anona reticulata, is called Ramphul, or the fruit of Rama. Another, the Anona squamosa, is named Sitaphul, after Sita. See Bhilva, Kurma, Lakshmi, Saraswati.

SRI-PHAL, HIND. Ægle marmelos. See Bhilva.

SRI-PUNJEMI, see Saraswati.

SRI RAMA, see Inscriptions.

SRI RAMPURA, see Topes.

SRI RANGA, a famous temple and place sacred to Vishnu near Trichinopoly. Of the great religious institutions in the south of India are Sri Sailam in Cuddapah, Conjeveram, Chellambram, Srirangam, &c. There are also many religious edifices of great architectural merit very worthy of being depicted and preserved for the beauty of their sculpture and elegance of their design, such as the stone mantapam in the Fort at Vellore since used as an Arsenal and Cutcherry, the temples at Tanjore, Gangondaram and Tribhuwanam, the ruins of Bijanagar, the pagodas at Leepichi in Bellary, and of Tadpatry in Cuddapah, with many others equally worthy of admiration, in secluded and desert places, little known beyond their immediate neighbourhood. Nearly all the finest buildings of early times have been constructed of stone, while the edifices of modern times, that is since about the fourteenth century, comprising some of the most stupendous piles at present to be met with, are of brick. See Sri Sampradaya.

SRI RANGA-PATAN, the town of Seringapatam.

SRI RUDRA SENA, see Inscriptions.

SRI SAMPRADAYA or Ramanuja, a vaishnava sect founded about A.D. 1150, by Ramanuja Acharya. He was born at Perumbur, and studied at Kanchi or Conjeveram, and afterwards resided at Sri Ranga, or Seringapatam. He then visited various shrines propagating his reformed views, and reclaiming the shrines for the worshippers of Vishnu, particularly the celebrated temple of Tripati. The sect worships Vishnu and Lakshmi and their several incarnations. They decorate their temples and dwellings with the Salagrama stone, and Tulasi plant, and set up in their houses, images of stone and silver, which are daily worshipped. The temples appropriated to Vishnu and his consort are resorted to, and the pilgrimages made to Lakshmi-Balaji, Ramnath, Ranganath, in the south of India, and to Badrinath, in the Himalaya, Jogannath in Orissa, and Dwaraka on the Malabar Coast. This sect in general prepare their food individually and in private, and if a stranger's look fall on the food, the cooking is stopped and the food buried. They must not eat in cotton garments, but having bathed, must put on woollen and silk. Their chief religious tenet is the assertion that Vishnu is Brahm, that he was before all worlds, and was the cause and creator of all. In opposition to the Vedanta doctrines, they deny that the deity is now of form or quality, but regard him as endowed with all good qualities and with a two-fold form. The supreme spirit "Paramatma," or cause, and the gross one, the effect, the universe or matter. Their doctrine is therefore called the Visishthadwaita or doctrine of unity with attributes. In these assertions they are followed by most of the Vaishnava sects. They assert three predicates of the universe, comprehending the deity: it consists of Chit or spirit; Achit or matter; and Iswara or god, or the enjoyer, the thing enjoyed, and the ruler and controller of both. Besides his primary and secondary form as the creator and creation, the deity has assumed, at different times, particular forms and appearances, for the benefit of his creatures. He is, or has been, visibly present amongst men in five modifications; in his Archa, objects of worship, as images, &c., in the Vibahava or avatara, as the fish, the boar, &c., in certain forms called Vyuha, of which four are enumerated, Vasudeva or Krishna, Balarama, Pradyumna, and Amruddha: fourthly, in the Sukshma form, which, when perfect, comprises six qualities. Blood-offerings at the temples are prohibited by all vaishnavas. Their reward for good acts is laid down as the perpetual residence in Vaikunt'ha or Vishnu's heaven.—*Professor Wilson*. See Mantra, Hindoo.

SRI TALAM, SANS. Corypha taliera, *Roxb.*

SRI UDDYADITTA, see Inscriptions.

SRI VIRUPACSHA, see Siva.

SRI VAISHNAVA, see Hindu, Sanyasi.

SRI VATI, see Inscriptions.

SRI YASO VARMA DEV, see Inscriptions

SRI YUDDHASURA, see Inscriptions.

SROK KUMAI, is called Cambodia by the people.

SROL, HIND. Alnus, *sp.*

SRONG DBZAN GAMPO, see India.

SRUGHNA, now Sugh, a famous city on the old Jumna, near Jagadri.

SRUTI, SANS. Revelation.

SRUVA, SANS. The lustral spoon, figured as held in the hand of the god Brahma.

SSE-TCHOUEN, (Four valleys) also written See-chuen is the largest province in China, and perhaps also the finest. Its temperature is moderate, both in winter and summer, and neither the long and terrible frosts of the northern nor the stifling heats of the southern provinces are ever felt in it. The Yang-tse-kiang, one of the finest rivers in the world, traverses this province from south-west to north-east. Its fertility is such, that it is said the produce of a single harvest could not be consumed in it in ten years. Great numbers of textile and tinctorial plants are cultivated in it; among others the herbaceous indigo, which gives a fine blue colour, and a kind of hemp or thistle, from which extremely fine and delicate fabrics are produced. On the hills are fine plantations of tea, of which all the most exquisite kinds are kept for the epicures of the province. The coarsest are sent off to the people of Tibet and Turkistan. It is to Sse-tchouen that the pharmacists from all the provinces of the empire send their travellers to lay in their stocks of medicinal plants, for, besides that immense quantities are collected in the mountains, they have the reputation of possessing more efficacious virtues than those found in other countries. The wonder of Sse-tchouen, and one that deserves to be placed even before the famous Kouang-ti, is what the Chinese call the Yen-tsing and Ho-tsing, wells of salt and wells of fire. M. Imbert, long a missionary in this province, but subsequently appointed Vicar Apostolic in Corea, where he was martyred in 1838, says the number of salt wells is very considerable; there are some dozens of them in a tract of country of about ten leagues long by four or five broad. Every one here who has made a little money, looks out for a partner, and begins to dig one or more wells.

If there be a depth of three or four feet of soil on the surface, they plant in this a tube of hollow wood surmounted by a stone, in which an orifice of the desired size of four or five inches has been cut. Upon this they begin to work in the tube a rammer of three or four hundred pounds' weight, which is notched and made a little concave above and convex below; a strong man, very lightly dressed, then mounts on a scaffolding, and jumps all day long on a kind of lever that raises this rammer about two feet, and then lets it fall by its own weight. From time to time a few pails of water are thrown into the hole, to soften the material of the rock, and reduce it to pulp. The rammer is suspended to a rattan cord, not thicker than finger, but as strong as the ropes of catgut. This cord is fixed to the lever, and a triangular piece of wood is attached to it. And at night these two are replaced by another pair of workmen. When they have bored three inches, they draw up the tube, with all the matter it is loaded with, by means of a great cylinder, which serves to roll the cord on. In this manner these little wells or tubes are made quite perpendicular, and as polished as glass. Sometimes the ground is not rock all through, but beds of coal and other materials are found, and then the operation becomes more difficult, and sometimes even entirely useless; for, as these substances do not all offer equal resistance, it may happen that the well loses its perpendicularity; but these cases are rare. Sometimes the large iron ring that suspends the rammer, breaks, and then five or six months' labour are needed before it is possible, with the help of other rammers, to break up the first and reduce it to a pulp. When the rock is good, the work advances at the rate of two feet in twenty-four hours, so that about three years are required to dig a well. To draw water from it, a tube of bamboo, twenty-four feet long, is put down, at the bottom of which there is a valve or sucker; when it has reached the bottom, a strong man sits on the rope, and shakes it, so that every shake opens the sucker, and makes the water rise. The tube being full, a great spindle-shaped cylinder of fifty feet in circumference, upon which the rope is wound, is worked by two, three, or four buffaloes, till it is drawn up. This rope also is made of rattan. The buffaloes, however, are very ill suited to this labour, and they die in great numbers. The water of these wells is very saltish; it gives, on evaporation, one-fifth, or even sometimes one-fourth. The salt is also of very acrid quality, so much so as often to inflame the throat to a painful degree; and it is then necessary to make use of sea-salt, which is brought from Canton or Tonquin. The air that issues from these wells is highly inflammable. If when the tubeful of water is near the top you were to present a torch at the opening, a great flame, twenty or thirty feet in height, would be kindled, which would burn the shed with the rapidity and explosion of gunpowder. This does happen sometimes through the imprudence of workmen, or in some cases from a malicious desire to commit suicide in company. There are some wells from which fire only, and no salt, is obtained, they are called Ho-tsing, fire wells. A little tube of bamboo closes the opening of the well, and conducts the inflammable air to where it is required; it is then kindled with a taper, and burns continually. The flame is of a bluish colour, three or four inches high, and one inch in diameter. Here the fire is not sufficient to boil the salt, but at about forty leagues off there are much larger fire wells. Showmen often fill bladders with it, and carry it about the country; they make a hole in the bladder with a needle and kindle it with a taper, to amuse lookers on. This is no doubt what the chemists call carburetted hydrogen. Sse-Tchouen, the most remarkable of the eighteen provinces of China, is that in which christianity is the most flourishing. It counts nearly a hundred thousand christians, mostly zealous and faithful in the fulfilment of their duties.—*Huc's Chinese Empire, Vol.* i, *pp.* 288 *to* 303.

SSIPAN DAGH. The mountain called the Ssipan Dagh rises to the height of 10,000 feet, and lies between lake Van and the Murad Tchai or Eastern Euphrates. The river there is crossed on a raft, supported on inflated skins. The mountain appears to rise abruptly from the plain and is covered with perpetual snow.

STACHYS. A genus of plants of no great beauty, weedy nature and hardly worth cultivating.—*Riddell.*

STACHYS MALABARICA, *Sieb.* Syn. of Anisomeles malabarica.

STACHYTARPHETA JAMAICENSIS, *Vahl.*

Jamaica bastard verbain, Eng. | Rata-nil-nakuta, Cey.

An annual, with blue flowers in terminal spikes; common.—*Riddell.*

STACHYTARPHETA MUTABILIS. A shrubby plant with variegated scarlet flowers in terminal spikes; propagated by cuttings.—*Riddell.*

STADMANNIA TRIJUGA, Spr. Syn. of Schleichera trijuga, *Willd.*

STAFF CORPS a system of officering the native army of British India, introduced into India by the Royal Warrant of 16th January 1861.

Statement showing the different grades in the Bengal, Madras and Bombay Staff Corps for the next 10 years, compiled from Army Lists, corrected to 31st Dec. 1871.

The promotions have been made to the end of each year.

	1871.				1872.				1873.				1874.				1875.				1876.			
	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.
Lt.-Genls...	2	..	2	4	2	..	2	4	2	..	2	4	6	..	2	4	2	..	2	4	2	..	2	4
Mjr.-Genls..	26	9	8	43	26	9	8	43	26	9	8	43	26	9	8	43	26	9	8	43	26	9	8	43
Brt.-Cols...	106	92	50	248	132	115	62	309	187	155	81	423	230	173	97	500	267	101	108	566	314	227	123	664
Lt.-Cols....	208	135	73	416	919	115	94	459	199	133	97	429	193	154	100	447	194	164	103	461	183	151	102	437
Majors.....	211	169	120	500	203	154	99	456	200	148	90	438	205	150	97	452	214	162	103	479	225	108	109	514
Captains...	365	284	174	823	360	281	176	825	361	261	173	795	335	222	151	708	306	184	136	625	277	149	122	548
Lieuts......	184	38	57	279	152	23	43	218	127	21	33	181	111	19	29	159	93	17	25	135	75	11	17	103
Total..	1102	727	484	2313	1102	727	481	2313	1102	727	484	2313	1102	727	484	2313	1102	727	484	2313	1102	727	484	2313

	1877.				1878.				1879.				1880.				1881.			
	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.	Bengal.	Madras.	Bombay.	Total of each grade.
Lt.-Genls...	2	..	2	4	2	..	2	4	2	..	2	4	2	..	2	4	2	..	2	4
Mjr.-Genls..	26	9	8	43	26	9	8	43	26	9	8	43	26	9	8	43	26	9	8	43
Brt.-Cols...	351	260	156	767	386	288	178	852	423	327	197	947	460	355	211	1026	496	378	226	1100
Lt.-Cols....	174	136	87	397	167	126	77	370	158	109	71	338	162	122	83	367	173	138	88	390
Majors.....	262	213	125	600	287	253	138	678	294	244	144	682	280	210	133	623	255	173	115	543
Captains...	232	105	57	434	198	50	78	326	179	38	62	279	172	31	47	250	150	29	45	224
Lieuts......	55	4	9	68	36	1	3	40	20	..	..	20	..	..	..	..	..	..	..	..
Total..	1102	727	484	2313	1102	727	484	2313	1102	727	484	2313	1102	727	484	2313	1102	727	484	2313

JUBBULPORE, March 1872.

130 Probationers in the 3 Staff Corps not included in the above.

STAFF, a staff with a crooked head is carried by Arabs. The Darvesh carry a staff.

STAFF TREE, Celastrus paniculatus, *Willde.* Staff-tree oil, oil of Celastrus paniculata. See Malkunguni.

STAG. The sub-family Cervinæ of the family Cervidæ, are the true stags, and comprise the Kashmir stag or Cervus wallichii; the Sikim stag or Cervus affinis.

Cervus wallichii, Cuv., Blyth, F. Cuv. The Kashmir stag.

C. caspianus, *Falconer.*	C. cashmiriensis, *Falconer*
C. elaphus, *Pallas.*	C. nareyanus, *Hodgson.*
Barasingha, HIND.	Maral, PERS.
Hangul; Honglu, KASH.	

The Kashmir stag is about 7 or 7½ feet long and from 12 to 13 hands high with a tail about 5 inches. It is found in Kashmir, and as far as the Black Sea in Central and Western Asia, and it is common in Persia. Its horns, in the adult are usually bifurcate in the extremities. In summer its hair is bright rufous, passing into liver-brown or bright pale rufous chesnut. It nearly approaches the red deer of Europe. It inhabits the magnificent pine forests, usually, in summer, at a height of 9,000 to 12,000 feet, but coming much lower in autumn and winter. The horns are perfect in October when the rutting season begins, and the stags may be heard bellowing in the woods all day long and they are then easily stalked. The females gestate till April. The Kashmir stag flies before the tare and markhor, when the two latter are driven by the rigors of winter to seek food and shelter in the deer forests, for it is seldom they leave the dizzy crags or the mountain-tops unless forced by severity of weather.

Cervus affinis, Hodgson, Blyth. Sikim stag.

Sia rupchu, | Shou, TIB.

The Sikim stag is about 8 feet long, and about 4½ to 5 feet high with pale smooth horns bifurcate at the tip. In summer it is of a pale rufous colour, in winter a fine clear grey with a moderately large white disk. It nearly resembles the Wapiti of Canada. It inhabits Eastern Tibet and the Choomhi valley on the Sikim side of Tibet. It is probably the great stag of N. China, the Irbisch of Siberia and the Alain of Atkinson.

Cervus barbarus, Bennett. Stag of N. Africa.

Cervus sika, Schlegel. Japan stag.

Cervus mantchuricus, Swinhoe. Stag of Mantchurea.

Cervus taiouensis, Swinhoe. Stag of Formosa

Tarandus rangifer, the reindeer of the glacial regions.

Dama vulgaris is the fallow deer of Europe.

Alces machlis, Ogilby. Is the elk or mouse-deer from the marshy forests of the E. and W. continents, is six feet high.—*Adams, Jerdon.*

STAGMARIA VERNICIFLUA, one of the black varnish trees of China.—*O'Sh.*

STAGNATA, It. Tin ?

STAGNO, It. Pewter ?

STAGPA, Hind. Betula bhojputra.

STAHL, Ger. Steel.

STAL, Rus., Sw. Steel.

STALACTITE and Stalagmite. Stalactitic carbonate of lime occurs chiefly in long masses suspended from the roofs of caverns in limestone rocks. Stalactites appear to be continually forming ; water containing carbonate of lime held in solution by carbonic acid, trickling through crevices in the roofs of the caverns, gradually during its exposure to the air loses its carbonic acid, and consequently deposits its carbonate of lime ; the water passing over the portion first deposited gradually adds to it, and eventually gives the carbonate of lime its great length and stalactitic character. The latter deposits, called stalagmites, are formed on the floor of the cavern by the water there depositing that portion of its carbonate of lime which is not separated during the formation of the stalactite. Caverns are sometimes nearly filled with these deposits. Carbonate of lime, is a very abundant mineral in the Tenasserim provinces and embraces several varieties. Stalactical carbonate of lime is one of these. All the Tenasserim limestone caves have stalactites hanging from their roofs ; and stalagmites raised on their floors. The Siamese Karens often bring over bits of limestone of the shape of a shell, and when broken, a shell usually of the genus melania appears, that has been encrusted with carbonate of lime. Much of the alabaster of which ornaments are made is stalagmite ; but all the alabaster images of the Tenasserim coast are made of marble : and not of compact gypsum, which they much resemble.—*Eng. Cyc.*, *Mason.*

STALAGMITES CAMBOGIOIDES, see Dyes, Clusiaceæ, Gamboge, Hebradendron, Oosara rewand.

STALAGMITES OVALIFOLIA, *Brown and Graham.*

Xanthochymus ovalifolius.

A native of the southern provinces of India and Ceylon. The seeds were sent from Ceylon by General Hay MacDowal, to the Calcutta garden, under the Singhalese name Ambul ghorka ; in 7 to 10 years the trees began to blossom during the whole of the hot season, and in July 1812, when ten years old, they produced perfectly ripe fruit. Dr. Wight was of opinion that this tree yields one kind of the gamboge of Ceylon.—*Roxb.*, *Vol.* ii, *p.* 632 ; *O'Shaughnessy, p.* 236.

STALAGMITES PICTORIUS, *G. Don.*

Xanthochymus pictorius, *Roxb.*

Dampel, Beng., Hind. | Kata Ghorka, Singh.

A native of the mountainous districts of India ; leaves opposite, linear, lanceolate ; flowers in lateral fascicles, berry ovate, pointed. Fruit ripens in November and December, and the tree yields a large quantity of inferior gamboge.—*O'Shaughnessy, p.* 236.

STAN, or St'han, Sans., Pers. A place, a country, as Hindustan, Affghanistan, Beluchistan, the country of the Hindoo, Affghan, Beluch.

STAN-GYUR, see Koros.

STANIZYE, are an agricultural, and the Ahmed Zye a pastoral, tribe of Affghans : these as also the Kaisur Kheil and Summulzye or Ismail Zye, who have migratory habits, but dwell to the south and east of Ghizni, are sub-divisions of the Suliman Kheil. The Shirpan are an associated body, formed out of the other kheil. Ghizni is a Ghilzye town. See Affghan.

STANLEY, a traveller who went in search of Dr. Livingstone into the interior of Central Africa.

STANLEY, Lord, was the first Secretary of State for India, and ex-officio President of the India Council. On the resignation of Lord Ellenborough, in May 1858, Lord Stanley resigned the Colonies into the hands of Sir E. Bulwer Lytton, and became President of the Board of Control. The latter board merged into the Council of State for India, the result of a bill to that effect introduced by Lord Stanley during the Parliamentary Session of 1857-58, and which received the royal assent in July 1858.

STANNUM, Lat. Tin.

STANNUM INDICUM, Lat. Zinc.

STAPELIA, an extensive genus of plants, belonging to the Asclepiadeæ with curiously marked flowers like a toad's back, they are star-shaped, and grow from the roots ; these plants being succulent, are apt to drop off if grown in too rich or moist a soil, they give seed and may be cultivated from it, but more readily from slips shaded partially, and watered sparingly.—*Riddell.*

STAPELIA BUFFONIA.

Kar alum, Duk.

Toad-like Stapelia.

STAPELIA GRANDIFLORA and S. variegata.—The species are stemless plants with fœtid flowers, star-shaped, colour resembling a toad's back : the plants should not have much water or be exposed to the sun ; easily propagated by seed or cuttings.—*Riddell.*

STAPELIA VIRGATA, *Rottl.*

Callymolian, Tam. | Koondana Komooloo, Tel.

STAPHILINIDÆ, *Leach.*, a family of the Crustaceæ, comprising the genera,

Ocypus, *Kirby.*	Prognatha, *Latr.*
Philonthus, *Leach.*	Leptochirus, *Perty.*
Xantholinus, *Dahl.*	Oxytelus, *Grav.*
Sunius, *Leach.*	Trogophlœus, *Mann.*
Œdichirus, *Erich.*	Taprobanæ, *Wlk.*
Pœderus, *Fabr.*	Omalium, *Grav.*
Stenus, *Latr.*	Aleochara, *Grav.*
Osorius, *Leach.*	Dinarda, *Leach.*

STAPHULINOS, Gr., of Dios. Carrot.

STAPHYLEA, the type of the natural order Staphyleaceæ. One species is a native of Europe, one of North America, one of Japan, two of Jamaica, one of Peru, and one of the Himalaya.—*Eng. Cyc.* ; *Voigt.*

STAPHYLEA EMODI, *Royle.*

Guldar,	BEAS.	Chitra, kurkni,	JHELUM
Chual,	CHENAB.	Thanari,	RAVI
Ban-shagali,	„	Mar-chob,	PERS.
„ bakhura,	„	Nag-dan,	SUTLEJ.
Serpent stick,	ENG.	Kaghania,	„

A small tree found by Dr. Royle in the Himalaya, at an elevation of 7,000 feet, not uncommon in Murree and Hazara. Bark of branches speckled, whence, on the doctrine of signatures, arises the belief that a branch or stick of it kept by one will drive away snakes. It is often found in the Himalaya from 6,000 to 9,000 feet, up to the Indus, and beyond it. Dr. Wallich, procured it from Srinuggur, Dr. Royle found it on Urukta, about 7,000 feet of elevation, also near Burkote, and had it brought to him from near Peer Punjal.—*Royle, Ill. Him. Bot., p.* 165; *Roule., Ill. Him. Bot., p.* 166.

STAR. Niebuhr considers that the stars are brighter in Norway than in the Arabian deserts. Burton says he never saw them so bright as on the Neilgherry hills.

STAR-ANISE.

Badian-i-khatai,	AR., PERS.	Anise d'etoile,	FR.
Hwai-hiang ; Ta-hwai-hiang,	CHIN.	Badian,	HIND.
Pah-koh-hwin-hiang,	„	Skimmi,	JAP.
Anas-phool,	DUK.	Anasi-pu.	TAM.

Star-anise is the fruit of the Illicium anisatum of Linnæus, a shrub or small tree, which grows in several places in the south eastern parts of Asia, in China, Japan, the Philippines, and the countries extending from China to Japan from 23½° to 35 N. lat. The name is given from the clustering star like form assumed by the capsules or pods, five to twelve in number, joined together at one end and diverging in rays generally fine. These are used all over the east, as a condiment. They are prized for the volatile oil obtained from them, and for their aromatic taste. The barks have a more aromatic flavour than the seeds, but they are not so sweet. In China, their most common use is to season sweet dishes . In Japan they are placed on the tombs of friends and presented as offerings in the temples. They are chiefly exported direct to India, England, and the north of Europe, at the average value of 8½ dollars per picul. In 1850, 695 piculs were exported from Canton, valued at 8,200 Spanish dollars. In India they are much used in seasoning curries and flavouring native dishes, and large quantities are used in Europe in the preparation of liqueurs. 3,000 piculs of anise are exported annually from Cambodia, and, in 1848, 81 piculs of oil of aniseed, valued from 11,900 dollars were exported from Canton. In preparing a spirit of anise, the Star Anise, may be used instead of common anise. In England, it is from this fruit that the oil of anise is prepared, and it imparts the peculiar flavour of Anisette de Bourdeaux.—*Burton's Pilgrimage to Meccah, Vol.* i, *p.* 308 ; *Morrison* ; *Simmonds* ; *Faulkner* ; *O'Shaughnessy, Beng. Phar., p.* 421 ; *Vegetable Kingdom,* 23. See Illicium anisatum.

STAR ANISE OIL, Oil of fruit of Illicium anisatum.

STAR APPLE, ENG. Chrysophyllum acuminatum.

STARBUS, HIND. Hippophae rhamnoides.

STARCH.

Abgoon,	AR.	Kanji, Garus,	MALAY.
Kau,	BURM.	Nishashta,	PERS.
Amidon,	FR., SP.	Kruchmal,	RUS.
Amidan,	GER.	Amidon, Almidon,	SP.
Ganji,	HIND.	Godambe mao,	TAM.
Amito, Amodi,	IT.		

The starch of commerce is procured generally from wheat flour and potatoes. The best kind is white, soft, friable, and easily reduced to powder. It is insoluble in cold water and alcohol, but readily affords a gelatinous solution in warm water, which is largely employed for stiffening articles of wearing apparel, and for dressing some descriptions of goods after weaving. It is also much employed by calico printers, and others. Starch is very generally present in the vegetable kingdom. It occurs in the forms of irregularly-shaped granules enclosed in the cells of plants. It is easily detected in the cells of plants under the microscope, by the addition of a small quantity of solution of iodine which immediately gives to the starch granules a blue colour. Starch can be readily separated from the tissues of plants, on a large scale by bruising them and stirring them in water ; when left at rest the cellulose of the tissue falls to the bottom of the vessel, and the starch floats in the water. If the water containing the starch be now poured off and allowed to stand a few hours, the starch will fall to the bottom of the vessel, and is easily collected. In this way it is obtained for commercial and dietetical purposes. Starch is thus found to be diffusible through water, but not soluble in it.

Starch differs from cellulose, on the one hand, by its diffusibility through water; and on the other, from dextrine, sugar, and gum, by its insolubility. In composition it resembles these substances, and during the growth of the plant it is evidently converted into one or the other according to the necessities of the plant. Starch is easily manufactured, and is largely used in several of the arts, as well as an article of diet. It can be obtained from a great variety of plants, and many of the most productive of it are natives of the tropical countries in the East. Starch occurs in the forms of irregularly-shaped granules enclosed in the cells of plants, and can be easily separated from the tissues of plants, on a large scale by bruising them, and stirring them in water; when left at rest the cellulose of the tissue falls to the bottom of the vessel, and the starch floats in the water. Starch is one of the constituent parts in all mealy farinaceous seeds, fruits, roots, and other parts of plants. In the West Indies, the Maranta arundinacea, allomyca, and nobilis and various species of Canna furnish this fecula. Two varieties of Cassava furnish a very superior quality, which is known in commerce as Brazilian arrowroot, the amylaceous matter from Zamia pumila and other species at the Cape of Good Hope has been sent as arrowroot, a similar product is obtained in Chili from Alstromeria pallida, and the Singhalese get a kind of starch from the nut of the Cycas circinalis by pounding the fresh kernels. The following are the chief fecula or starch-like substances of the East and may be consulted separately also under the heads Arrow Root, Food and Marantea.

Arrow root, West Indian,	..Maranta arundinacea.
Arrow root, East Indian,	Maranta ramossissima, also Curcuma angustifolia.
Do. do.	..from other species of Curcuma.
Do. do.	
Do. Mergui,	..Tacca pinnatifida.
Tapioca,	..Jatropha manihot.
Cassava-meal,	.. Do.
Plantain meal,	..Musa paradisiaca.
Sago, Singapoor,	..Arenga saccharifera.
Sago, Malabar,	..Caryota urens.
Sago-meal,	..Phœnix farinifera.
Salep,	..Habenaria, &c.
Nelumbium seeds,	..Nelumbium speciosum.
Singhara seeds,	..Trapa bispinosa.
Yams,	..Dioscorea, (var. sp-)
Telinga potato,	..Amorphophallus campanulatus.
Sweet potato,	..Batatas esculenta.
Ceylon moss,	..Plocaria candida.
Kotee kalangoo,	..Apoñogeton monostachyon.
Farina of	..Parkia biglobosa.
Chara kelangoo,	..Plectranthus tuberosus.
Champoo,	..Caladium nymphifolium.
Sago, Indian,	..Cycas revoluta.
,,	..Cycas circinalis.

The specific quantity of starch derived from several plants varies from 1·41 to 1·47, and probably those specimens prepared from dry seeds, such as wheat and maize starch, which, as commercial articles at least, are less pure than those prepared from recently dug roots, have also the lowest density. As an article of diet, the most tenacious varieties of starches are preferred, on account of the economy of employing an article of which a less quantity will suffice, and the same is true when applied to starching linen, provided the jelly be not deficient in clearness. In respect to tenacity, there is a very great difference between the jellies prepared from the different starches, a disc of jelly prepared from sweet Cassava breaking with 78 grains, while that of a jelly from the Tous les mois, of the West Indies did not break with a weight of 2,446 grains. Experiments of a similar kind are required to test the starches of India. When starch jelly is used for the purpose of starching or glazing linen, or cotton goods, the most transparent varieties are preferred, provided they also possess the requisite tenacity, but on this point, also experiments regarding the Indian starches are necessary. Starches from different plants are best distinguished from one another by examining either as transparent, opaque, objects, their grains or globules with a microscope, for though in the same species, there are considerable differences in size and form, the different kinds are on the whole quite distinguishable. This is of the more importance because the adulteration of starches is chiefly effected by mixing a cheap variety with a higher priced one, and in practice when the observer has a number of pure and authentic specimens before him to have recourse to as standards of comparison, the discrimination is by no means difficult. In making a decoction of starch for medicinal purposes, instead of European starch, Indian arrow-root (tikor,) can be employed. The mahomedans of lower India prepare starch from wheat as in Europe; they also sometimes make it from some of the edible roots, such as the Kooa, a variety of Curcuma angustifolia.

Wild ginger grows everywhere in the Chittagong district; it is very difficult to eradicate it from land, as the smallest root or piece of a root that has an eye will spring up again. The plant dies off in December. The yield of starch from it was estimated at 1 ounce from 1 pound of the root. The supply of the root being inexhaustible, any quantity of starch might be extracted from it yearly, and it might be found a valuable article of commerce. There would be no expense for cultivation, and allowing for the cost of digging the root, and manufacturing the starch by bruising and macerating the root in water and drying the deposit, the product would be cheaper than Arracan rice, which is believed to be largely exported to Europe to be used, not as food, but in manufacture for glazing linen, &c.

Gluten is identical with fibrine, and is a form of protein. The straw of wheat, and the chaff, or the culm, and the flowers, also contain 79 per cent. of organic matter. This consists principally of unazotised vegetable matter, and may therefore be used as an article of diet forcattle. The culms of wheat are also used for the purpose of making plait from which straw hats and bonnets are made, a manufacture of considerable importance in some parts of Europe. The ultimate dietetical action of all starches is the same, and the preference given toarrowrootis duetoits flavour alone. It makes a good jelly, but it smells and tastes slightly of linseed oil, and leaves a faint bitter taste upon the palate; and unless this is due to want of care in its preparation and can be got rid of, it would not be acceptable to Europeans. As to the nutritious quality of starch, modern research has shown it to be deficient in flesh-producing properties, and that it can only be called strengthening when mixed, as it usually is with milk, or flour containing gluten. It would therefore appear to be a mistake to suppose that as an article of diet it can be equal to twice the quantity of flour of Panicum grossarium, which in all probability, besides its starch, contains a considerable quantity of gluten. The starch granules in C. tuberosa are compound, and they have in consequence a very different shape from the various arrowroot starches from which they can be easily distinguished with the microscope. They vary much in size, the smaller having a diameter less than 1-11,000ths of an inch. They dipolarize, and the usual black dot can be seen in granules of 1-5,000ths of an inch in diameter.—*Roxb.*: *Ainslie, p.* 336; *Revd. James F. Kearns, Missionary S.P.G.*; *Captain J. Mitchell, Officer in charge of the Gvt. Centl. Museum, Madras*; *McCulloch's Com. Dict., p.* 1078; *Faulkner*; *Madras Exhibition of* 1857; *English Cyclopœdia*; *Simmonds' Commercial Products*; *Hassall.*

STAR FLOWER, Eng. Callistephus Chinensis, *DeCand.*

STARGA, Hind. Juglans regia, Walnut.

STARLINGS, are birds of the genera Sturnus and Sturnopastor of the sub-family sturninæ and family sturnidæ. The spotted winged starling (Saraglossa spiloptera) a native of the hills, although not common, as many as half-a-dozen may be seen at one time among the woods and jungles of the lower hills during the hot months. In winter it may possibly retire to the hot Himalayan valleys. The Sardinian Starling or glossy black (Sturnus unicolor, *Marmora*) is likely to be confounded with the common starling, to which it assimilates in habits as well as general appearance. It is glossy black without white specks. Sometimes both species are seen feeding together on dunghills and in fields; and although the former is the more common, the latter was often observed by Dr. Adams during rambles on the banks of the river. It is found in the south of Europe, north of Africa, Western Asia, Sindh, the Punjab and Cashmere, and builds in holes of decayed trees.

The Common Starling.

Sturnus vulgaris, *Linn.*	Sturnuss plendens, *Temm.*
Sturnus indicus, *Hodg.*	

Telia-mina, Hind.	Nakshi telia of Agra, Hind.
Tilora of Ghazepore, ,,	Tilgiri of Cashmere, ,,

Is glossy-black with a pale whitish or brownish tip to each feather, giving the bird a pretty speckled appearance. It is found from Cashmere southwards to Purneah on the Ganges. It associates in large flocks feeding both on grain and on insects among cattle, associating with the common and black mynas and roosting on high reeds at night. In Cashmere it breeds in holes and bridges, of tall trees, &c.

The Pied Starling.

Sturnopastor contra, *L.*	Pastor jalla, *Horsf.*
St. capensis, *L.*	

Ablaka gosalik, Beng.	Guia-leggra, Tel.
Ablaq maina, Hind.	Venda-gorinka, ,,

The pied starling is found throughout the north of India southwards to Hyderabad in the Dekhan. Its head, neck and the upper part of its breast are glossy-black, and back, wings and the tail, also black, slightly glossed. Ear-coverts white; extending in a narrow line to the nape, upper tail coverts, also white, also an oblique bar on the wing. It has a pleasant song and is a great imitator of other birds.

Sturnopastor superciliaris, occurs in Malayana.
Pastor jalla, ,, ,,
,, tricolor, *Horsf.*, Java.
,, temporalis, *Wagler*, China.
Sturnus cineraceus, *Temm.*, Japan.

STAR OF INDIA, an order of knighthood, Commanders and Companions, established by Queen Victoria for British India. It consists of the Sovereign of the Order; Her Majesty the Queen, of the Grand Master, the Viceroy and Governor-General of India of Knights Grand Commanders, Knights Commanders and Companions. In A. D. 1871, the Knights Grand Commanders, the Knight Commanders, and Companions of the Most Exalted Order of the Star of India, were as under:—

Sovereign.
Her Majesty the Queen.
Grand Master.
The Viceroy and Governor-General.
Knights Grand Commanders (G.C.S.I.)
The Prince of Wales.
The Duke of Edinburgh.
The Maharajah of Gwalior.

Lord Harris, (Madras.)
Dhuleep Sing.
The Maharajah of Cashmere.
Sir George R. Clerk, K.C.B. (Bengal C.S.)
The Maharajah of Indore.
The Guicowar of Baroda.
Lord Lawrence, G.C.B. (Bengal C S.)
General Lord Strathnairn, G.C.B.
General Sir George Pollock, G.C.B.
The Maharajah of Jeypore.
The Maharajah of Rewa.
Sir H. B. E. Frere, K.C.B. (Bengal C.S.)
The Maharajah of Joudpore.
Sir Robert Montgomery, K.C.B. (Bengal C.S.)
The Maharajah of Travancore
General Sir W. R. Mansfield, K.C.B.
Lieut.-General Lord Napier of Magdala, G.C.B.
Sir Seymour Fitzgerald, (Bombay.)
The Maharajah of Puttiala.
Sir Jung Bahadur, G.C.B.

HONORARY KNIGHT GRAND COMMANDER.

H. H. the Viceroy of Egypt, G C.B.

KNIGHTS COMMANDERS (K.C.S.I.)

Sir Cecil Beadon.
Sir Salar Jung (Hyderabad).
Sir D. F. McLeod, C.B. (Bengal C.S.)
The Maharajah of Deo, in Behar.
Sir Henry Ricketts, (Bengal C.S.)
The Maharajah of Vizianagram.
Sir H. B. Harington, (Bengal C.S.)
The Maharajah of Bulrampoor (Oude.)
Sir Walter Elliott, (Madras C.S.)
Shurf-ul-Oomrah Bahadoor (Madras.)
Sir Thomas Pycroft (Madras C.S.)
The Rajah of Gidhore.
Sir J. M. McLeod (Madras C.S.)
The Rajah Dinker Rao.
General Sir L C. Coffin.
General Sir G. St. P. Lawrence, C.B.
The Rajah of Drangdra.
General Sir G. M. Sherer.
The Rajah of Benares.
General Sir A. T. Cotton, R.E.
Meer Shere Mahomed.
General Sir N. B. Chamberlain, K.C.B.
Rajah Sahib Dyal Missar.
Sir George Yule, C.B. (Bengal C.S.)
Sir Madava Rao, (Travancore.)
Sir C. J. Wingfield, C.B.
The Thakoor of Bhownuggur.
Hakeem Saadut Ali Khan.
Colonel Sir A. B. Kemball, C.B., R.A.
Sirdar Nihil Singh Chachi.
Colonel Sir Robert Wallace.
Colonel Sir W. H. R. Green, C.B.
Major Sir George Wingate.
General Sir H. M. Durand, C.B.
Sir W. Muir, (Bengal C.S.)
Sir Daniel Elliot, (Madras C.S.)
Sir G. F. Harvey, (Bengal C.S.)
General Sir William Hill.
General Sir Vincent Eyre, C.B., R.A.
The Rajah of Nadwea.
Sir Henry Anderson, (Bombay C.S.)
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Maharajah Maun Singh.
Colonel Sir W. W. Turner.
Colonel Sir W. L. Merewether, C.B.
Major-General Sir E. L. Russell.
The Rajah of Cochin.
General Sir J. Campbell.
Sir William Gray, (Bengal C.S.
Prince Gholam Mahomed.

STAR OF INDIA.

COMPANIONS (C.S.I.)

Sied Asghur Ali Khan.
F. William, (Bengal C.S.
Fouzdar Khan.
G. Raikes (Bengal C.S.)
The Rajah of Sirgooja and Odeypoor.
S. Mansfield (Bombay C.S.)
Pertab Chunder Singh.
Shuttoshurn Ghosal.
C. P. Thornhill.
The Rajah of Venkatagiri.
W. Ford (Bengal C.S.)
The Rajah of Mynpoorie.
W. R. Robinson (Madras C.S)
Colonel C. T. Chamberlain.
The Rajah of Kashepoor.
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The Rajah of Kutyaree.
The Rajah of Morarow.
J. W. Sherer, (Bengal C.S.
The Dewan Cheboo Lama.
J. D. Gordon, (Bengal C.S.)
The Dewan of Patna.
Colonel E. G. Lake.
Soorut Sing of Benares.
Colonel J. C. Haughton.
Syad Azimoodeen Hassun Khan.
W. Mackenzie, M.D., C.B. (Madras.)
Syud Hassun of Surat.
Colonel R. J. Meade.
The Chief of Vinchoor.
Major R. H. Keatinge, V.C.
The Jaghirdar of Bunganapalle.
Prosunno Coomar Tagore.
Major J. W. Younghusband.
Amendanath Roy of Nattore.
E. B. Powell, (Madras.)
Juggah Rao of Rajahmundry.
Shet Naoumell.
J. Fleming, (Bombay.)
Gajalu Lakshminarasu Seth.
Abdoolah Sassoon, (Bombay.)
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H. Riddell, (Bengal.)
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Dr. Stovell, (Bombay Medical Department.)
E. Hare.
The Rajah of Parricod.
Mr. J. D. Sim, (Madras C.S.)
Pundit Nuphal.
Mr. R. H. Davis, (Bengal C.S.)
Gholam Hussan Khan.
Mr. J. C. Marshman, (Bengal.)
General Frederick Conyers Cotton.
Colonel A. Broome.
„ A. Fytche.
„ C. H. Dickens.
„ E. T. Dalton.
„ O. E. Rothney,
„ L. Pelly.
„ J. B. Dunsterville.
„ T. Rattray.
Major Frederick R. Pollock, (Bengal.)
Dr. Joseph Fayrer, (Bengal Medical Department.)
Mr. John H. Oliver.
Mr. Frank Souter, (Bombay.)
Edward C. Bayley, (Bengal C.S.)

558

Colonel H. Thuillier, R.A.
Colonel J. C. Anderson, R.E.
Colonel M. Dillon, R.B.
Colonel H. E. Longden.
Alex. J. Arbuthnot, (Madras C.S.)
Colonel Michael Dawes.
Baboo Shiva Persad.
Rajah Emy Kischen Doss.

STATICE, Sea lavender. Many of the species bear pretty purple, white and blue flower, and are much cultivated in Britain ; S. arborea is a very handsome shrub and requires a large space for its spreading roots, is propagated by seed, in good garden soil.—*Riddell.*

STATICE CORIARIA, see Dyes.

STATISTICS OF BATTLES. At Waterloo, the Duke of Wellington, lost in the proportion of 1 to 6. In that battle, out of a British force of 36,273, there were killed 1,417, making about 3·9 per cent. ; but, including 362 men killed of the King's German Legion, the ratio rises to 4·9 per cent. The total force, British and allied, under the Duke of Wellington, amounted to 69,686, out of which there was a total killed of 2,947, or a grand total killed of 4·2 per cent. British and allied. The Indian returns show the following ratios :—

1803...Assaye	1 to 3	1845...Maharajpore	1 to 6
1804...Dieg	1 „ 4¼	1846...Battles of the Sutlej	1 „ 5
1817...Mehidpore	1 „ 6	1848.Chillianwallah	1 „ 7
1817...Sitalbuldy	1 „ 4½		
1818...Korygaum	1 „ 3¼		

The loss of the defeated in every affair, except perhaps the last, greatly exceeded that of the British. Seringapatam, in 1799, was stormed and captured by 4,376 men, in two columns. The loss in the assault was

	Killed.	Wounded.	Missing.
European Officers	22	45	0
„ N. C. O. and Soldiers	181	122	22
Native Soldiers	119	420	100

making a total, killed, wounded and missing, of 1,031 men. Of the above officers, 25 were killed and wounded in the assault. Lord Lake, with an original force of 9,000 men, augmented afterwards by the force from Bombay, according to Major Hough, appeared before Bhurtpore in January 1805. During four successive assaults, each increasing in desperation, Lord Lake was repulsed with losses of killed and wounded on each occasion, as follows :—

First assault	456	Third assault	894
Second do.	573	Fourth do.	987
		Total 2,910 men killed and wounded.	

There were of officers killed 15, and 85 wounded, making a total of officers, killed and wounded, 100. Major Thorn gives the loss, in all the operations, at 3,100 men and 102 officers, killed and wounded. During the expedition to Walcheren in 1809, 1·67 per cent. of the entire force was killed in action, and 32·2 per cent. perished by disease, making a grand total of 34·69 per cent. in that fatal and ill-directed attempt. Of the losses in the earlier campaigns of the French revolutionary war we receive but the following general statements :—In 1794, says Mr. Fergusson, the French army in Flanders, composed principally of mere boys, many of them of five feet, three or four inches in height, kicked us before them like a foot-ball through Flanders and Holland into Germany, destroying in their course full three-fourths of our army. The same authority, speaking of the same campaign, says that "by disease, by famine, by the rigour of the season, and by the sword, out of a host of fully 30,000 men, when the retreat from Flanders first began, scarcely 8,000 remained to witness its completion." In the Peninsular army, again, under the Duke of Wellington, taking forty-one months during which the war was carried on with the utmost vigour, an annual mortality of about 4 per cent. occurred in battle and from wounds, and 12 per cent. was from disease, being nearly 16 per cent. of those employed : whereas, in the first year of the Burmese war 3½ per cent. of the British troops were killed in action, and 45 per cent. perished by disease, making a total loss of 48½ per cent. ; consequently each person employed throughout that year encountered more risk of life than in three Peninsular campaigns. In the second year of the Burmese war, the losses in action, and by disease, were about one-half of what occurred in the first, making a total for two years of 5½ per cent. killed in action, and 67½ by disease, or a grand total for the two years of 72¾ of the European force employed under Sir Archibald Campbell. The official records exhibit a loss of 61 officers of the British army alone, killed, wounded and died of disease,—"a very heavy loss indeed," says Col. Tulloch, "considering that the average number of officers present did not probably exceed 150." The expedition to Rangoon, during the first Burmese war, was therefore the most fatal of which we have any record. —*Major Hough* ; *War Office Statistical Report, presented to both Houses of Parliament, by command of Her Majesty* ; *The Lancet, No.* xi, *Vol.* ii, *Sept.* 10, 1853.

STAUNTON, Sir George Thomas, *Bart.* ob. August 10, 1858. Was born at Milford-house, near Salisbury, in 1781, and succeeded his father, the first baronet, in 1810. He was educated in Trinity College, Cambridge. After leaving, he was appointed chief supercargo for the East India Company, and was President of the Select Committee at Canton, and Commissioner of Embassy to

Pekin in 1816. In 1818 he was elected member for the borough of St. Michael's, which was extinguished by the Reform Bill. For St. Michael's he sat two years. In 1830 he was returned for Heytesbury, another borough abolished by the Reform Bill. In 1832 he was elected member for the southern division of Hampshire, which he unsuccessfully contested in 1835 and 1837. In March 1838 he was returned for Portsmouth, and sat for that borough 14 years—namely, until July 1852, since which time he had no seat in Parliament. Sir George was the author of a translation of the Penal Code of China, and wrote several works, which are held to be authorities on the subject, on British relations with that country. His father, the first baronet, was Secretary to Lord Macartney, Governor of Madras, and received his title after the negotiation of the peace with Tippoo Sultan in 1784. He was subsequently Secretary of Legation during Lord Macartney's well-known embassy to China in 1792. With the death of Sir George Staunton, the baronetcy became extinct. With the embassy of Lord Amherst, were present Sir Gorge Staunton, who made the well-known and well-done translation of the Chinese Penal Code; and Sir John Davis, subsequently author of "the Chinese," and translator of several works, and who was then, as a young man, chosen to accompany the embassy precisely because he did know the language. Lastly the interpreter of the embassy was Dr. Morrison, author of the best Chinese dictionary in existence; and whose knowledge of the Chinese language, people and institutions was great.

STAUNTONIA LATIFOLIA, *R. Br.*

Hollbollia latifolia, *Wall.*

Ramkela. | Gophla.

A twining shrub of Nepal and Kemaon, at elevations of 5,000 and 6,000 feet. The fruit has a sweetish pulp, and is eaten by the people.—*Voigt.*

STAUNTONIA ANGUSTIFOLIA, *R.Br.*

Hollballia angustifolia. *Wall.*

A plant of Nepal, *Voigt.*

STAWIN Mahr. Alstonia scholaris, *R. Br. Don.*

ST. BARBE, called Pulo Paneeky Bessar, by the Malays, is in lat. 0° 7' N., long. 107° 16' E., 9 miles east of Gaspar Island. It is high, of a triangular form, about 3 miles long. When first discerned it appears like two or three islands, being lower at the centre than at the N. E. and W. parts.

ST. DAVID, or Free-will Islands, N. W. of New Guinea, in lat. 0° 55' N., and long. 134° 21' E., form a close group four in number.—*Horsfield.*

STEAM WOOD, see Ahvi maram.

STEARINE, the harder portion of animal fats; olein or elain being the softer one. Stearine yields an acid, called Stearic acid, having the form of brilliant, white, scaly, crystals, which is largely employed in soap and candle-making.—*Waterston*; *Faulkner.* See Candles.

STEATITE is common in Southern Asia, and of all sorts and colours. At Kurnool and at Salem and near Mysore there are very fine and beautifully white soapstones, and near Chittoor there is a valuable description, (similar to the Cornish serpentine) procurable in large blocks and suitable for many statuary and decorative purposes. There is a quarry of excellent potstone at the Nagery Hills, which is likely to become a valuable addition to the Madras trade. The stone is of fine grain, easily worked with the chisel and susceptible of a high polish, when oiled this stone resembles in a great degree black marble. Some interesting specimens of manufacture in this material show a considerable advancement in design and execution.—*M.E.J. R.* See Soapstone.

STECHAPFEL, Ger. Thorn apple.

STECKNADELN, Ger. Pins.

STEEL.

Acier,	Fr.	Stal,	Rus.
Stahl,	Ger.	Acero,	Sp.
Foulad,	Hind., Pers.	Stal,	Sw.
Acciaja,	It.	Egu,	Tam.
Chalybs,	Lat.	Wukku,	Tel.
Baja; waja; lela; malela kaluli,	Malay.		

Steel is iron combined with a small quantity of carbon. It is brittle, resists the file, cuts glass, affords sparks when struck on flint, and retains the magnetic virtue for any length of time. It loses this hardness by being ignited, and cooled very slowly. Steel is used for making razors, surgeon's instruments, swords, forks, &c.

Konasamoondrum Steel, is made at several villages in the Circar of Elgundel at Ibrahimputnum, and Konapore in the Karaolla purgunnah, and at Atmacore and Chintulpet in the Velloorla Talooka, it formerly was prepared at several other places, but the steel furnaces in them are now abandoned. The teepoor as it is called, the raw material of the steel, is manufactured at Maytpilly, a village twelve miles south of the Godavery, belonging to Balmookund, from a ferruginous sand procured from gneiss by roasting, pounding and washing. The whole process of the manufacture of this steel is detailed with accuracy and minuteness by Dr. Voysey in the first volume of the Asiatic Society's Transactions, and also by Dr. Malcolmson in the Geological Society's Transactions of 1839.

Both these gentlemen visited the steel furnaces at Konasamoondrum in the adjoining district of Neermul which supply the material from which the Damascus blades are manufactured. The steel manufactured at these villages is very inferior to the Konasamoondrum steel--and does not fetch half its price. Yet the teepoor is used for both, and the same care is apparently bestowed in the preparation, the only difference that could be detected was that the pure iron which along with the teepoor and the bran is placed in the crucible, as in the case of the Konasamoondrum steel prepared from the yellow clay iron ore, found in the laterite at Taatpilly, while at Ibrahimputnum and the other villages any iron without reference to the ore from which it is smelted is used. The exact chemical condition of the metal under the form of steel has as yet evaded scientific investigation which renders it probable that the inferiority of the Ibrahimputnum steel may be attributable to this one neglect. The Mogul who rented the Konasamoondrum furnaces would seem to be of this opinion as he holds a strict monopoly over the Taatpilly iron, insomuch that Voysey had some difficulty in procuring a specimen of the metal. In the steel furnaces, five men are employed, viz., the principal workman who has the care of the crucibles, which he is continually moving about the furnaces by means of a long iron rake, and four bellows men. The daily pay of the chief is two seers of rice, and two annas a day. The others receive half the rice and money, if the steel comes out of the crucible at all blistered or unequal on the surface, it is rejected as worthless. There are two kinds of crucibles, the large and the small, each of which contains a lump of steel of from one to two pounds in weight. The cost of the furnace varies from four to six annas for the smaller pieces, and from eight to ten annas for the larger. The workmen complain that the Hyderabad market is now lost to them, their steel being undersold by steel from Europe, which is there preferred for the manufacture of arms. The chief consumption is confined to the country about, where it is used for hatchets, sickles, &c. At Lingampilly and another village, both close to Aimulwarrah, barrels for pistols and matchlocks are prepared. All kinds of old iron, old moat buckets, agricultural instruments, &c., are collected and formed into rods of the thickness of a man's finger. These are then twisted by an instrument for the purpose; three or four of these rods are joined together lengthways, another band of iron of the same breadth and of the thickness of a third of an nch is taken and welded to this, both being formed into a band which is twisted and afterwards beaten into a solid cylinder which is bored by a hard steel chisel. Pistol barrels are made after this manner, but less trouble is bestowed in the manufacture of a coarser kind of matchlocks—the process commencing with simply twisting a band of metal. Pistol barrels manufactured by the first process are sold for rupees twenty and upwards, and matchlock barrels so prepared for double that amount, the last made after the simpler manner are much cheaper. Swords, daggers, bullum and spear heads are manufactured at Elgundel from the country steel. The manufacture of steel is a branch of industry for which India has long been celebrated. This substance can be made of good quality in small quantities and at a comparatively trifling cost; the process is more carefully conducted than that of making iron and the results are on the whole more satisfactory. Some defects however are found in the cast steel of India, which interfere materially with its sale in the European market. These are the hardness of the external surface of the melted lumps, and their inequality, few being alike. The hardness is caused by the lumps cooling too rapidly on the surface from the small size and thinness of the crucibles. This branch of manufacture is susceptible of improvement in India, and there is a great abundance of rich ores, fluxes, and refractory clay in most of the districts of this Presidency. The great desideratum, however, is a bed of good coal that would convert into coke. Some of the black sandstones and band irons exhibited in this class with their accompanying strata of lime, fire-clay, white pipe-clay and thick beds of yellow and red sandstone, are very similar to those found in the coal-bearing strata of Bengal and other countries.

The steel wire of Chinnapatam, in Mysore, has long been known: a specimen exhibited by the Superintendent, Bangalore Division, was worthy of honorable mention. The ore from which Wootz or Indian Steel is made is a magnetic oxide combined with quartz, generally in proportion of 48 parts of quartz to 52 of oxide of iron. It is found in many parts of the south of India, but Salem is the chief seat of the manufacture, and there the ore is prepared by stamping and separating the quartz either by washing or winnowing. The furnace in which the ore is smelted is from three to five feet high from the surface of the ground, and the ground is hollowed out beneath it to the depth of eight inches or a foot. It is somewhat pear-shaped, being about two feet diameter at the ground and tapering to about one foot diameter at the

top ; it is built entirely of clay. Two men can finish one in a few hours, it is fit for use the next day ; the blast is furnished by a pair of bellows each being a goat skin with a bamboo nozzle ; a semi-circular opening about a foot and a half high and a foot in diameter at the bottom is left in the furnace, and before each smelting it is filled up with clay : the furnace is then filled up with charcoal, and kindled, a small quantity of ore, previously moistened to prevent its receiving the charcoal, is laid on the top of the fuel, and charcoal is thrown over it to fill up the furnace: in this manner ore and fuel are added and the bellows plied for four hours or thereabouts, when the process is stopped, and the temporary wall in front of the furnace having been broken down, the bloom is removed by a pair of tongs from the bottom of the furnace, and is then beaten with a wooden mallet to separate as much of the vitrified oxide as possible : and, while still red hot, it is cut through with a hatchet and in this state sold to the blacksmiths, who perform all the subsequent operations of forging it into bars, and making it into steel. The process of forging into bars is performed by sinking the blooms in a small charcoal furnace and repeated heatings and hammerings to free it as much as possible from the vitrified and unreduced oxide of iron : it is thus formed into bars about a foot long, an inch and a half broad, and about half an inch thick. In this state it is full of cracks and exceedingly red short. These bars are cut into small pieces to enable them to pack in a crucible. A quantity amounting to a pound and a half to two pounds is put into a crucible along with a tenth-part by weight of dried wood of the Cassia auriculata chopped small ; these are covered with one or two green leaves of the Calotropis gigantea or Obulus laurifolius and the mouth of the crucible filled up with a handful of tempered clay, which is rammed so as to exclude the air perfectly. As soon as the clay is dry, twenty to twenty-four of the crucibles are built up in form of an arch with their bottoms inwards, in a small furnace urged by two goat skin bellows, charcoal is heaped up over them, and the blast kept up without intermission for about two hours and a half, when it is stopped and the process is considered complete. The crucibles are removed from the furnace and allowed to cool, they are then broken and the steel which has been left to solidify is taken out in a cake having the form of the bottom of the crucible. When the fusion has been perfect, the top of the cake is covered with striæ, radiating from the centre, but without any holes or rough proections on it : when the fusion has been less perfect the surface of the cake has a honeycombed appearance, caused probably by particles of scoriæ and unreduced oxide in the bar iron, and often contains projecting lumps of iron still in the malleable state. The natives prepare these cakes of steel for being drawn into bars by annealing them for several hours in a charcoal fire actuated by bellows, the current of air from which is made to play upon the cakes whilst turned over before it at a heat just short of that sufficient to melt them; by this means the excess of carbon is detached. The process of smelting iron differs according to circumstances in different parts. In some, the ore is collected in the form of sand from the beds of rivers ; the iron stone is collected either from the surface or from mines.—*Major Cuth. Davidson, Assistant Resident*; *M. C. C. for Ex. of* 1851 ; *Rohde, MSS. Mad. Lit. Journ.* ; *M. E. J. R.*

STEEL, Sir Scudamore Winde Steel, K.C.B., an officer of the Madras army died at the age of 76. He entered the E. I. Co.'s service in 1806 ; was employed in the Mahratta country from 1808 to 1810; in 1812-13 with the field force in the Southern Mahratta country; at Kurnool in 1815-16 ; served during the Mahratta war in 1817-18 as assistant quartermaster-general with the army of the Deccan; present at the reduction of the hill forts in the Gung-terry, and at Rajdehr ; he was slightly wounded in the head with a matchlock ball, at the siege of Mallegaum; several times honourably mentioned in despatches; served in Kandeish in 1819-20 as assistant quartermaster-general; served as assistant quartermaster-general to the Madras troops throughout the whole of the first Burmah war in 1824-26; and was engaged in every action, assault, escalade, or operation from the commencement to the close of the war; seven times thanked in despatches, and twice thanked by the Governor-General in Council; employed as deputy quartermaster-general with the Nagpore subsidiary force from 1827 to 1833 ; received thanks, on leaving office, from the quarter-master-general of the army; planned the campaign for the reduction of the principality of Coorg, and was present during all the operations of 1834 ; thanked in despatches by the Governor-General; in 1835 appointed military secretary to the Government of Fort St. George, with the rank of lieut.-colonel, being the first officer in the army ever selected for that important post; retained that office till 1856; repeatedly thanked by the Governors and the several members of Council; was senior commissioner in Coorg in 1839-40 ; thanked for that service both by the Governor-General and the Honourable the Court of Directors ; appointed military auditor-general in 1845;

received the thanks of Government and the Court of Directors; promoted to brigadier-general on the staff in January 1849; placed in command of the Madras division of the army of Burmah in 1852; was present at the relief of Pegu in December 1852; twice thanked in despatches; in January 1853 detached in separate command of the Martaban column to Tonghoo, through a country never before traversed by a disciplined force; thanked by the Governor-General in Council, and his despatches published in the *London Gazette*; in 1854 was specially appointed to command the Pegu division and Martaban provinces, which he retained till January 1856. Sir Scudamore Steel bore a prominent part in nearly every campaign in which the Madras troops were engaged in the first half of the 18th century. He received the India War Medal and two clasps for Nagpore and Ava, and the Pegu Medal; was nominated C.B., 20th July 1838 and on the 19th December 1853 K.C.B., for his services in the second Burmah war. His commissions bore date as follows:—Ensign, 27th June 1806; Lieutenant, 11th September 1806; Captain, 27th March 1821; Major, 15th December 1832; Lieut.-Colonel, 9th April 1838; Lieut.-Colonel Commandant, 13th September 1847; Colonel, 8th March 1849; Major-General, 28th November 1854; Lieut.-General, 2nd September 1861.

STEENKOOLEN, also Steenkull, DUT. Coal.

STEGOSTOMA, a genus of fishes see Squalidæ.

STEINKOHLEN, GER. Coal.

STEKLO, RUS Glass.

STEINKOHLEN, GER. Coal, ENG.

STELLARIA MEDIA, *Sm.*

Kaaray muntha kiray, TAM.

The genus Stellaria is one of the Alsinaceæ or Chickweed tribe of plants. S. media grows on the Neilgherries, and S. triandra, *Wall.*, in Nepaul. This chickweed is used by the natives on the Neilgherries as a pot-herb, eaten alone, and mixed with others, probably introduced.—*Jaffrey*. See Vegetables of Southern India.

STELLATES, see Galiaceæ.

STEMONOPORUS, *Thw.* A genus of Ceylon plants, small or large trees. The S. affinis, *Thw.*, is a large tree, growing in the Hunasgiria district, at an elevation of 4,000 feet. S. canaliculatus, *Thw.*, a moderate-sized tree, of the Hinidoon and Reigam corles, at no great elevation. S. gardneri, *Thw.*, a great tree, near Adam's Peak, at an elevation of about 5,000 feet. S. lanceolatus, *Thw.*, is a small tree near Ratnapoora, at no great elevation. S. moonii, *Thw.*, near Maturatte. S. nitidus, *Thw.*, at Pasdoon corle, a middle-sized tree, at no great elevation. Thwaites also mentions, S. oblongifolius, S. petiolaris, S. reticulatus, S. rigidus, and S. wightii, a great tree, the Vateria ceylanica of Wight, and S. apicalis, a great tree of the damp forests, at an elevation of 1,000 to 2,000 feet, the "Ooroo-kannoo gass" of the Singhalese. S. apicalis, *Thw.*, (the Urandra apicalis, *Thw.*, in Hooker's Kew Journal of Botany,) grows in the damp forests at an elvation of from 1,000 to 2,000 feet. It is a large tree, its Singhalese name is Oorookannoo gass.—*Thw.*, *p.* 43.

STEMONOPORUS WIGHTII, *Thw.* Syn. of Valeria ceylanica, *W. Ill.*

STENACTIS, a showy purple flower and well adapted for borders; it is a native of California and propagated by cuttings or dividing the roots.—*Riddell.*

STENKOL, SW. Coal.

STENO MALAYANUS.

Dolphinus plumbeus dussumier, Cuv.
Dolphinus malayanus, Lesson, apud Cuv.
Param puan, Laut., MALAY.
Dolphin ventre roux of Paris museum.

Inhabits the Malabar Coast and coasts of Penang. It is numerous and rather heavy in its movements, but is rarely captured, except by chance in the stake nets. It eats small fishes, Clupea and Glyphisidon cœlestinus.—*Cuvier.*

STENO FRONTANUS, inhabits the Indian Ocean and the Pacific.

STENOPS JAVANICUS, *Auctor.* Syn. of Nycticebus tardigradus, *Jerdon.*

STENOPUS, see Palemonidæ.

STEPHAN, a Byzantian writer, mentions Aden.

STEPHANOHYDRA, see Hydridæ.

STERCULIACEÆ, an order of plants of the E. and W. Indies, S. America, Mexico, Madagascar, all Southern Asia and New Holland. The order comprises 82 genera and upwards of 100 species. They are trees, or shrubs, sometimes climbing or twining plants, and are all remarkable for the abundance of their mucilage and the tenacity of their fibres.

A. Helictereæ, *Schott and Endlicher.*

Isora corylifolia, *Sch. and Endl.*, all India.
„ grewiæfolia, *Endl.*, Timor.
Reevesia thyrsoidea, *Lindley*, China.
Helicteres hirsuta, *Lour.*, Coch-China, Malay Arch.
„ angustifolia, *Linn.*, China.
„ elongata, *Wall.*, Taong-Dong.
„ virgata, *Wall.*, China.
„ pulchra, *Wall.*, Burmah.

B. Sterculieæ, *Schott and Endlicher.*

Pterygota roxburghii, *Sch. and Endl.*, Sylhet, Chittagong.
Heritiera minor, *Lam.*, Sunderbuns.
„ littoralis, *Ait.*, Mauritius, Pen. of India.

Heritiera macrophylla, *Wall.*, Munipore.
„ acuminata, *Wall.*, Hills N. E. of Bengal.
Triphaca africana, *Lour.*, Mozambique.
Sterculia fœtida, *L.*, all E. Indies, Moluccas.
„ villosa, *Roxb.*, Pen. of India, Hurdwar to Jumna.
„ guttata, *Roxb.*, Pen. of India.
„ lanceæfolia, *Roxb.*, Khassya.
„ acerifolia, *Cunningham* —— ?
„ pallens, *Wall.*, Nepaul.
„ campanulata, —— ? Khassya.
„ ornata, *Wall.*, Burmah.
Southwellia balanghas, *Sch. and Endl.*, China.
„ nobilis, *Salisb.*, India.
„ versicolor, *Endl.*, Segain.
„ lanceolata, *Endl.*, China.
„ coccinia —— ? Sylhet, Penang.
„ angustifolia —— ? Nepaul, Penang.
„ parviflora —— ? Tipperah, Penang.
Cavallium urens, *L.*, Peninsula of India.
„ comosum, *Sch. and Endl.*, Amboyna.
Hildegardia populiflora, *Sch. & Endl.*, Coromandel.
„ candollii, *Endl.*, Timor.
„ macrophylla, *Endl.*, Pondicherry.
Erythropsis roxburghiana, *Lindl.*, Pen. of India, Khassya, Hurdwar.
Firmiana platanifolia, *Sch. and Endl.*, China, Japan.
Scaphium wallichii, *Endl.*, Martaban.
Ochroma lagopus, *Swz.*, Jamaica.
Durio zibethinus, *L.*, Eastern Archipelago.
Gossampinus rumphii, *Sch. and Endl.*, E. Indies, E. Archipelago.
Salmalia malabarica, *Sch. and Endl.*, all India.
„ insignis, *Sch. and Endl.*, Burmah.
Bombax ceiba, *L.*, East and West Indies.
Adansonia digitata, *L.*, West Africa, all India.

D. Bombeyeæ, *DC.*

Ruizia cordata, *Cav.*, Bourbon.
„ lobata, *Cav.*, Bourbon.
„ variabilis, *Cav.*, Bourbon.
Pentapetes phœnicia, *L.*, all East Indies.
Dombeya palmata, *Cav.*, Bourbon.
„ tomentosa, *Cav.*, Madagascar.
„ angulata, *Cav.*, Bourbon.
„ ferruginea, *Cav.*, Mauritius.
„ acutangula, *Cav.*, Bourbon.
„ punctata, *Cav.*, Bourbon.
Melhania hamiltoniana, *Wall.*, Burmah.
„ abutiloides, *Arn.*, Peninsula of India.
Pterospermum suberifolium, *Lam.*, Ceylon, Peninsula of India.
„ rubiginosum, *Heyne.*, Courtallum.
„ heynianum, *Wall.*, Gingi, Courtallum.
„ reticulatum, *W. & A.*, Pen. of India.
„ acerifolium, *Willde.*, Pen. of India, Assam.
„ obtusifolium, *Wight.*, Courtallum.
„ aceroides, *Wall.*, Martaban.
„ lanceæfolium, *Roxb.*, Assam.
„ semisagittatum, *Buch.*
Astrapæa wallichii, *Lindl.*, Madagascar.
Kydia calycina, *Roxb.*, Peninsula of India, Nepaul, Hurdwar to Jumna.
„ fraterna, *Roxb.*, Circars.

E. Wallicheæ, *DC.*

Wallichia quinquelocularis, —— Pulney Hills.
Eriolæna candollii, *Wall.*, Prome.
„ Wallichii, *DC.*, Nepaul.

F. Byttnereæ, *DC.*

Theobroma cacao, *L.*, S. America, also T. guianense, T. bicolor, T. angustifolium.
Abroma augustum, *L.*, Penin. of India, Moluccas.
„ fastuosum, *Gœrtn.*, Timor, N. Holland.
Guazuma tomentosum, *H. B.*, S. America. Cultivated in India.
„ ulmifolium, *Lam.*, West Indies.
Commelyna echinata, *Forst.*, Penang, Singapore, Moluccas.
„ platyphylla *Andr.*, Moluccas.
Byttnera herbacea, *Roxb.*, Circars, Vellore, Bombay.
„ pilosa, *Roxb.*, Sylhet.
„ aspera, *Colebrooke*, Sylhet, Chittagong.
„ catalpæfolia, *Jacq.*, Caraccas.
„ carthagenensis, *Jacq.*, Carthagena.
Kleinhovia hospita, *Linn*, Peninsula of India, Penang, Moluccas.
Actinophora fragrans, *Wall.*

G. Hermannieæ, *Juss.*

Lochennia supina, *Arn.*, Peninsula of India.
„ corchorifolia, *Arnott.*, all India.
Riedleia borbonica, *DC.*, Bourbon.
„ guazumæfolia, *Rich.*, Mauritius.
Visenia velutina —— ? Java, Mauritius.
Waltheria indica, *Linn.*, Ceylon, Pen. of India and Malacca, Bengal, Dehra Dhoon.—*Voigt.*

STERCULIA, a genus of plants of the order Sterculiaceæ. One species, the kun-nun-nu of the Burmese, an enormous tree, grows at Tavoy, as also does another species, called in Tavoy Thi-ka-doo, a species of the genus is common in Wynaad on the higher elevations ; its bast called nar is as durable as ordinary Russian bast, but inferior to the best Russian bast. One species in Africa, and another in India, S. fœtida, yields a tragacanth-like gum. S. guttata, grows in Malabar, the bark of the younger parts of the tree gives very strong, white, flaxen, fibres, from which the Wynaad inhabitants fabricate a coarse cloth. The tree is felled when ten years old, cut into pieces, the bark stripped off and chopped, washed and dried in the sun and without further process it is fit for clothing. S. villosa, the 'Oadal' of Assam, is a native of the mountainous countries east of Bengal. Bags are made of its bark, and its fibres are made into cords to bind wild elephants with. The rope is very strong and lasting, and little injured with wet. Rope made from the inner layers of bark are finely pliable, and the outer fibres yield a coarse rope. Sterculia acuminata yields the Kola or Gonga nut, of which immense quantities are carried to the interior of Africa. Each nut of the Gonga variety sells for 100 cowries, and 2,500 cowries at Rabba on the Kevorra, value a dollar of 4*s.* 4*d.* Bitter Kola fruit is about the size of a peach, rose-coloured and very pretty. The bitter Kola nut is intensely bitter, not astringent like common Kola, and is used for medicinal purposes. Sterculia urens, is a native of the mountains on the coast of Coromandel, as well as of Hindoostan, and yields a gum exceedingly like tragacanth, which has been imported as such into England. S. guttata yields a bark that the Malabars convert into a flaxy substance of which the natives of Wynaad make a sort of clothing. As the

seeds of Sterculia chicka are eaten by the Brazilians, so in India, are those of S. balanghas, S. urens and S. fœtida, after being roasted. A species called Kodalo in Telugu, not S. fœtida, is a tree of Ganjam and Gumsur, extreme height 39 feet, circumference 3 feet and height from ground to the intersection of the first branch, 8 feet. Gives a light wood, used for planks, doors, boxes and scabbards; it is also used for fire-wood, being tolerably plentiful. Six species of Sterculia, four of which, viz., Sterculia ramosa, S. fœtida, S. campanulata, S. piperifolia, are very plentiful throughout the Pegu province, yield a gum which is known in the bazaars of Bengal under the name of Kotheela. The other two species, Sterculia balaugas and S. calorata, are not so plentiful. This gum is probably analogous to the tragacanth, which Dr. Lindley states is obtained from a species of Sterculia at Sierra Leone. S. Fœtida, *Linn.*; is a large tree very common in the central province of Ceylon, where a cubic foot weighs 26 lbs. It grows in the peninsula of India, generally, but chiefly on the western coast in Malabar and Mysore. On the Bombay side of India, it is not common in the forests, but more frequently found about cultivated holdings on the coast, where it grows up small and very straight. It is common on the hills and plains of British Burmah, where a cubic foot weighs lbs. 33. In a full-grown tree, on good soil, the average length of the trunk to the first branch is 50 feet, and average girth, measured at 6 feet from the ground is 10 feet. Dr. Brandis tells us that the wood is not used there. But, in Ceylon, it is used for common house-building purposes, on the western coast and in Mysore, it is applied to a number of useful purposes, and is one of the trees believed to furnish the smaller poon spars of that coast: indeed, Dr. Gibson tells us that it is used as a substitute for the true poon spars in small country vessels. It makes a good avenue tree. The seeds are eaten by the Singhalese. In the cells of this fruit there are contained certain white kernels which have a very pleasant taste inter carnem ossiculum locatur oblongo-rotundum nucleum continens candidum amaro-dulcem. The flower has a most offensive smell and hence the Tamool name. The fruit is used in the treatment of gonorrhœa. The leaves are deemed aperient, and a decoction of the fruit mucilaginous and astringent. The seeds are oleaginous, but are deemed unwholesome. The semi-solid oil obtained by expression from the seeds of this large jungle tree is thick at all seasons of the year, appears to contain a large per-centage of stearine, but it is doubtful if it can be obtained in large quantities: it was sent to the Great Exhibition of 1851 from Bombay.—*Mr. Mendis*; *Dr. Brandis*; *Dr. Gibson*; *Dr. Riddell*; *Wight and Arnott, Vol.* i, *p.* 63; *Thwaites, p.* 29; *Hort. Mal. Phar., Vol.* iv, *p.* 75; *Ainslie, p.* 230; *Mason*; *Madras Agri-Hort. Gardens*; *Mr. McIvor*; *Eng. Cyc.*; *McClelland*; *Dr. Cleghorn*; *Captain Macdonald*; *Roxb.'s Fl. Ind., Vol.* iii, *p.* 149; *Royle's Ill. Him. Bot., p.* 102; *M. E. J. Report.*

STERCULIA ALATA, *Roxb.*

Shaw-nee,	BURM.	Buddh's cocoanut,	ENG.
Dodelee mara,	CAN.		

Grows to an immense height in Canara and Sunda, in deep ravines and sheltered places below the ghauts but is used there only as a support for pepper vines. The wood is said to be too spongy for spars, for which its height and straightness otherwise well fit it. It is a handsome tree in the Tenasserim provinces, bearing a large fruit whose winged seeds are sometimes eaten by the natives.—*Drs. Gibson and Mason, Roxb., Vol.* iii, *p.* 152.

STERCULIA ANGUSTIFOLIA. *Roxb.*

Southwellia angustifolia.

A middle-sized tree, a native of Nepaul.—*Roxb., Vol.* iii, *p.* 168.

STERCULIA BALANGHAS, *Linn.* A tall and straight tree, of the hotter parts of Ceylon, common in the forests of the Bombay coast, where it may readily be distinguished, at certain seasons, by its large pink fruit. The wood is of open grain, so that it probably could, by being creosoted, be made useful in various ways. The seeds are described by Rumphius, as being roasted and eaten by the natives of Amboyna and the capsules burned for the preparation of the colouring matter called by the natives kusumbha.—*Dr. Gibson*; *Thwaites, p.* 29; *Eng. Cyc.*; *W. & A., Vol.* i, *p.* 62.

STERÇULIA COLORATA, *Roxb.*

Bhai?	DUK.	Karaka,	DUK.?	TEL.	

A large tree of the Dekhan and in the Godavery forests, which is deciduous in the cold season, and flowers in March and April. Grows at Courtallum, the wood is said to be useless. Palmated, five-lobed leaves; deciduous in the cold season; flowers in March and April; carpels of a bright red, somewhat resembling the broad pod of a pea opened, with the peas adhering; the tree when covered with them has a strange appearance.—*Dr. Riddell*; *Captain Macdonald*; *Captain Beddome*; *W. & A., Vol.* i, *p* 63.

STERCULIA FOLIIS DIGITATIS, *Ains.*

Hill cocoanut,	ENG.	Konda than-kaia,	TEL.
Malai taynga,	TAM.		

The edible seeds of this tree are eaten by

the poor. They are contained in follicles, each of which is nearly as large as two hands joined.—*Ainslie, p.* 227.

STERCULIA GUTTATA, *Roxb.*

Goldar,	DUK.	Ramena pu maram,	TAM.
Pi maram,	TAM.		

A large erect forest tree, of Ceylon, and Malabar, but occurring in the Dekhan. It grows in Ambagamowa district, at no great elevation; leaves long, petioled, villous underneath; flowers in simple terminal racemes, pubescent on both sides, outer and inner of a pale yellow colour, marked with purple spots, deciduous. Carpels the size of a large apple, three or more growing together, of a reddish colour; seeds size of a chesnut, roasted and eaten by the natives. The bark of the younger parts of the tree abounds with very strong, white, flaxen fibres, of which the inhabitants of Wynaad manufacture a kind of coarse cloth, which derives its name from the first process of its manufacture, viz., the chopping the bark into small pieces, from auragoonoo, to cut. It is not usual to make use of the bark until the tenth year, when its size will be equal to that of most forest trees. The tree is felled, the branches lopped off, and the trunk cut into pieces, of six feet long, a perpendicular incision made in each piece, the bark opened, and taken off whole, chopped, washed, and dried in the sun, by these means, and without any further process, it is fit for the purposes of clothing. From Wynaad, Capt. Dickenson sent the seeds to the Botanic garden in 1802, and the young trees reared therefrom blossomed for the first time in December 1809. They were then about twenty feet high, and the trunk twenty-one inches in circumference four feet above the ground.—*Th. En. Plant. Zeylanicum, p.* 29; *Dr. Riddell*; *Mr. Rohde*; *Dr. Wight*; *M. Ex. J. R.*; *Roxb., Vol.* iii, *p.* 149; *W. & A., Vol.* i, *p.* 62; *Useful Plants, p.* 339; *Royle Fib. Pl.*; *W. et A. Prod.* i, 62, *cum syn.*; *Wight's Icon., t.* 487, *c. p.* 2723.

STERCULIA ORNATA? *Wall.* Shau dung, BURM.?

STERCULIA PARVIFLORA, *Roxb.*

Small flowered sterculia.	Ram-julparee,	HIND.

A middle-sized tree, a native of the hills east of Tipperah: wood unknown. It is abundant in the jungles of Ajmeer.—*Roxb., Vol.* iii, *p.* 147; *Gen. Med. Top., p.* 202.

STERCULIA POPULARIFLORA, *Roxb.* This tree is a native of the Coromandel side of India. The bark is peculiarly smooth in young trees.—*Roxb., Vol.* iii, *p.* 148.

STERCULIA RAMOSA, a tree of Pegu. The inner bark affords a strong and durable rope, in common use.—*McClelland.*

STERCULIA URENS, *Roxb.*

Buli?	BENG.	Vellebutalle maram,	TAM.
Kateria kuli?	HIND.	Vellay putalli maram,	„
Kur kutila,	„	Kavali?	„
Katira,	„	Thabsi,	TEL.
Kundol,	MAHR.	Kavali,	TEL. of the Godavery.
Kavali,	„		

The gum.

Tshaw,	BURM.	Katila ka gond,	HIND.

This large tree is a native of Ceylon and of most parts of India, occurring in the peninsula, and on the western coast, common in the inland and coast forests of Bombay, growing in the Ajmeer hills and Kotah, and in the mountainous countries of India generally. It may always be recognised by its peculiar bark, which looks as if painted of a light-colour. Wood according to Roxburgh, is soft, spongy and loose grained, only fit for the most common purposes. According to Dr. Gibson, it is worthless. Its seeds are roasted and eaten by the natives, and the leaves and tender branches are of great use in certain cattle diseases. The leaves when soaked in water, render it ropy and glutinous. The bark yields a gum resembling tragacanth. Leaves round, cordate and five-lobed; deciduous in the cold weather; flowers in February and March, very small; the carpel is covered with rigid bristly hairs, which puncture like the Mucuna pruriens. The bark of the trunk is white, and gives the tree a dead appearance. The gum, called kutila gond, is obtained in great abundance from this tree; the seeds of the stinging pods are palatable when roasted and very wholesome: many bushels must be yielded by one large tree, and the poor in famines should collect the seeds for food. The seeds are roasted and used by the natives as an article of diet and also as a dainty: the star-shaped pods are covered with stinging pubescence. The wood of this tree is soft and spongy, towards the centre of large trees, it is reddish. Mr. Rohde says, that the water in which he kept the green branches for examination became thick, like clean glutinous jelly. Bark exceedingly astringent, tinges the spittle reddish. It yields a gum not unlike tragacanth, and has been sent to London as such, but the artists, who used the gum, did not find it answer. The gum, which exudes spontaneously during the hot season, occurs in large, light-brown, or white, transparent tough masses. Immersed in water, these swell like a jelly, but do not dissolve unless by protracted boiling. The solution is not adhesive, and is destitute of the thickness of solutions of ordinary gum. The uses of this gum are very limited: the want of adhesiveness renders it unsuitable for the

arts, while its difficult solubility renders it inferior to most other gums for medicinal purposes. A similar gum also called Kutira, is afforded by the Cochlospermum gossypium of Coromandel, Travancore and Ceylon, a large tree, with bright yellow flowers. The seeds, contain starch and fixed oil, when roasted, they have much the flavour of chesnuts, and are eaten by the natives of this country. The wood is soft and loose-grained, only fit for the most common purposes. The leaves when soaked in water have the property of rendering it ropy and glutinous. The white transparent gum is tasteless: swells exceedingly when placed in water but does not dissolve: in medicine is considered cooling and astringent, and given, in Ajmeer, in 'dai' and 'luddoo.' Sterculia ramosa, S. fœtida, S campanulata, S. piperfolia, are very plentiful throughout the Pegu province, all yield a gum which is known in the bazaars of Bengal under the name of Kotheela. Other two species, Sterculia balangas and S. colorata, are not so plentiful. Tragacanth, Dr. Lindley states is obtained from a species of Sterculia at Sierra Leone. Kuteera gum was known as false tragacanth before the tree which produces it was correctly determined. This gum resembles a coarse tragacanth, and is employed in India as a substitute for the genuine gum, which is the produce of the south of Europe.—*Drs. Wight, Gibson and Riddell*; *Roxb., Vol.* iii, *p.* 145; *Irvine's Gen. Med. Top., p.* 202; *Rohde's MSS.*; *O'Shaughnessy*; *Bengal Dispensatory*; *Thwaites' Enum. Plant. Zeylan., p.* 29; *W. et A. Prod., Vol.* i, *p.* 63, *cum syn., c. p.* 2858; *McClelland.*

STERCULIA VILLOSA, *Roxb.*

Gul-kandar,	CHENAB.	Kurdula,	MAHR.
Kuri,	„	Osha,	SUTLEJ.
Gul-bodla,	HAZARA.	God-gudala,	„
Oodhal: Oodial,	HIND.	Magsu,	SUTLEJ, RAVI.
Gul-kandal,	JAMOO.		

A large tree of the Dekhan and in the mountainous countries to the eastward of Bengal, common in many places in the outer hills of the N. W. Himalaya to 3,600 feet or more, up to the Indus, and occurs in the Salt Range. It has a straight trunk with a smooth bark, leaves palmated, five or seven lobed. The bark can be stripped off from the bottom to the top of the tree with the greatest facility, and fine pliable ropes may be made from the inner layers, whilst the outer yield coarser ropes. The rope is very strong and very lasting, wet doing it little injury, in Southern India, elephant ropes, and in Bombay bagging are made of it. In Dehra Doon good paper has been made from it.—*Drs. Riddell and Royle*; *Eng. Cyc.*; *Roxb., Vol.* iii, *p.* 153; *Mr. Thompson*; *Cleghorn's Panjab Plants*; *Dr. J. L. Stewart.*

STERCULIA WALLICHII.

Wulena,	BEAS.	Ulan,	RAVI.
Kuri,	CHENAB.		

A shrub of the Panjab occasional to 3,500 feet.

STEREOSPERMUM. Of this genus, Wight gives, in Icones, S. chelonoides and S. suaveolens. The former is a large tree, common in Wynaad. The wood of which is used for building and making cases.—*McIvor, M. E.*

STEREOSPERMUM CHELONOIDES, *W. Ic.; DC.*

Bignonia chelonoides, *Linn.*

Tha-koop-poo,	BURM.	Vela-pathri maram,	TAM.
Padri,	HIND.	„ padri „	„
Padul,	MAHR.		

This, though not a large, is a very handsome tree, with very fragrant beautiful pinkish flowers. It grows in Coimbatore, it is not common in the forests of the Bombay presidency, it is found, especially in those of the coast and ghauts, but has not been observed in the inland jungles. Its wood is there used for interiors of buildings, but is seldom procurable of a size fit for anything but posts. In British Burmah in a full-grown tree on good soil, the average length of the trunk to the first branch is 30 feet and average girth measured at 6 feet from the ground is 5 feet. It sells in Burmah at 8 annas per cubic foot, and is used in house-building, the flowers are very fragrant. It is probable there is some confusion in the trees called paderi, in Tamil. One padrie marum is reddish, and another is called the white padrie. The trees are very like, being principally distinguished by the colour of the flowers, yellowish on this, brownish-purple in that. Hence, perhaps the two names, black and white pautherie.—*Drs. Wight, Gibson aad Brandis*; *Cal. Cat. Ex.* 1852; *Rhode.*

STEREOSPERUM SUAVEOLENS, *W. Ic.*

Bignonia suaveolens, *Roxb.*

Oolóonanthri mara,	CAN.	Padul?	MAHR.
Padeel?	MAHR.	Padri maram,	TAM.
Purrul,	„		

A middle sized tree, with pinnatic leaves, and panicled inflorescence, frequent in the Walliar jungles in southern India. It abounds in the Soonda forests; is very rare in other Bombay forests, but is occasionally found in the Konkun, near temples, where it has evidently been planted for the sake of its beautiful flowers. The wood is dark coloured, strong and serviceable, is said by Dr. Wight to be elastic and fitted for making bows.—*Drs. Wight, Cleghorn and Gibson*; *M. E. J. R.*

STERIS AQUATICA, BURM. Hydrolea zeylanica, *Vahl.*

STERNBERGIA, see Dracæna.

STERNINÆ, the name of a sub-family of web-footed, long-winged birds, which are commonly known as Sea Swallows and Terns.

Tehari,	HIND.	Kivi,	GOND.
Ganga chil, (Ganges kite),	„	Ramadasu,	TEL.
Mach-louka (Fish snatcher),	„	Samdrapu-kaka (sea-crow),	„

Terns spend the greater part of their lives on the wing, and always seek their food when flying.

i.—*Marsh Terns.*

Sylochelidon caspius, *Latham*, Europe, Asia and Africa.

Sylochelidon strenus, *Gould*, Australia.

Gelochelidon anglicas, the Sterna anglica; 'Gull-billed Tern,' inhabits the warmer regions of the old world, extending also to America, Java, and is common in India.

Hydrochelidon indica, *Stephens*, Europe, Asia, Africa.

ii.—*River Terns.*

Seena aurantia, *Gray*, Ceylon Burmah, South China.

Sterna nirundo, *Linn.*, or 'Common Tern' of Europe, Asia, Africa, S. India, Ceylon.

Sterna javanica, *Horsf.*, all India.

Sterna paradisea, *Brunnich*, or Sterna dougalli; 'Roseate Tern' of Europe, Asia, Africa, America, Australia: coasts of India.

Sterna minuta, *Linn.*, is Sternula minuta, the 'Lesser Tern' of northern hemisphere: replaced in South America and Australia by nearly affined species; common on the west-coast and in parts of South India.

iii.—*Sea Terns.*

Thalasseus cristatus, *Stephens*, Red Sea to China Sea.

Thalasseus bengalensis, *Lesson*, Red Sea to Bay of Bengal.

iv.—*Oceanic Terns.*

Onychoprion melanancheu, *Temm.*, Bay of Bengal to Australia.

Onychoprion anasthælus, *Scopoli*, Red Sea, Indian Ocean.

Onychoprion serrata, *Forster*, P. Islands.

Anous stolidus, *Linn.*, the Noddy.

Anous tenuirostris, *Temm.*, White-headed Noddy, Indian Ocean.

Rynchops albicollis, *Swainson*, all India.

STERNOCERA CHRYSIS, its elytra are used in India, to embroider muslin.

STERNOPTYCHIDÆ.

FIRST GROUP.—Sternoptychina.

Gen. 4 Argyrpelecus, 1 Sternoptyx.

SECOND GROUP.—Coccina.

Gen. 1 Coccia, 4 Maurolicus.

THIRD GROUP.—Chauliodontina.

Gen. 1 Gonostoma, 1 Chauliodus.

ST. ESPRIT, a group of about 12 islands in the China Sea, in lat. 0° 36′ N. These islets are high, with deep clear channels between them.—*Horsfield.*

STEVENSON, Reverend J., D. D., Chaplain of St. Andrew's Church, Bombay, author of numerous publications. He wrote on the Anti-Brahminical worship of the hindoos, in Lond. As. Trans.. vols. vi, 239, viii, 330.—On the Mahratta language, Ibid., vol vii, 84.—On the modern deities worshipped in the Deccan, Ibid., 105.—On the Bauddho-Vaishnavas of the Deccan, Ibid., 64.—On the intermixture of Buddhism with Brahminism in the religion of the hindoos of the Deccan, Ibid., 1.—Analysis of the Ganesa Purna, Ibid., vol. xiii, 319.—Remarks on the relation between the Jain and Brahminical systems of Geography, Bom. As. Trans. 1847, vol. ii, 411.—On specimens of Saurashtra coins found near Junir, Ibid., 377.—On the Brahminical manner of constructing their images, Ibid., 396.—Translation of Buddha inscriptions near Nassik, Ibid., 452.—Observations on the Grammatical structure of the vernacular languages of India. Ibid., 1849, vol i, 171, 1850, vol. iv, 1, vol. vi, 196. Dr. Stevenson has given some comparative lists of words of the Indian languages tracing analogies in the Mongolian, Celtic and Hebrew tongues. Dr. Stevenson says that there exists a great resemblance in the grammatical structure of the chief modern languages in the north and in the south of India, proofs of which he produces from the Hindi, Bengali, Gujerathi, Marathi on the one side, and from Telugu, Carnatica, Tamil and Singhalese on the other. He thinks that there is more agreement in the construction with the Turkish than with the Sanscrit, so that he thinks it likely that the original language of India may be the connecting link between what the Germans have called the Indo-Germanic family and the Turkish family of languages.—*Dr. Buist*; *Muller's Rep. Brit. Ass.*, 1847, *p.* 331.

STEVIA EUPATORIA, *Willd.*

S. hyssopifolia,	*Cav., Lag.*	Ageratum punctatum,	*Ort.*
S. punctata,	*Pers.*	Mustelia eupatoria,	*Spr.*

A Mexican plant with purplish white flowers.

STEVIA PURPUREA, is a pretty, small flowering plant, native of new Spain and Mexico, propagated by seed, cuttings and division of the roots in any good garden soil.—*Riddell.*

STEWART, Charles, author of History of Bengal to its conquest by the English, London, 1813.

ST'HALI, SANSCRIT, arid or dry land, which in the corrupted dialect becomes t'hul, the converse of the Greek oasis, denoting tracts particularly sterile. Each thul has its distinct denomination, as the 't'hul of Kawur, the 't'hul of Goga,' &c. Maristhali, from the Sanscrit mri to die, and st'hali is a name of the desert of Rajputanah.

STHAN, Sans., a place or station, st'han, sthana, stan, istan or estan, added to the name of a thing, expresses the place wherein it abounds or is contained; as Gulistan a flower-garden, or bed of roses; Hindu-stan the country of hindoos or blacks; Negaristan a cabinet or gallery of pictures.—*Ouseley's Travels, Vol.* ii, *p*, 74.

ST'HANESWARA or Thanesar, consists of an old ruined fort, about 1,200 feet square at top, with the modern town on a mound to the east, and a suburb called Bahari, or "without," on another mound to the west. The name of Thanesar, or St'haneswara, is said to be derived either from the Sthana or abode of Iswara, or from the junction of his names of Sthanu and Iswara, or from Sthanu and sar, a "lake." The town is one of the oldest and most celebrated places in India, but the earliest, certain notice of it under this name is by the Chinese pilgrim Hwen Thsang, in A. D. 634, although it is most probably mentioned by Ptolemy as Batan-ka-isara, for which we should perhaps, read Satan-aisara, for the Sanskrit Sthanes-wara. But the place was more famous for its connection with the history of the Pandus, than for its possession of a temple of Mahadeva, whose worship, in India at least, must be of much later date than the heroes of the Mahabharata. All the country immediately around Thanesar, between the Saraswati and Drishadwati rivers, is known by the name of Kuru—Kshetra, that is, the "field or land of Kuru," who is said to have become an ascetic on the bank of the great holy lake to the south of the town. This lake is called by various names, as Brahma-sar, Rama-hrad, Vaya, or Vayava-sar, and Pavana-sar. The first name is attributed to Brahma, because he performed a sacrifice on its banks. The second name is derived from Parasu Rama who is said to have spilt the blood of the Kshatriyas in this place. The last two titles are derived from the names of the god of Wind, on account of the pleasant breezes which blew over the waters of the lake during Kuru's period of asceticism. This lake is the centre of attraction for most pilgrims; but all around it for many miles is holy ground, and the number of holy places connected with the Kaurava and Pandava, and with other heroes of antiquity, is very great indeed. According to popular belief, the exact number is 360, but the list given in the Kurukshetra Mahatyma is limited to 180 places, of which one-half, or 91, are to the north along the line of the venerated Saraswati river.—*Cunningham's Ancient Geography of India, pp.* 330, 331.

ST'HANOO, Sans. From St'ha, to stay.

ST'HAPATYA, see Vidya.

STH'NANUM, Sans., Tam., Tel. Bathing. Tacitus informs us that the first act of a German on rising was ablution, but it will be conceded, that this habit was not acquired in the cold climate of Germany, but must have been of eastern origin; as were the loose flowing robe; the long and braided hair, tied in a knot at the top of the head; with many other customs, personal habits, and superstitions of the Scythic Cimbri, Jut, Catti, Suevi, analogous to the Getic nations of the same name, as described by Herodotus, Justin, and Strabo, and which yet obtain amongst the Rajput sacha of the present day.

STHUL-KUMUL, also Sthul-pudmu, Beng. Hibiscus plenus.

ST'HUPA, a buddhist tumulus or tope, an expression used for a mound or burrow as far west as Peshawur. See Cairn, Pagoda, Stupa, Tope, Tumuli.

STIBIUM, Lat. Sulphuret of antimony.

STICK INSECT, or spectre, the Phasmidæ, like the Phyllium, live on vegetables.

STILAGO, a genus of plants sometimes united with, at other times separated from the genus Antidesma, belonging to the natural family Antidesmeæ, which by some botanists is called Stilaginaceæ. The species are few in number, forming shrubs and moderate-sized trees, which are found in Madagascar and Mauritius, as well as in some of the Indian islands, and in India, where the species extend even to the northern parts. The leaves of the Antidesma alexiteria are employed in the Mauritius as an antidote against snake-bites. Cordage is made with its bark, as well as with that of A. zeylanica in Ceylon. The small fruits of both species are eaten and preserved: the fruits of A. pubescens (Stilago), Bunias, and Diandra, are eaten by the natives of India. Wight, in Icones, gives Stilago bunias, lanceolaria, pubescens, tomentosa.—*W. Ic.*

STILAGO BUNIAS, *Linn., Roxb.* Syn. of Antidesma bunias, *Spr. Sys. Veg.*

STILAGO DIANDRA, *Willde.*

Antidesma diandrum.

Tenguri, Beng.	Tella gumudu, Tel.
Asary pulie maram, Tam.	

This tree, is a native of the mountainous parts of the Circars. Roxburgh says its wood is put to various uses. The berries are eaten by the natives when ripe. The wood serves for various uses.—*Rohde's MSS.*

STILLINGIA SEBIFERA, *Willde, Micheaux.*

Sapium sebiferum, *Roxb.*	Croton sebiferum, *Linn.*
Chelat pipul, Beng.	China Tallow tree, Eng.
Mom china, "	

This tree, which Voigt says had been domesticated about Serampore, grows all over

the eastern part of China and in Chusan, and when fully grown is a beautiful tree, resembling the aspen in shape and foliage, and with a straight trunk. It was introduced into India, and in Dr. Roxburgh's time was common near Calcutta. We learn from Dr. Jameson, that it grows luxuriantly in the Deyra Dhoon and Lower Himalayas. There is some reason to believe it to be indigenous in the hills of Kumaon, especially about Almora. The tree has now been successfully acclimatized in the Punjab and its extended cultivation would be extremely advantageous from the quantity of tallow and oil extracted from the seeds. It grows to the height of a pear tree, with trunk and branches like the cherry and foliage like the poplar. Its kernels are coated with a pure white tallow, which is steamed off and collected. It is used for candles and as oil for lamps, but Dr. Roxburgh says it is not equal to cocoanut oil. At one time it attracted considerable attention, and was introduced into various European colonies in the East and West Indies. It may be met with in English hothouses. It is found in China on the borders of rivulets and is also cultivated. It grows to the height of a pear tree, having a trunk and branches like the cherry, and foliage like the black poplar, but which turns to red in autumn. It was met with in Chusan by the late expedition, and seeds sent home by Dr. Cantor, were sown in the Horticultural Society's garden at Chiswick. The seed-vessels and seeds are bruised, and then boiled in water. The fatty particles rising to the surface are skimmed off, and on cooling condense into tallow. To give it greater consistence some wax is added, together with linseed-oil in the proportion of three parts to ten of the tallow. The candles made with it are beautifully white. Sometimes they are coloured red by the addition of vermillion. These candles are sometimes said to be coated with wax procured from another Chinese tree (probably Ligustrum lucidum,) which forms an external crust and prevents them running. Stillingia tallow is also employed in medicine instead of lard. It consolidates through the cold to the consistence of tallow, and by boiling, becomes as hard as bees' wax. A similar fatty product is obtained from the Myristica (Virola) sebifera, a shrub in British Guiana. According to Mr. Williams the Stillingia sebifera occurs over all the eastern part of China, and when fully grown is a beautiful tree, resembling the aspen in its shape and foliage. The seeds grow in clusters like ivy berries, and are collected in November; when ripe, the capsule divides, and falling off discovers two or three kernels covered with the pure white tallow. When the tallow is to be prepared, these are picked from the stalks and put into an open wooden cylinder with a perforated bottom, in which they are well-steamed over boiling water. In ten or fifteen minutes, the tallow covering the seeds becomes soft, and they are then thrown into a stone mortar and gently beaten with a mallet to detach it. The whole is then sifted on a hot sieve, by which the tallow is separated from the kernels, though containing the brown skin which envelops the latter, and presenting a dirty appearance. The tallow in this state is enclosed in a straw cylinder, or laid upon layers of straw held together by iron hoops, and subjected to pressure in a rude press from which it runs clear in a semifluid state, and soon hardens into cakes. The candles from it become soft in hot weather, and are sometimes coated by dipping them in coloured wax. The Stillingia sebifera is abundant in the valleys of Chusan, and large quantities of tallow and oil are yearly extracted there from its seeds: tallow mills are erected in several parts of the island for this purpose. Dr. Rawes, of the Madras army, who was some time a resident in the island of Chusan, says the seeds are picked at the commencement of the cold weather, in November and December, when all the leaves have fallen from the trees; this he saw at Sing-kong when out shooting in the Sah-hoo valley close by army quarters, through the village. The seeds are in the first place taken to the building where the process of making the tallow is carried on, and picked and separated from the stalks. They are then put into a wooden cylinder, open at the top, but with a perforated bottom. This is placed over an iron vessel (about the same diameter or rather larger than the wooden cylinder, and about six or eight inches deep) containing water, by which means the seeds are well steamed, for the purpose of softening the tallow and causing it more readily to separate. The furnace had four or five iron vessels in a row, was about three feet high, four or five feet broad and eight or ten feet long. The fire was placed at one end and fed with the husk of the rice, dry grass, and such like cheap materials which make a great flame, and the flue was of course carried directly under the whole of the iron vessels. When the seeds have steamed ten minutes or a quarter of an hour, they are thrown into a large stone mortar and are gently beaten by two men with stone mallets for the purpose of detaching the tallow from the other parts of the seed. They are then thrown upon a sieve heated over the fire and

sifted, by which process the tallow is separated, or nearly so, although they generally undergo the process of steaming, &c., a second time, that nothing may be lost. The other part of the seed is ground and pressed for oil. The tallow now resembles coarse linseed meal, but with more white spots in it and derives its brown colour from the thin covering over the seed (between it and the tallow) which is separated by the pounding and sifting. In this state it is put between circles of twisted straw, five or six of which are laid upon each other, and thus forming a hollow cylinder for its reception. When this straw cylinder (we may call it so) has been filled, it is carried away and placed in the press, which is a very rude and simple contrivance, but which, like everything Chinese, answers the purpose remarkably well. The press consists of longitudinal beams of considerable thickness, placed about a foot and a half, or two feet, asunder, with a thick plank at the bottom, forming a kind of trough, and the whole is bound together with iron. The tallow is pressed out by means of wedges driven in very lightly with stone mallets, and passes through a hole in the bottom of the press into a tub, which is sunk there to receive it. It is now freed from all impurities, and is a semifluid of a beautiful white colour, but soon gets solid, and in cold weather is very brittle. The inside of the tubs which collect the tallow are sprinkled or dusted over with a fine red earth, well dried, which prevents the tallow from adhering to their sides. It is thus easily removed in a solid state from the tubs, and in this condition the cakes are exposed for sale in the market. As the candles made from this vegetable tallow have a tendency to get soft and to melt in hot weather, they are commonly dipped in wax of various colours as red, green and yellow. Those which are intended for religious purposes are generally very large, and finely ornamented with golden characters. The cake, or refuse, which remains after the tallow has been pressed out of it, is used for fuel, or to manure the land, and so is the refuse from the other part of the seeds from which oil is extracted." Stillingia sebifera, grows luxuriantly in the Dehra Doon and lower Himalaya, and in the Kohistan of the Panjab. There is an interesting paper on it, by Dr. Macgowan in the 7th Vol., p. 164 of the Journal of Horticultural Society of India. It flowers in June and during the rains. In addition to the tallow obtained from its seeds and used in making candles, a black dye is obtained from its leaves.—*H.*; *Voigt*; *Roxb.'s Fl. Ind.*, *Vol.* iii, *p.* 693; *Dr. Rawes*; *Eng. Cyc.*; *Williams' Middle Kingdom*, *p.* 107-282; *Fortune's Wanderings*, *p.* 67. See Croton sebiferum, Dryandra cordata, Oils.

STIMMI, Gr. Sulphuret of antimony.

STINKING-WOOD, Eng.

Chee neb, Burm.

This wood, of maximum girth 4 cubits, and maximum length 22½ feet, is abundant in Tavoy and Mergui. When seasoned, it sinks in water. The flowers of this wood have an intolerably fetid, sickening smell, hence its name; it is used by the Burmese for boxes, tables, &c., and is a long fibred, tough wood when new, but rots so readily that, with a whole tree in Captain Dance's possession, he could not cut out a decent specimen.—*Capt. Dance.*

STINK-TREE of Ceylon was called by the Dutch Strunt-hout, and by the Singhalese Urenne, on account of its disgusting odour, which resides especially in the thick stem and the larger branches. The smell of it so perfectly resembles that of human ordure, that one cannot perceive the smallest difference between them. Thunberg says the tree was neither the Anagyris fœtida nor the Sterculia fœtida.—*Thunberg's Travels*, *Vol.* iv, *pp.* 234, 235.

STIN-KULL, Dan. Coal.

STIPA, a genus of grasses belonging to the tribe Stipaceæ. It has stalked florets, the paleæ coriaceous, the inner entire. S. pennata, the only British species, has a very long twisted feathery awn, with a glabrous base. It is a very beautiful plant, and is common in English gardens. Found on rocks in long Seadale near Kendal, and is grown in gardens for the sake of the beautifully feathered heads. —*Eng. Cyc.*; *Riddell.*

STIPA TENACISSIMA, see Esparto.

STIPE-CLASPING BRAKE, Pteris amplexicaulis.

STIRRUPS were probably never used in Persia before the musselman conquest.—*Ouseley's Travels*, *Vol.* i, *p.* 246.

STIVOLI, Rus. Quills.

STIZOLOBIUM, a genus of plants which was so named by Persoon, from στίζω to prick, and λοβός, a lobe or pod, from the pods of the several species being covered with hispid hairs. The species have now been removed chiefly to Pachyrhizus (Dolichos) and to Mucuna.—*Eng. Cyc.*

STIZOLOBIUM ALTISSIMUM.

Assam bean. Eng. | Kalee seem, Duk.

This bean is grown like most others, and may be first sown at the commencement of the rains and continued during the cold season. —*Riddell.*

STIZOLOBIUM GIGANTEUM, *Spreng.* Syn. of Mucuna gigantea, *DC.*

ST. JOHN, two moderately elevated sloping islands in the Straits of Singapore.—*Horsfield.*

ST. JOHN'S BREAD, pods of Ceratonia siliqua, so named from the idea that it is the locust tree on which, St. John the Baptist fed in the desert.

ST. JULIAN, a small island in the China Sea, in lat. 0° 54' N., and long. 106° 48' E.—*Horsfield.*

ST. MARY ISLES, off the coast of Canara, extend from lat. 13° 28' to 13° 17' N., the outermost of the range being 5 miles from the shore.

ST. MATTHEW ISLANDS, in lat. 5° 18' S., long. 124° 16' E., are two islands extending 12 to 15 miles.—*Horsfield.*

ST. MATTHEW or Elephant Island, one of the Mergui Archipelago, is about 5½ leagues in length, extending from lat. 10° 4' N. to 9° 50¼' N. It is 14 miles from the continent, and the highest peak in the island is nearly 3,000 feet above the level of the sea. Hastings or Gage's Harbour on its northern part, is a spacious bay formed by the islands of St. Matthew, St. Luke and Hastings, is sheltered from all winds, and capable of containing the largest navy in the world.—*Horsfield.*

ST'NANUM. St'nanam abhiangana, amongst hindoos, a ceremonial, on the wedding day, when the bride and bridegroom are anointed with oil.

STOCKS, an officer of the Bombay Medical Service, ob. 1858. He was Superintendent of Forests in Sind. Wrote on the babool trees in Sind. His extremely valuable collections from Sind and Beluchistan, amounting to about 1,500 species.—*H. et T.*; *Bom. As. Trans.*, *Vol.* ii, *p.* 390; *Dr. Buist.*

STOCQUELER, J. H., was Editor, Bombay Courier, afterwards of the Bengal Hurkaru, and ultimately of the Calcutta Englishman till 1844. Author of Fifteen months' pilgrimage through untrodden tracts in Kurdistan and Persia, 1831-32, London, 1832, 2 vols., 8vo.—*Dr. Buist.*

STODDART, Colonel, a British officer who was long imprisoned at Bokhara and ultimately beheaded along with Captain Conolly of the Indian Army.

STOIC, see Vedas.

STOKPO, LAD. Urtica hyperborea, *Jacq.*

STOMAPODA. M. Milne-Edwards comprises in the order Stomapoda all the Podophthalmous crustacea, which are deprived of thoracic branchiæ lodged in internal cavities. This division is entirely composed of Swimming Crustaceans, whose body is elongated, and whose general form often approaches closely to that of the Macrourous decapods; but in those animals the concentration of the rings of the head and thorax is carried less far.

Lucifer typus, differs from L. reynaudii, (which was found in the Indian Ocean by M. Reynaud) in the form of the median piece of the caudal fin, which is lamellar, and without any notch below, in the more considerable length of the middle blades, and in the apparent absence of a separation between the carapace and oculiferous prolongation.

Squilla maculata, length from 10 to 12 inches, inhabits the Asiatic seas.

Squilla stilifera, length about 3 inches, is a native of the island of Mauritius.

Gonodactylus chiragra, length about 3½ inches, found in all the seas of warm climates: the Mediterranean, American coasts, Seychelles islands, near Trincomallee and Tongataboo.

Gonodactylus scyllarus, length about 4½ inches, is found in the Indian Seas and on the coasts of Mauritius.

STOMATELLA, a genus of Molluscs. See Turbinidæ.

STOMATIA, see Haliotidæ.

STOMATOPODES, an order of crustacea.

FAM.—Cardioidea.

TRIBE.—Mysiens.

Acetes indicus, *Edws.*, Ganges mouth.
Lucifer reynaudii, *Edws.*, Indian ocean.
„ typus, *Edws.*, Indian ocean ?

STONE. Stones have been objects of worship of all nations and are largely so used by the hindoos, generally smeared with red-lead. In New Zealand, red is a sacred colour, and the way of rendering anything tapu was by making it red. When a person dies, his house was thus painted; when the tapu was laid on anything, the chief erected a post and painted with the kura; wherever a corpse rested, some memorial was set up; often times the nearest stone, rock, or tree served as a monument, but whatever object was selected, it was sure to be painted red. The Arabians down to the time of Mahomed worshipped a black stone, and this is now let into the wall of the Kaaba. The Phœnicians also worshipped a deity under the form of an unshaped stone. There was a sacred stone in Jura round which the people used to move 'deasil,' *i. e.*, sunwise. In some of the Hebrides the people attributed oracular power to a large black stone. In some cases, as for instance in India, it is far from easy to distinguish between a group of stone-gods and a sacred fane. In fact, we may be sure that the very same stones are by some supposed to be actual deities, while others more advanced regard them as sacred only because devoted to religious purposes. Some of the ruder Hindustan tribes actually worship upright stones; but Colonel Forbes Leslie regards the sacred stones

as a place of worship, rather than as actual deities; and this is at any rate the case with another group similarly painted, which he observed near Andlee, also in the Dekkan, and which is peculiarly interesting from its resemblance to the stone circles of Great Britain. Stone-worship, however, in its simpler forms, has, a different origin from this and is merely a form of that indiscriminate worship which characterises the human mind in a particular phase of development. The Asaga of Mysore worship a god called Bhuma Devam, who is represented by a shapeless stone. One thing is certain, says Mr. Hislop, 'the worship (of stones) is spread over all parts of the country from Berar to the extreme east of Bustar, and that not merely among the hinduised aborigines who had begun to honour Kandova, &c., but among the rudest and most savage tribes.' He is generally adored in the form of an unshapely stone covered with vermillion. Two rude slave castes in Tulava (Southern India), the Bakadara and Betadara, worship a benevolent deity named Buta represented by a stone kept in every house. Indeed in every part of Southern India four or five stones may often be seen in the ryots' field, placed in a row and daubed with red paint, which they consider as guardians of the field and call the five Pandu. Colonel Forbes Leslie supposes that this red paint is intended to represent blood. The god of each Khond village is represented by three stones. His Pl. iv, represents a group of sacred stones, near Belgaum in the Dekkan, from a figure given by Colonel Forbes Leslie in his interesting work. The three largest stood in front of the centre of two straight lines, each of which consisted of thirteen stones. These lines were close together, and the edges of the stones were placed as near to each other as it was possible to do with slabs which, although selected, had never been artificially shaped. Seating a king on a stone seems to have prevailed throughout Europe on inauguration. Monarchs of Sweden were seated upon a stone placed in the centre of twelve lesser ones, and the kings of Denmark were crowned in a similar kind of circle. The use of the Inaugural Stone is of Canaanitish origin. Abimelech was made king by the plain of the pillar of Shechem. Jehoash was anointed as he stood by the pillar as the manner was. The Gael used the standing stone, which was traditionally considered a supernatural sacred witness of any solemn covenant and especially of that between an elected king and his people. Jack Cade touched London stone and exclaimed "now is Mortimer, Lord of London city." Amongst the Irish, the inauguration of a chief was celebrated at a stone with the impression of two feet, believed to be the size of the feet of the patriarch chieftain who first acquired the territory. Every great tribe had its installation stone and other specialities such as sacred trees, and rath-hills or entrenched places of meeting dedicated to the inaugural rite. Herodotus shows that the practice of carving the impression of the feet of mighty heroes on huge stones was older than his time as he mentions that the Scythians showed the mark of the foot of Hercules upon a rock. Spenser the poet writes that some of the stones on which the chief lords or captains of the clan was placed had a foot engraven, which was regarded as the measure of their first captain's foot. On inauguration the new chief stood thereon and took oath to preserve all the former customs of the country inviolable. His feet were placed in the impression while the heads of the law relating to the clan were read to him.—*Lubbock's Origin of Civil., pp.* 207-10, 244. See Bethel, Binlang, Hindoo, Khassya, Salagrama.

STONE-CHAT. The pied stone-chat (Saxicola picata) may be seen hopping about in the Dekhan. It is plentiful in and around Kurrachee, and is, the "robin" of Sind.

STONE-CUTTERS. Workers in stone, polishing the hardest surfaces, engraving its surface with imperishable records, and sculpturing it into various forms, even excavating gigantic temples out of the solid rock, are all departments of sculpture and engraving to which the hindoos have paid attention from the earliest times; and their buildings are conspicuous for a quality for which those of Egypt have often been admired, that is, the exquisite polish and glass-like appearance of some of the hardest granite, &c. Dr. Kennedy has fortunately given us an account of the process by which they effect this: "The tools," he says, "which the hindoos use are a small steel chisel and an iron mallet. The chisel, in length, is not more than about twice the breadth of the hand of the hindoo workman; which, as is well known, is very small; and it tapers to a round point like a drawing-pencil. The mallet, also in iron, a little larger than the chisel, but not weighing more than a few pounds. It has a head fixed on at right angles to the handle, with only one striking face, which is formed into a tolerably deep hollow and lined with lead. With such simple instruments they formed, fashioned, and scooped the granite rock which forms the stupendous fortress of Dowlatabad, and excavated the wonderful caverns of Ellora; for it seems by no means probable that the hindoo stone-cutters ever worked with any other

tools." Dr. Kennedy adds, "The traces of the pointed chisel are still visible on the rocks of Dowlatabad, as they are also on some of the great works of Egypt. The stone having been brought to a smooth surface, it is next dressed with water in the usual way, and is then polished in the following manner. A block of granite, of considerable size, is rudely fashioned into the shape of the end of a large pestle. The lower face of this is hollowed out into a cavity, and this is filled with a mass composed of pounded corundum-stone, mixed with melted bees-wax. This block is moved by means of two sticks, or pieces of bamboo, placed on each side of its neck, and bound together by cords, twisted and tightened by sticks. The weight of the whole is such as two workmen can easily manage. They seat themselves upon, or close to, the stone they are to polish, and by moving the block backwards and forwards between them, the polish is given by the friction of the mass of wax (and lac ?) and corundum." Nearly the same materials, and with a still greater degree of success are employed in polishing such delicate articles as beads and bracelets ; elegantly shaped cups, or the models of cannon. Of the processes employed a very interesting account, which is published in the "Illustrated Catalogue," is given by Mr. Summer of Cambay. The stones are first fixed on a steel spike, and there roughly rounded with an iron hammer, and then polished with a composition of lac and corundum variously applied. The holes are bored with a steel drill, tipped with a small diamond. Cups and saucers and similar hollow articles, are wrought, according to the required external shape, on the steel spike, and a rough polish given on the rough polishing stones. The cavity is formed by the diamond-tipped drill to the depth of one-fourth of an inch all over the space, until it exhibits an honey-combed appearance ; the prominent places round the holes are then chipped away ; and this process is repeated until the depth and form desired are obtained. They are then polished upon prepared moulds of convex forms, and of the same composition as the polishing-plates which are attached to the turningwheel.

The seal-engraver's wheel consists of a slight frame ballasted below to keep it firm, with two uprights about eighteen inches in length and eight inches between. Betwixt the two is a small spindle. This turns at one end on a screw or pivot, some times of cornelian : the shoulder is kept in its place by a neat iron clamp—it is steadied by a piece of rag wrapped round it and enclosed in the collar. Why so much pains should be taken to diminish friction by a cornelian pin at one end, while it was increased by this at the other, we cannot explain. A dozen or two spindles such as this, are made use of. The spindle is terminated by a small spike of iron about an inch long, ending in a little circular saw or button, from a tenth up to half an inch in diameter. To this, emery paste—that is, powdered corundum mixed with oil—is from time to time applied, while it is spun round with a bow. The engraver holds the seal up betwixt his fingers and thumb, and a sweep or two of the bow causes a mark on the seal. This is deepened and extended as desired—the larger discs being employed for long straight strokes. The work turned out is by no means very fine, but the celerity of execution is surpassing. Diamond dust is very rarely used in India,—corundum, koorund, or samda stone as it is called, being the chief material employed in polishing gems, marbles, and metals. This mineral is found chiefly in granite or the detritus of granite rocks in the Mysore country and in the neighbourhood of the south-western ghauts. It is brought in considerable quantity to Bombay, and is occasionally exported to Europe. It is packed in orange-shaped parcels with meridional cordings : the pieces are from the size of filberts to that of the hand : they are generally amorphous or fragments of crystals, often contaminated with felspar, mica, and other granitic minerals. Sometimes fragments of crystals perfectly pure are to be met with weighing from ten to twenty-five pounds, but these are rare. Though excessively hard, it is by no means tough—it flies in pieces after a few strokes of the hammer, and is easily pulverized in a mortar. The natives generally beat it on an anvil or stone, keeping it from flying about by a collar of cotton rope. The fine particles are separated from the coarse by sifting—it is not certain that the home process of lixiviation is resorted to. For sharpening swords or burnishing metal it is generally used like a whetstone or burnisher ; for polishing gems, it is either made up into a cake with lac or into a paste with oil or grease. It is never employed for the manufacture of emery.—*Royle's Arts, &c. of India, pp.* 513, 515.

STONEHENGE, a celebrated circle of stones, in England, is not a Druidical, nor a Roman, nor a Danish structure. It is a piece of buddhist architecture and is own brother to the circle of upright stones at Amravati on the Kistna, and to many others in the South of India.

STONE PINE, Eng. Pinus pinea.

STORACE, It. Storax.

STORAX, Eng., Fr.

Usteruk, Salajet,	Ar.	Storace,	It.
Meah,	,,	Styrax,	Lat.
Styrax broom,	Ger.	Azumbar,	Sp.

The produce of Styrax officinale, growing in the South of Europe and the Levant. It is usually met with in tears, which is pure; and in lumps or red storax, which is mixed with saw-dust and other impurities. Storax has a fragrant odour, and a pleasant, sub-acidulous, slightly pungent, and aromatic taste; it is of a reddish brown colour, and brittle.—*McCulloch.*

STORAX, LIQUID.

Sillarus, Miati-lubni	Ar.	Sillarus, Meih-sila,	Guz.
Meih-katar,	,,		Hind., Pers.
Rose malloes,	Eng.	Rasa-mala,	Malay.

Liquid storax, a term in India given to Rose malloes, the sillaris of the bazaars: and the solid storax or salajit, is the solid Rose malloes. It is obtained from the Liquidamber altingia. Liquid storax is usually more or less opaque, of the consistence of bird-lime, grayish colour, warm balsamic taste, and peculiar vanilla-like odour, if pure. Small quantities are imported annually into Bombay from Suez and the Arabian gulf in skins; it is re-exported to England and China under the designations of Rose mallows (Rasa-mallo) and Sillaris, in barrels of about four imperial gallons capacity each.—*Faulkner.* See Ambar, Liquid, Liquidambar.

STORAXWORTS, see Styraceæ.

STOREY, see Leedes.

STORIANI, a frontier tribe whose winter station is in Beluchistan and summer station in the high country belonging to the Musa Khel.—*Latham's Descriptive Ethnology.* See Affghan.

STORMS OF DUST, are caused by spiral columns of the electric fluid passing from the atmosphere to the earth; they have an onward motion—a revolving motion, like revolving storms at sea—and a peculiar spiral motion from above downwards, like a cork-screw. It seems probable that in an extensive dust-storm there are many of these columns moving on together in the same direction, and during the continuance of the storm, many sudden gusts take place at intervals, during which time the electric tension is at its maximum. These storms, in the Punjab, mostly commence from north-west or west and in the course of an hour, more or less, they have nearly completed the circle, and have passed onwards. Precisely the same phenomena, in kind, are observable in all cases of dust-storms: from the one of a few inches in diameter to those that extend for fifty miles and upwards, the phenomena are identical. It is a curious fact that some of the smaller dust-storms occasionally seen in extensive and arid plains, both in the Punjab and in Affghanistan above the Bolan pass, called in familiar language "Devils," are either stationary for a long time, that is, upwards of an hour, or nearly so; and during the whole of this time the dust and minute bodies on the ground are kept whirling above into the air, in other cases these small dust-storms are seen slowly advancing, and when numerous, usually proceed in the same direction. Birds, kites and vultures, are often seen soaring high up just above these spots, apparently following the direction of the column, as if enjoying it. They may be looking for prey, or involved in and unable to fly out of, the invisible part of the electrified aerial column, of which the lower part only is visible to us by the dust raised. The phenomena connected with dust-storms seem to be identical with those present in waterspouts and white squalls at sea, and revolving storms and tornadoes of all kinds: and they apparently originate from the same cause, viz., moving columns of electricity. In 1847, at Lahore, an observer being desirous of ascertaining the nature of dust-storms, he projected into the air an insulated copper wire on a bamboo on the top of his house, and brought the wire into his room, and connected it with a gold leaf electrometer and a detached wire communicating with the earth. A day or two after, during the passage of a small dust-storm, he had the pleasure of observing the electric fluid passing in vivid sparks from one wire to another, and of course strongly affecting the electrometer. The thing was now explained; and since then by the same means he observed at least sixty dust-storms of various sizes, all presenting the same phenomena in kind. He commonly observed that, towards the close of a storm of this kind, a fall of rain suddenly takes place, and instantly the stream of electricity ceases, or is much diminished, and when it continues, it seems only on occasions, when the storm is severe and continues for some time after. The barometer steadily rises throughout. In the Punjab plains, the fluctuation of the barometric column is very slight, seldom more than two or three-tenths of an inch at a time. The average height at Lahore is 1,180, corrected for temperature, indicating, it is supposed above 1,150 feet above the level of the sea, taking 30 inches as the standard. A large dust-storm is usually preceded by certain peculiarities in the dew-point, and the manner in which the particles of dew are deposited on the bulb of a thermometer. The mode of taking the dew-point is to plunge a common thermometer in a little ice, and let it run down 20° or 30°. The manner in which the electricity acts upon the dust and light bodies it meets with in its passage, is simple enough. He supposes the particles similarly electrified and

mutually repulsive, and then, together with the whirling motion communicated to them, are whisked into the air. The same takes place when the electricity moves over water. The surface of the water becomes exposed to the electric agency, and its particles, rendered mutually repulsive, are in the same way whirled into the air. At sea the waterspout is thus formed. First of all is seen the cloud descending and beneath may be observed the water in a cone.—*Beng. As. Soc. Jour., No.* v. *of* 1850, *p.* 790. See Dust Storms.

STOTULARI, SANS. Lagerstræmia reginæ.

STOURBRIDGE CLAY resembles potter's clay to a certain extent, but is far more refractory in the fire. It is of a dark colour, owing probably to the presence of carbonaceous matter. It is extensively used in making crucibles, glass pots, &c.

STOVIGLIE, also Terraglie, IT. Earthenware.

ST. PANTENUS, see Christianity.

ST. PAUL'S MOUNTAINS, a chain of hills in Banca island are only 930 feet high, and are on the south of the island.

STRABO. mentions Ceylon in Lib. xv, p. 1013, noticing the awkwardness of the inhabitants in sailing and fitting their masts in their vessels. El. Edrisi, p. 31, also speaks of this island under the name of Serandib, and Marco Polo under that of Seilam. It is celebrated by each for its rich gems.—*Pennant's Hindoostan, Vol.* i, *pp.* 183-185. See Babel, Berenice, Inscriptions, Kartelania, Khuzistan or Arabistan, Kirkook, Kirman, Megasthenes, Okelis, Pandiya, Turan.

STRACCI, also Strazze, IT. Rags.

STRACHEY, H., of the 66th Bl. N. I. Author of a Journey through Tibet, in 1846, to Rakas Tal and Cho Mapan, *i. e.*, Lake Manasarovara in Bl. As. Trans., 1848, vol. xvii, 99, and published in a separate form, 8vo., Calcutta, 1848.—On the frontier of Kumaon and Gurhwal, Ibid, 532.—He mentions that Manasarovara discharges its waters through a gravel bank into Rakas Tal, which, again, sends off a tributary to the Sutlej.—*Dr Buist.*

STRACHEY, Richard, an officer of the Bengal Engineers, who received the gold medal of the Lond. Geo. Soc. He wrote on the physical geography of the provinces of Gurhwal and Kumaon, in the Himalaya mountains in Lond. Geo. Trans., 1851, vol. xxi, 57.—On the Glaciers of the Pindur and Kuphinee rivers, in the Kumaon Himalayas, Edin. New Phil. Jl., 1847-48, vol. xliv, 108. —A trip to the Niti pass, 1849, in Bl. As. Trans., 1850.—On the snow-line of the Himalayas, Ibid, 1849, vol. xviii, 287.—Notes on investigations near Kumaon, Ibid, 240.—Geography of Kumaon, Ibid, 1851. Horary barometrical observations at 11,000 feet above the level of the sea. See Colonel Sykes on, in Phil. Trans., 1850, 299.—On the tertiary formations of the Himalayas, Rep. Brit. Ass. 1851.—See Dissertation on discoveries of both brothers in Sir R. I. Murchison's address to Lond. Geo. Soc., 1852. Captain Richard Strachey was appointed by the Indian government to make a scientific survey of the province of Kumaon, and was occupied on the task about two years during which time, in addition to the important investigations in physical science which occupied his attention, he thoroughly explored the flora of the province, carefully noting the range of each species. He was joined by Mr. Winterbottom in 1843, and they travelled together in Tibet. Their joint collections amounting to 2,000 species, were distributed in 1852-53 to the Hookerian Herbarium, the British Museum, the Linnean Society, and some foreign museums; and the scientific results are now in course of publication.

STRACHEY, MR. J., had some shawl stuffs made under his own inspection, of wool procured at Umritsir. The manufacturers were pioneers belonging to the embassy under Mr. Elphinstone and they worked in a common tent ; yet they appeared to find no difficulty in their employment. A shop may be occupied with one shawl, provided it be a remarkably fine one, above a year, while other shops make six or eight in the course of that period. Of the best and most worked kinds, not so much as a quarter of an inch is completed in one day, by three people, which is the usual number employed at most of the shops, and it may be observed that it very rarely happens that the pieces, when completed, correspond in size. The shops consist of a frame-work, at which the persons employed sit on a bench : their number is from two or four. On plain shawls, two people alone are employed, and a long narrow, but heavy shuttle is used ; those of which the pattern is variegated, are worked with wooden needles, there being a separate needle for the thread of each colour ; for the latter, no shuttle is required. The operation of their manufacture is of course slow, proportionate to the quantity of work which their patterns may require. The Oostaud, or head workman, superintends while his journeymen are employed near him immediately under his directions. If they have any new pattern in hand, or one with which they are not familiar, he describes to them the figures, colours, and threads which they are to use, while he keeps before him the pattern on which they happen to be employed, drawn upon paper. During

the operation of making, the rough side of the shawl is uppermost on the frame, notwithstanding which, the Oostaud never mistakes the regularity of the most figured patterns. The wages of the Oostaud (the employer furnishing materials) are from six to eight pice per day ; of the common workmen, from one to four pice in Cashmere, may be about three-half-pence. A merchant, entering largely into the shawl trade, frequently engages a number of shops, which he collects in a spot under his eye ; or he supplies the head workmen with thread which has been previously spun by women and afterwards coloured, and they carry on the manufacture at their own houses, having previously received instructions from the merchant respecting the quality of the goods he may require, their colours, patterns, &c. After the goods are completed, the merchant carries them to the custom-office, where each shawl is stamped, and he pays a certain duty, the amount of which is settled according to the quality and value of the piece. The officer of the government generally fixes the value beyond what the goods are really worth. The duty is at the rate of one-fifth of the price. Most shawls are exported unwashed, and fresh from the loom. In India, there is no market for unwashed shawls, and at Umritsir they are better washed and packed than in Cashmere. Of those sent to the westward, many are worn unwashed. The wool of which the shawls are made is imported from Tibet and Tartary, in which countries alone the goat which produces it is said to thrive. That which is brought from Rodauk is reckoned the best. Its price in Cashmere is from ten to twenty rupees for a turruk, (which is supposed to be about twelve pounds) : the whitest sort is the dearest. It would perhaps be difficult to determine with accuracy the quantity of shawls manufactured annually ; supposing, however, that five of all kinds are on an average made at each shop or loom in the course of a year, the number would be eighty thousand, which is probably not far from the truth. They accordingly marched out of their camp to attack the Dooraunees, on the 7th of January 1761. The Dooraunees got under arms, and the battle began a little before day.—*Elphinstone's King. of Cabul, pp.* 508, 509, 553. See Maryul or Lowland.

STRACHIA GEOMETRICA, a bug of a yellowish colour, but marked with grey and orange on the upper side, is found at Badulla. In Ceylon it feeds upon the juice of the young berries, three per cent. or more of which were said to have suffered from it. It is allied to the green or fetid bug, but though it may occasionally cause destruction, there is no fear of it ever becoming a serious nuisance.

STRÆMIA TETRANDRA, *Roxb.* Syn. of Cadaba indica, *Lam., W. & A.*

STRAITS OF BANCA, is rather more than 100 miles long, and in the narrowest part is seven miles from shore to shore. The Straits of Banca, between that island and Sumatra is the most frequented in the Indian Seas.

STRAITS OF BASEELAN, between Baseelan island and Mindanao.

STRAITS' SETTLEMENTS, comprise Singapore, Malacca, Provence Wellesley, and Penang. The Straits' Settlements ceased to be connected with India on 1st February 1867, when they became a Crown colony. The inhabitants are

	Singapore	Pinang & Provence Wellesley	Malacca.
Jakuns	....	... .	900
Malays....................	13,500	72,000	55,000
Chinese....................	58,000	39,000	12,000
Natives of India..........	17,700	14,000	1,200
Other Asiatics............	6,500	1,700	2,500
Totals...	90,700	126,700	71,60 0

The Straits' Settlements on the northern boundary of the Straits of Malacca, include under one government, Penang, Provence Wellesley, Malacca and Singapore, and were incorporated in one Settlement in 1826. Penang was obtained in 1786, by treaty, from the king of Quedah ; and 14 years later, Provence Wellesley was ceded by the same prince. Malacca, conquered by Albuquerque for the Portuguese about 1515, fell into the hands of the Dutch in the beginning of the 17th century, but was taken by the English in 1795. The English kept it until, in 1818, it was re-delivered to the Dutch under the provisions of the treaty of Vienna, but it again reverted to the English by the treaty of 1824. Singapore was first occupied in 1819 by the English Governor, Sir Stamford Raffles, then Governor of Fort Marlborough or Bencoolen, in Sumatra. The population of the Straits' Settlements is about 290,000. The Straits' Settlements lie along the northern boundary of the Straits of Malacca. The Straits' land revenue in 1863-4 was £13,260 ; and in 1864-5 was £13,359.

Penang is an island situated at the north-western entrance, of the Straits of Malacca, or in about lat. 5° 25′ N., and long. 100° 21′, and is about 13½ miles long with an extreme breadth of 10 miles, containing an area of nearly 70,000 acres.

Provence Wellesley is on the mainland of the peninsula, immediately opposite Penang, the water dividing them being about 3 miles broad at the narrowest point. It runs from north to south 25 miles, varying in breadth

from 4 to 11 miles and containing an area of 15,000 acres.

Malacca has a sea-frontage of 43 miles, with a depth of 10 to 28 miles. The town is in L. 2. 16 N.

Singapore island is 24 miles long by 14 broad and contains an area of 206 square miles. The town is in lat. 1. 17 N., and long. 103° 51′ E.

This tropical colony, comprises the island of Penang, (or Prince of Wales' Island, including Provence Wellesley,) the town and territory of Malacca, and the island of Singapore. The East India Company in 1786 came into possession of Penang by treaty with the rajah of Quedah, a native State on the west coast of the peninsula ; and fourteen years later the slip of land opposite Penang, now known as Provence Wellesley, was ceded to the company by the same prince. Malacca was conquered by the Portuguese under Albuquerque in A. D. 1515, and about 100 years afterwards fell by conquest into the hands of the Dutch, who retained it until 1795, when the British took it from them. It remained in our possession until four years after the conclusion of the treaty of Vienna, and in 1818 was re-delivered to the Dutch in conformity with the terms of that treaty ; but seven years afterwards it came finally into British possession in terms of the celebrated treaty with Holland of 1824. As for Singapore, it has never changed European owners. In 1819, Sir Stamford Raffles, then Governor of Fort Marlborough, or Bencoolen, in Sumatra, who had been long impressed with the importance of the position, came over and took formal possession of the then nearly uninhabited island.

In the Island of Java a most disastrous volcanic eruption began at about 5 o'clock on the evening of the 15th April 1872. The volcano Merapi, which had been quiet since 1863 began on the evening abovementioned to show signs of vigorous life. Glowing streams of lava issued out of the mountain, and rushing furiously downwards, buried whole villages in their fiery masses, filled up ravines, and choked the course of rivers, a river in the neighbourhood was filled with lava to a depth of 15 feet. A great many lives were lost in the destruction of whole villages. As many as 200 dead bodies had been found on one side of the volcano, while thousands of Javanese had to fly for their lives, their houses and their all being destroyed by the descending lava. In one village, a woman, who had escaped, reported that 160, being the whole of her fellow-villagers, had been destroyed. The coincidence in time between this outbreak and the last eruption of Vesuvius, is remarkable.—*Cameron's Malayan India* ; *Straits Times ; Indian Messenger, August 8th,* 1872.

STRAMONIUM.

Masil, methel,	Ar.	Datura, Hind.
Jouz masil,	,,	Datura stramonium, Lat.
Thorn apple,	Eng.	

Of this species of Datura plant, all parts are poisonous. The leaves are used in asthma, for smoking.

STRANGERS' HOME FOR ASIATICS. One of these was established in London in 1859. It offers to Indian sailors and other Orientals who are in England a comfortable and respectable lodging, with wholesome food, at a cost which shall render the institution self-supporting. Each lodger is to pay not less than 8*s*. per week, for which the lodger will be supplied with three meals a day, medical attendance, baths, washing, &c. ; so that they will have no other necessary outlay, but to furnish themselves with clothing, the means of doing which, on the most reasonable terms, are provided by the establishment of a store-room at the "Home." In addition to these benefits, arrangements have been made to take charge of their money and other property, to make remittances to their families and friends, to give them advice, and afford them information, to protect them from imposition, to procure them employment in vessels, to present them with copies of the Holy Scriptures, &c. From June 1857 to June 1858, the number of Asiatics, Africans, &c., who found a home at that institution was 884. The average weekly number of inmates for two years was 50. During that period the number of beds paid for was 857, by Asiatics entering as casual lodgers at 3*d*. per night. In 1857 the number of Asiatic servants and lascars shipped was 407 ; in 1858 the number was 307 ; and during the five months of the year 1859 the number was 122. During the year, the labours of the Scripture reader had been unremitting, and a great number of lascars and others had been visited and supplied with copies of the scriptures and tracts. The receipts from all sources for the year 1858 amounted to £3,728 3*s*. 5*d*., including £1,059 donations, £60 19*s*. subscriptions, and a loan of £600. The expenses amounted to £3,533 9*s*. 8*d*., leaving a balance in hand of £194 13*s*. 6*d*. At the opening of the institution the liabilities amounted to £6,371 11*s*. 8*d*. At the anniversary of 1859 the amount had been reduced to £5,456 1*s*. 4*d*. The amount then required to liquidate the debt was £5,328. Up to that time the institution had not been self-supporting.

STRANGE, Sir Thomas, Judge of the High Courts of Madras and Bengal, and his son Thomas Lumsden Strange, Judge of the

Sadr Adalut Court of Madras, Authors of books on Hindu Law: that of the son called a Digest of Hindu Laws was compiled partly from the smaller work on the same subject by his father, and partly from other eminent authorities, but amplified and elucidated by his own investigations.

STRAVADIUM COCCINEUM, *DeCand.* Syn. of Barringtonia acutangula, *Gært.*

STRAVADIUM RACEMOSUM, *Juss.* Syn. of Barringtonia racemosa.

STRAVADIUM RUBRUM, *Pers.* Syn. of Barringtonia acutangula, *Gært.*

STRAWBERRY is the English name of the plant and fruit of species of Fragaria, of which there are many species,

F. bonariensis, *Juss.*, Buenos Ayres.
F. chilensis, *Ehrh.*, South America.
F. collina ——? Switzerland, Germany.
F. elatior, *Ehrh.*, America.
F. grandiflora, *Ehrh.*, Surinam.
F. indica, *Andr.*, Mountains of India.
F. majaufea——? France.
F. monophylla, *Duchene.*
F. nubicola, *Wall.*, Himalaya.
F. roxburghii, *W. & A.*, Khassya, Assam.
F. vesca, *Linn.*, cultivated.
F. virginiana, *Linn.*, North America.

Some species occur in India, wild, and others are cultivated. F. chilensis, *Ehrh.*, the Chili strawberry, was brought from South America. F. collina is also an introduced plant. F. elatior, *Ehrh.*, is the Haut-boy strawberry from America, and F. grandiflora and F. majaufea are also known, as also F. roxburghii, *W. & A.*, the F. indica and Malay of Roxburgh, which has also been classed with Duchesnea and Potentilla, growing in the Neilgherries, Dehra Dhoon and Kamaon.

Fragaria vesca, *Linn.*

Wild Strawberry,	ENG.	Paljor,	CHENAB.
Wood "	"	Bunun also musrini,	RAVI.
Kanzar,	JHELUM.	Fraga.	LAT.
Ingrach, yang, tash,	KANGRA.	Bana-phul,	SUTLEJ.
		Tawai,	TRANS-INDUS.

This grows wild in most parts of the Punjab Himalaya, from 4,000 to 12,000 feet. The fruit is excellent when gathered dry but is largely improved by cultivation. It is cultivated by Europeans and market gardeners and in the Bombay Dekhan, a bed of a few square yards brings in from £15 to £20 the season. In Bangalore it is grown abundantly. The strawberry plant multiplies itself from runners and suckers; the old plant, after it has ceased bearing, throwing them out. In the Dekhan as soon as the rains have set in, these runners may be removed into a nursery bed, for their being more easily looked after, and should have the space of nine or ten inches allowed between them; they will throw out other runners, the whole of which may be separated and transplanted at the proper season. They thrive best in a light soil with good old stable and vegetable manure at first, and as soon as they show a disposition to flower, may have old goats' or sheep's manure added around each plant, a couple of double handsful being sufficient. In no part of the Dekhan, should the plants be put out for fruiting before the close of the rains, the latter part of September being quite early enough. Suckers planted for experiment at the commencement of August, grew to a good size, and did nothing for ten or twelve weeks but throw out suckers, which were continually removed, but, after all, fruited badly: the finest and most prolific crop were got from suckers put out in the beginning of October. Some strawberries were gathered in November from the plants put out in August, but they were so few as in no way to induce a trial of the experiment again. Varieties can only be procured from seed; and to procure the seed, select the finest ripe fruit, rub it on a sheet of paper, and dry it. When the rains commence, soak the seed in water, reject all that float, the remainder sow in baskets in a light loam, when they will be fit to remove in about six weeks, and should be put in other baskets four or five inches apart, and taken care of until ready to be transplanted into the beds where they are to remain. As these plants throw out suckers very fast, they must be constantly looked after, and removed. They will commence bearing in six months from the time of sowing the seed. As soon as the rains have ceased, put the suckers that have rooted into square beds, each not less than one foot apart, five in a row: this will give twenty-five in each bed—as many as can be easily looked after and gathered without trampling on the bed and thereby injuring the plants. When the earth is of a clayey consistence, Dr. Riddell has seen the strawberry cultivated on ridges. Some think this is a good plan, but he prefers the beds. It is sometimes necessary, in consequence of flooding the beds, to put tiles under the fruit to keep it clean, but it also attracts the notice of the birds: if straw or grass be used, then the chances are that white ants destroy the plants. This it is that makes some persons prefer the ridge system of growing, as they say the fruit is cleaner in consequence: fine fruit may be grown either way; and if on ridges, the same distance must be allowed between the plants as in beds—and even in the latter the plants may be put on raised cones of earth. The common vegetable manure is all that is required at first until near flowering, when a handful or two of goats' or sheep's dung should be put round the plant, opening the earth and scraping it together. Water during

the evening and very early in the morning.—*Birdwood, Vegetable Product, pp.* 151-2, 209; *Drs. Cleghorn, Kullu and Kangra, pp.* 65, 81; *J. L. Stewart, Riddell, Hogg, Veg., Kingdom.* See Strawberry.

STRASS. Artificial gems by which many of the precious stones are well imitated. The colour of the emerald is peculiar, and called emerald green. The glass of bottle bottoms is, however, largely sold in Ceylon and other places as emeralds. Emeralds are rarely without defects, called flaws, "Rag," *Hind.*, and, with the hope of deceiving, the manufacturers, aware of this, make the false emeralds with flaws. Of all precious stones, the emerald is most liable to defects, and their absence should excite suspicion as they can be very easily imitated. Strass is a technical term for the base of the artificial gems, of which the following is the composition :—

	Strass.	Sapphire.	Emerald.	Beryl.	Topaz.	Sapphire another.	Sapphire another.
Litharge, - - - -	5·0	..	..	..	..	..	..
White sand, - -	5·75	..	..	..	..	..	..
Potass, - - - - -	0·5	..	..	..	..	..	..
White strass, - -	..	250·	..	..	..	..	..
Oxide of Cobalt, -	..	3·74	..	0·82	..	0·11	..
Strass, - - - -	..	..	250·	187·5	..	31·25	500
Copper green oxide,	..	..	2·51	..	..	..	..
Chrome oxide, -	..	..	0·11	..	..	..	..
Antimony glass, -	..	..	..	1·32	..	..	..
Ceruse of Clichy, -	..	..	..	..	50·	..	..
Quartz pebbles calcined, - - - -	..	..	..	..	50·	..	..
Copper acetate, -	..	..	..	..	..	..	5·9
Iron tetroxide, -	..	..	..	..	..	..	0·825

STREBLUS ASPER, *Lour.* Syn. of Trophis aspera, *Retz.*

STREPSICERÆ, see Capreæ.

STREPSILUS INTERPRES, the Turnstone. Inhabits all sea-coasts, from the equator to the poles: common along those of India and seems to be found on every sea-coast.

STREPSIPTERA, Parasites on various hymenoptera.

STREPTAXIS, a curious distorted snail, that feeds on worms.

STREPTOCARPUS, one of the Bignoniaceæ. This is a handsome plant from the Cape of Good Hope, produces abundance of pale, purple flowers, it requires a good garden soil, and is increased by seed.—*Eng. Cyc.*

STREPTOPELIA GRIMARDI, *C. L. Bonap.*, "with much narrower collar and much shorter toes" than Str. dussumieri, is described from the Marianne Islands; a fifth Asiatic species of Streptopelia is the Indian Humilis, remarkable for the diversity of the sexes.—*Mr. Blyth's Report.*

STREPTOPELIA DUSSUMIERI, see Turtur dussumieri.

STRI, SANS. A woman, wife.

STRIGIDÆ, the owls, a family of birds of the order Raptores or Birds of Prey :—

FAM.—Strigidæ.

Sub-fam.—Buboninæ, 1 Nyctea; 4 Bubo; 2 Asio; 2 Scops; 3 Ketupa.

Sub-fam.—Atheninæ, 1 Ninox; 3 Athene.

Sub-fam.—Syrniinæ, 3 Syrnium.

Sub-fam.—Striginæ, 1 Phodilus; 2 Glaux; 2 Strix.

Owls are found throughout the world, and many races, alike of Europe and of Asia, continue to entertain superstitious opinions regarding species of this nocturnal genus. The women of India, hearing the hooting of the Ghugu, shut the ominous sounds from their ears by wrapping their sarhis round their heads. Of the Barn owl, Strix flammea, a poet says :—

The white owl seeks the antique ruined wall,
Fearless of rapine; or in hollow trees,
Which age has caverned, safely courts repose.

And Shakespeare notices the common superstition, when he says :—

It was the owl that shrieked, the fatal bellman,
Which gives the stern'st good night."

The Snowy owl, Stryx nyctea, has also been noticed in song—

When day declining sheds a milder gleam,
What time the May fly haunts the pool or stream;
When the still owl skims round the grassy mead
What time the timorous hare limps forth to feed;
Then be the time to steal adown the dale,
And listen to the vagrant cuckoo's tale;
To hear the clamorous curlew call his mate,
Or the soft quail his tender pain relate;
To see the swallow sweep the darkening plain
Belated, to support her infant train;
To mark the swift in rapid giddy ring,
Dash round the steeple unsubdued of wing:
Amusive birds! say where your hid retreat,
When the frost rages and the tempests beat;
Whence your return, by such nice instinct led,
When spring soft season lifts her blooming head?
Such baffled searches mock man's prying pride,
The God of Nature is your secret guide!
While deepening shapes obscure the face of day,
To yonder bench leaf-sheltered let us stray,
Till blended objects fail the swimming sight,
And all the fading landscape sinks in night;
To hear the drowsy dor come brushing by
With buzzing wing, or the shrill cricket cry;
To see the feeding bat glance through the wood;
To catch the distant falling of the flood;
While o'er the cliff th' awakened churn owl hung,
Through the still gloom protracts his chattering song;
While high in air, and poised upon his wings
Unseen, the soft enamoured wood-lark sings;
These, Nature's works, the curious mind employ,
Inspire a soothing melancholy joy;
As fancy warms, a pleasing kind of pain
Steals o'er the cheek, and trills the creeping vein:
Each rural sight, each sound, each smell, combine;
The tinkling sheep-bell, or the breath of kine:
The new mown hay that scents the swelling breeze,
Or cottage chimney smoking through the trees,
The chilling night dews fall;—away, retire!"

Strix rosenbergii and S. javanica, owls of the Malay Archipelago, the latter is in all the islands up to Lombok.—*Jerdon's Birds*; *White's Nat. Hist. of Selborne.*

STRI-HARIKOTTAH MUTTAH, a small forest tract on the north of Madras.

STRING AND WIND MUSICAL INSTRUMENTS, see Musical instruments.

STRIPED HYENA, Eng. Hyena striata, *Zimmerman.*

STRIPED NECKED MUNGOOSE, Eng. Herpestes vitticollis, *Benn., Ell., Bly.*

STRIPED TIGER, Eng. Felis tigris, *Linn.*

STRIPERMATUR, or Sri Perumbudur, lat. 12° 58', and long. 79° 56' in the Karnatik, 27 miles west of Madras. Dak bungalow, 144 feet.—*Schl., Rol.*

STROA, Tibet. Cervus affinis.

STROBILANTHES, a genus of plants of the order Acanthaceæ, which grow in the Khassya, Nepaul, Nagpore and Ceylon. In Ceylon, species of the genus 'Strobilanthes,' the well-known Nillu plant in India, used as sticks to put in mud walls. Fourteen species of Strobilanthes, grow abundantly in the mountain ranges of Ceylon. The golunda rats feed on the seeds, also the jungle-fowl, whose eyes are said to become affected from it.—*Tennent's Sketches of the Natural History of Ceylon, p.* 30 ; *Fergusson.*

STROEWOI GESS, Russ. Timber.

STROMBIDÆ, a family of molluscs, of which the genus Strombus is the type.

STROPHANTHUS, a shrub about Amherst that bears a flower resembling the nerium, but with very long linear filiments to the end of each segment of the corolla. It is well deserving of cultivation.—*Mason.*

STRUTHIOLARIA, a genus of molluscs.

STRUTHIONIDÆ.

Neamah,	Ar.	Struzzo,	It.
Thar-ud-jemmel,	,,	Struzzulo,	,,
Autruche,	Fr.	Struthio camelus,	Lat.
Strausse, Strutho-camelos,	Ger.	Shutr-murgh,	Pers.

A family of birds of great size, which may be thus shown :

Fam. I.—Struthionidæ.

a. Struthioninæ.
Struthio camelus, Afr. et As. Occ.
Rhea americana, ex Rep. Argent.
„ macrorhyncha, ex rep. Argent (?)
„ darwini, ex Patagonia.

b. Casuariinæ.
Casuarius galeatus, ex ins. Ceram.
„ bicarunculatus, ex patr. ign.
„ kaupi, ex ins. Salawatty.
„ uni-appendiculatus. ex patr. ign.
„ bennettii, ex Nov. Britann.
„ australis, ex Nov. Holl. Bor.

Fam. II.—Apterygidæ.
Apteryx australis, ex Nov. Zeland. ins. bor.
„ mantelli, ex Nov. Zeland. ins. media.
„ owenii ex Nov. Zeland. ins. med.
„ maxima, ex Nov. Zeland. ins. med.

STRUTHIONUM PLUMÆ MOLLIORES, Estrich, Estridge.

STRUZZO also Struzzulo, It. See Struthionidæ.

STRYCHNOS, a genus of plants, growing in the E. Indies. Mr. Thwaites mentions, as Ceylon plants, S. cinnamomifolia, *Thw.*, of the Hantani district. S. colubrina, *Linn.*, in the hot, drier parts of Ceylon. S. laurina, *Wall.*, at Galle and Korne-Galle. S. minor, *Blume*, at an elevation of 6,000 feet, S. nux-vomica. S. bicirrhosa, *Lesch.*, is a native of Tanjore. S. lucida, *R. Br.*, is from Tropical New Holland, S. madagascariensis, *Pet. Th.*, is of Madgascar. S. axillaris is of the Khassya Hills, and S. monogynus, *Roxb.*, in Sylhet. στρυχνος was a name applied by Theophrastus and Dioscorides to a kind of Nightshade, and adopted by Linnæus for a genus of plants belonging to the natural order Apocynaceæ. The species are not numerous, and are found principally in the tropical parts of Asia and America. One has been described by Mr. Brown, a native of Australia.—*Eng. Cyc.*

STRYCHNOS LAURINA, *Wall.* grows in Ceylon, at Galle, Kornegalle, and other of the warmer parts of the island.—*Thw. Enum. Pl. Zeyl., p.* 201.

STRYCHNOS CINNAMOMIFOLIA, *Thw.*

Atta-kirindi-wel, Singh.

A native of Ceylon, growing in the Hantani district, at an elevation of 3,000 feet.—*Thw., Enum. Pl. Zeyl., p.* 201.

STRYCHNOS COLUBRINA, *Linn.*

Modira canoram, *Rheede.*

Kuchila luta,	Beng.	Modira kaniram,	Maleal.
Snake poison nut tree,	Eng.	Pao-de-cobra,	Port.
Snakewood tree,	,,	Naga musada,	Tel.
Bois de couleuvre,	Fr.	Naga musadi,	,,
Lignum colubrinum,	Lat.		

A scandent plant with a stem of a great size, often 8 to 12 inches in diameter, growing in the hot, drier parts of Ceylon and in Malabar. The wood is of a light grey-colour, hard and intensely bitter. The wood of this plant is the true Pao de Cobra of the Portuguese. That of the root is deemed a powerful remedy for the bite of the cobra capella. Several woods have however received the appellation of Bois de couleuvre, (Lignum colubrinum) in different countries, viz., the Ophyoxylum serpentinum in Amboyna, the Ophiorhiza mungos in Java, Polygala senega in North America, &c., all for their supposed virtues as antidotes to make poison. A very large proportionate quantity of strychnine exists in the wood of this root.—*Dr. O'Shaughnessy, p.* 442 ; *Eng. Cyc.* ; *Thwaites' Enum. Pl. Zeyl., p* 201 ; *Roxb.'s Fl. Ind., Vol.* i, *p.* 577, *and note, ibid.*

STRYCHNOS LIGUSTRINA.

Caju-alar,	Malay.	Caju-badaira pail or laut,	Malay.
Caju-nassi,	,,		

A tree of the Eastern archipelago, resembling the orange tree ; berries globose, yel-

lowish-green, two to eight-seeded. This yields the Lignum colubrinum of Timor.—*O'Shaughnessy, p.* 443.

STRYCHNOS MINOR, *Blume.*

Var. a, parvifolia, *Benth., l. c.—c. p.* 341.

Grows in the warmer parts of the island of Ceylon, in the Central province, up to an elevation of 6,000 feet.—*A. Dc. Prod.,* ix, *p.* 14; *Benth. in Journ. Linn. Soc. Bot., Vol.* i, *p.* 100—*c. p.* 187; *Thwaites' Enum. Pl. Zeyl., p.* 201.

STRYCHNOS NUX VOMICA, *Linn.*

Khanek ul kalb, AR.
Falus mahi, „
Kuchila, BENG.
Kha bouug, BURM.
Kha gyee? Burm. of Moulmein?
Caniram, CAN.
Kuchila, DUK.
Snakewood tree, ENG.
Vomit nut „ „
Poison „ „ „
Nux-vomica „ „
Kuchla, HIND.
Kuchila, „
Lignum colubrinum, LAT.
Jhar-katchura, MAHR.
Kajra, „
Kaniram? MALEAL.
Izaraki? PERS.
Culaka? SANS.
Cutapa, „
Vesha-mushti bijum, „
Kulaka; Kutaka, „
Kudaka dornatta? SINGH.
Goda-kadooroo, „
Gada-kadooroo-gass, „
Yetti maram, TAM.
Mutti? Qu? „
Yetti-cotay maram, „
Musadi, TEL.
Mesidi, „
Mushti, „
Musada, „
Mushti ganga musidi, „
Kora, TEL.? of Ganjam and Gumsur.
Kunjaram of Travancore.

The Nut.

Hub-ul-jarab, AR.
Khanak-ul-kalb, „
Kha-gyee, BURM.?
Poison nut, ENG.
Kuchila, HIND.
Azraki, PERS.
Falus mahi, „

A small or middling-sized tree, with a short crooked trunk, which grows in the hotter parts of Ceylon, common in every part of the Madras presidency; common in the south Konkan, particularly in shady ravines, but, on the Bombay side, does not re-appear either north of the Savitri or inland. It is a native, also of the southern parts of the Bengal presidency and near Midnapore, is a very common tree throughout the forests of Pegu and extends into the archipelago. In a full-grown tree, the average length of the trunk to the first branch, is 15 feet or 20 feet, and average girth measured at 6 feet from the ground is 3 feet, is a very common tree throughout the Pegu forests and on the rocky sides of the hill at the back of Maulmain. The timber is strong and close-grained, but never of very large size. Wood, white-coloured, adapted for fancy work and cabinet-making. In the hilly parts of the Konkans, the nuts are used for poisoning fish. The reputed property of the wood to cure the bite of venomous snakes, as stated by Lindley, is never heard of there, and is doubtless quite apocryphal. The seed is inodorous, but its taste insupportably acrid and bitter. It is very difficult to reduce the seeds to powder; they must be first rasped, the raspings steeped in mucilage, then dried and powdered; or what is preferable, the rasping should be exposed to the steam of water for an hour, and then stove-dried, and powdered in a covered mortar. The bark is of an ash-grey colour while young, thin, compressed, inner surface black, outer surface of the larger pieces spotted with red rust-like patches. Fracture brittle, taste intensely bitter; nitric acid gives a blood-red stain to the black parts, and changes the red to a rich grass-green. This bark is known to the European druggists under the name of the "false angustura." Its nature was long suspected, but first clearly ascertained by Dr. O'Shaughnessy. The same bark is commonly sold in Calcutta, under the name of "Rohun," and substituted for the harmless bark of the Soymida febrifuga. Dr. Pereira thinks that the Nux mechil of Serapion is Nux vomica; but in Persian works this name is applied to a Datura. The wood of the Nux vomica tree is said by Dr. Christison to be often substituted for the Lignum colubrinum, or Snake-wood. All parts of the plant, except the pulp and flowers, are exceedingly bitter especially the wood of the root, and the inner layers of the bark. The seeds are disk-shaped, circular, hard and thorny. It contains two powerfully poisonous alcaloids, strychnine and brucine, and an acid. It acts as a powerful excitor of the spinal chord and as a tonic. By Europeans it is principally used in paralysis and neuralgia, also in muscular tremors and incontinence of urine, and natives of India are now using strychnine as an excitatory agent. The tree is common on almost every part of the coast of Coromandel, and is in flower during the cold season. The wood is white, strong, close-grained and very hard, and used for plough-shares. The pulp of the poisonous fruits are the favourite food of the Buceros malabaricus or Hornbill. The hard and durable wood is used for many purposes by the natives. It is exceedingly bitter, particularly that of the root which is used by intermitting fevers and in case of venomous snake-bites, when that of Naga musini, S. colubrina, cannot be had. The seeds are employed in distillation of country spirits, to render them more intoxicating. The pulp of the fruit seems perfectly innocent and it is greedily eaten by many sorts of birds. Its timber is strong and close-grained, but never of large size: wood hard and of a white or ash colour, specific gravity 0·706. A cubic foot weighs 52 lbs. It is used for plough-shares, cart wheels, in Travancore for making cots, and is adapted for fancy work and cabinet making. It furnishes one of the snake woods of commerce. Iron tools are sharpened on blocks of this wood. White ants will not touch it.—*O'Shaughnessy, p.* 437; *Royle*; *Roxb's. Fl.*

Ind., Vol. i, *p.* 475, 575; *Powell's Handbook, Vol.* i; *p.* 360 ; *Mr. Rhode's MSS ; Drs. Wight, Cleghorn, Gibson, Brandis and Mason* ; *Colonel Frith* ; *Captain Macdonald, Cal. Cat. Ex.* 1862 ; *Thw. En. Pl. Zeyl., p.* 201 ; *W. Jacob, Esquire* ; *McClelland* ; *Riddell* ; *Mason* ; *Journ. of the Med. and Phys. Soc. of Calcutta, Jan.* 1837. See Nux vomica.

STRYCHNOS POTATORUM, *Linn.*

The Tree.

Induga,	BENG.	Ingivi,	SINGH.
Nirmalli,	,,	Teta maram,	TAM.
Kha-boung, Yæ-kyie,	BURM.	Tettan kotte maram,	,,
		Tettam parel maram,	,,
Chil-binj-ka-jhar,	DUK.	Indupu chettu,	TEL.
Clearing nut tree,	ENG.	Chilla chettu,	,,
Nirmul; Nirmuli,	HIND.	Katakamu,	,,
Kataka,	SANS.	Chilla ginja chettu,	,,
Injini-gass,	SINGH.	Kotoko,	URYA.

The Nut.

Chil-binj-ka-phal,	DUK.	Tetta kotte,	TAM.
Chil-binj,	,,	Chilla ghenzlu,	TEL.
Clearing nut,	ENG.	Kataka,	SANS.

The Wood.

Indugu wood,	ANGLO-BENG ?	Chil-binj ka lakra,	HIND.
		Induga karra,	TEL.

The Fibre.

Kathaven nar, TAM.

Grows in the mountains of India, in Bengal and the Dekhan, flowers in March and April, of a greenish yellow colour. The tree is of moderate size, larger than S. nux vomica, and furnishes a serviceable small-sized wood. In the Circars it is much scarcer than the S. nux vomica, being only found amongst mountains and woods of great extent. It flowers during the hot season. The wood is hard and durable and is used for various economical purposes. The pulp of the fruit when ripe is eaten by the natives, the taste is rather disagreeable. This tree grows in the drier, and especially the northern, parts of Ceylon. It is found in various parts of India and grows to a moderate and even large size, larger than the S. nux vomica and scarcer. It is found in Coimbatore and other parts of the Madras presidency, on mountains and in woods of great extent ; on the hills of the Satpoora range, near Arrawad and in the jungles of Doordi, on the Gutpurba river. In Ganjam and Gumsur, its extreme height is 40 feet, circumference 4 feet, and height from the ground to the intersection of the first branch, 9 feet. It is there, chiefly used for firewood, though bandy wheels and plough-shares are occasionally made of it. Clearing-nut has ovate or oval glabrous pointed leaves ; a deeply-fissured bark ; and berries containing only one seed. It has shining fruit, which is black when ripe. When full-grown it attains a height of from 15 to 20 feet. The English name is derived from the use which is made of the seeds, which have the curious property of purifying muddy water, and are constantly used for that purpose by the natives who rub the inside of their lotas and brass pots with them. The impurities very soon fall to the bottom. This effect is so generally known that the seeds are usually carried by travellers in India. The nature of the action has not been clearly ascertained. It probably depends on astringency in the fruit. The fruit is used medicinally. Pulp, when ripe, eaten by the natives. The entire plant is destitute of the poisonous ingredients of the other species. Ainslie informs us that the ripe fruit is deemed emetic by the Tamools of Southern India, when given in powder to the quantity of about half a tea spoonful. On this point, Ainslie says, this fruit, though when very young, it is made into a preserve and eaten, is reckoned in its ripe state amongst the emetics of the Tamool practitioners. Dr. Hooker found the Strychnos potatorum, forming a dense foliaged tree, 30 to 60 feet high, and while some individuals are a pale yellow, others are deep green, yet both in apparent health. This seed can often be obtained when alum cannot be procured. The natives never drink clear well water if they can get pond or river water, which is always more or less impure.—*Drs. Wight, Gibson and Cleghorn* ; *Captain Macdonald, Thw., p.* 201 ;*Roxb.'s Fl. Ind., Vol.* i, *p.* 576 ; *O'Shaughnessy, p.* 443 ; *Ains. Mat. Med., p.* 119 ; *Hooker's Him. Jour., p.* 50 ; *Roxb.* ; *Rohde's MSS.*

STRYCHNOS SANCTI IGNATII, *Berg.*

Ignatia amara, *Linn.*

St. Ignatius' bean, ENG. | Papeeta, HIND.

A branching tree, a native of the Philippine islands. The seeds are an inch long, the size of a large olive. According to the analysis of Pelletier and Caventon, these beans contain igasurate (strychnate) of strychnia, wax, concrete oil, yellow colouring matter, green starch, bassorine, and vegetable fibre. The strychnine is present in three times the quantity of that in the kuchila nuts, but there is no brucine. Its activity is consequently very great, its uses the same as those of nux vomica. Besides the symptoms therein described the papeeta nut purges in small doses, and is hence deemed, and believe correctly, to be an efficacious vermifuge medicine. It is by some usually considered as constituting a distinct genus, and called Ignatia amara, *Linn.*, its seeds are frequently made to yield their Strychnia. They are ovate, triangular, of a reddish-grey colour, and about twenty of them contained in a pear-shaped fruit. They are intensely bitter, used by the native doctors as a remedy in cholera, but administered in conjunction with Jehiree (Cocos maldivica). When given in over-

doses the symptoms are those of poisoning by strychnia, as vertigo, convulsions, &c., and the remedy used for these effects is lemonade in large quantities, which is said to afford relief speedily.—*Eng. Cyc*; *O'Shaughnessy, p.* 441.

STRYCHNOS TIEUTE, *Lesch.*

Upas tjeute,	JAV.	Tjettik,	JAV.
Tshellik,	"		

Has elliptical, acuminate, 3-nerved, glabrous leaves, and simple tendrils, which are thickened opposite the solitary leaves. This plant is a climbing shrub, is a native of Java and is said to be the true Upas tree of that country. It is undoubtedly the most poisonous species of the genus, and yields the greatest quantity of strychnia, an exceedingly violent poison, which acts exactly in the same manner as strychnine, and is prepared from the bark of the root of this tree. The root is called Upas radja, but does not belong to the true Upas tree of Java, which is the Antiaris toxicaria Order Urticaceæ. There are several other plants which are called by the name of Upas in various parts of Asia. The natives of Java prepare from this species one of the most deadly of the various poisons that are used by barbarous nations for producing death by the wounds occasioned by their arrows.—*O'Shaughnessy, p.* 444; *Eng. Cyc.*

STRYCHNOS TOXIFERA, a native of Guiana, ascertained to be the basis of the celebrated Woorara poison.—*O'Shaughnessy, p.* 443.

ST. THOMAS. The tradition of St. Thomas having preached the gospel in India is thus related by Gibbon. "According to the legend of antiquity the gospel was preached in India by St. Thomas. At the end of the ninth century, his shrine, perhaps in the neighbourhood of Madras, was devoutly visited by the ambassadors of Alfred, and their return with a cargo of pearls and spices rewarded the zeal of the English monarch, who entertained the largest projects of trade and discovery. When the Portuguese first opened the navigation to India, the christians of St. Thomas had been seated for ages on the coast of Malabar, and the difference of their character and colour attested the mixture of a foreign race. In arms, in arts, and possibly in virtue, they excelled the natives of Hindoostan: the husbandmen cultivated the palm tree, the merchants were enriched by the pepper trade, the soldiers preceded the Nairs or nobles of Malabar, and their hereditary privileges were respected by the gratitude or the fear of the king of Cochin and the Zamorin himself. They acknowledged a Gentoo sovereign, but they were governed even in temporal concerns, by the Bishop of Angamala. He still asserted his ancient title of metropolitan of India, but his real jurisdiction was exercised in fourteen hundred churches, and he was entrusted with the care of two hundred thousand souls. Their religion would have rendered them the firmest and most cordial allies of the Portuguese, but the inquisitors soon discerned in the christians of St. Thomas the unpardonable guilt of heresy and schism. Instead of owning themselves the subjects of the Roman pontiff, the spiritual and temporal monarch of the globe, they adhered, like their ancestors, to the Communion of the Nestorian patriarch; and the bishops whom he ordained at Mosul, traversed the sea and land to reach their diocese on the coast of Malabar. In their Syriac liturgy, the names of Theodore and Nestorius were piously commemorated; they united their adoration of the two persons of Christ; the title of Mother of God was offensive to their ear, and they measured with scrupulous avarice the honours of the Virgin Mary, whom the superstition of the Latins had almost exalted to the rank of a goddess. When her image was first presented to the disciples of St. Thomas, they indignantly exclaimed, "We are christians, not idolators! and their simple devotion was content with the veneration of the cross. Their separation from the western world, had left them in ignorance of the improvements, or corruptions, of a thousand years; and their conformity with the faith and practice of the fifth century, would equally disappoint the prejudices of a papist or a protestant. It was the first care of the ministers of Rome to intercept all correspondence with the Nestorian patriarch, and several of his bishops expired in the prisons of the holy office. The flock, without a shepherd, was assaulted by the power of the Portuguese, the arts of the Jesuits, and the zeal of Alexis de Menesez, arch-bishop of Goa, in his personal visitation of the coast of Malabar. The synod of Diamper, at which he presided, consummated the pious work of the reunion, and rigorously imposed the doctrine and discipline of the Roman church, without forgetting auricular confession, the strongest engine of ecclesiastical torture. The memory of Theodore and Nestorius was condemned, and Malabar was reduced under the dominion of the Pope, of the Primate, and of the Jesuits, who invaded the see of Angamala or Cranganore. Sixty years of servitude and hypocrisy were patiently endured; but as soon as the Portuguese empire was shaken by the courage and industry of the Dutch, the Nestorians asserted with vigour and effect the religion of their fathers. The Jesuits were incapable of defending the power

which they had abused: the arms of forty thousand christians were pointed against their *falling* tyrants; and the Indian Archdeacon assumed the character of a bishop, till a fresh *supply* of episcopal gifts and Syriac missionaries could be obtained from the patriarch of Babylon."—*Gibbon, Ch.* 47; *La Croze Christianisme des Indes*; *Geddes's Church History of Malabar.* See Adam's Peak, Nicolo-di-conti.

ST. THOME, or Mylapore, in lat. 13° 1' N., a southern suburb of Madras, in the district of Chingleput and about three miles from Madras to the south. St. Thomé was one of the most important stations of the Portuguese on the Coromandel Coast. It subsequently belonged successively to the French, the Dutch, the king of Golconda, the nabob of Arcot, and has been in British possession since the wars in the Carnatic. Its native name is Mailapur, often in traveller's accounts, written Meliapore.—*Cal. Rev.*, 18 *Jan.* 71.

STUART, author of a History of Bengal.

STUCCO, a compound of paris-plaster and lime, used in making cornices, &c.

STUCK-GOED, Dut., also Stuck-gut, Ger. Bronze; Gun metal.

STUOJE, also Stoje, It. Mats.

STUPA, the Sanscrit term for a mound or burrow, either of masonry or of earth. General Cunningham says the Pali form is Thupo, also Thupa, or Thuva, in the early Arian inscriptions from the Punjab. The term now used is Thup for a tolerably perfect building, and Thupi for a ruined mound, but writers have adopted the word Tope, which preserves neither the spelling nor the pronunciation of the native word. The great stupa or buddhist monument of Manikyala, was first made known by the journey of the Hon'ble Mount Stuart Elphinstone, and has since been explored by Generals Ventura and Court. The name is said to have been derived from Raja Man, or Manik, who is said to have erected the great stupa. Fa-Hian states that at two days' journey to the east of Taxila is the spot where Buddha gave his body to feed a starving tiger. But Sung-yun fixes the scene of this exploit at eight days' journey to the south-east of the capital of Gandhara, which is a very exact description of the bearing and distance of Manikyala, either from Peshawar or from Hashtnagar. General Cunningham has identified the great stupa of the "body-offering" with the monument that was opened by General Court, which, according to the inscription found inside, was built in the year 20, during the reign of the great Indo-Scythian prince Kanishka, shortly before the beginning of the christian era. Manikyala was, therefore, one of the most famous places in the Punjab at a very early period; but he thinks that it must have been the site of a number of large religious establishments rather than that of a great city. The people are unanimous in their statements that the city was destroyed by fire; and this belief, whether based on tradition or conviction, is corroborated by the quantities of charcoal and ashes which are found amongst all the ruined buildings. It was also amply confirmed by the excavations which he made in the great monastery to the north of General Court's tope. He found the plaster of the walls blackened by fire, and the wrought blocks of kankar limestone turned into quicklime. The pine timbers of the roofs also were easily recognized by their charred fragments and ashes. General Cunningham discovered nothing during his researches that offered any clue to the probable period of the destruction of these buildings, but as this part of the country had fallen into the power of the Kashmirian kings, even before the time of Hwen Thsang, he was inclined to attribute their destruction rather to brahminical malignity than to mahomedan intolerance. Vaisali is supposed by General Cunningham to lie to the east of the Gandak, where we find the village of Besarh, with an old ruined fort which is still called Raja-Bisal-ka-garh, or the fort of rajà Visala, who was the reputed founder of the ancient Vaisali. The ruined fort of Besarh thus presents such a perfect coincidence of name, position, and dimensions with the ancient city of Vaisali, that there can be no reasonable doubt of their identity. In one of the buddhist legends, quoted by Burnouf, Buddha proceeds with Ananda to the Chapala stupa, and seating himself under a tree, thus addresses his disciple: "How beautiful, O Ananda, is the city of Vaisali, the land of the Vriji," &c. In the time of Buddha, and for many centuries afterwards, the people of Vaisali were called Lichhavi; and in the Trikandasesha, the names of Lichhavi, Vaideha, and Tirabhukti, are given as synonymous. Vaideha is well known to the readers of the Ramayana as a common name of Mithila, the country of raja Janaka whose daughter Sita is also named Vaidehi. Tirabhukti is the present Tirahuti, or Tirhut. Now, the modern town of Janakpur, in the Mithari district, is acknowledged by the universal consent of the natives of the country to be the same place as the ancient Janakpur, the capital of Mithila. The correct rendering of the name is doubtful; but if the bearing and distance recorded by the Chinese pilgrims are correct, it is almost certain that the capital of Vriji in the seventh century

must have been at Janakpur. Hwen Thsang gives the name of the country in its Sanscrit form, as Fo-li-shi, or Vriji; but it is also stated that the people of the north called the country San-fa-shi. Navandgarh, or Naondgarh, is a ruined fort from 250 to 300 feet square at top and 80 feet in height. It is situated close to the large village of Lauriya 15 miles to the N. N. W. of Bettiah, and, 10 miles from the nearest point of the Gandak river. The ancient remains consist of a handsome stone pillar, surmounted by a lion and inscribed with Asoka's edicts, and of three rows of earthen barrows or conical mounds of earth, of which two rows lie from north to south, and the third from east to west. The stupas usually met with are built either of stone or of brick; but the earliest stupas were mere mounds of earth, of which these are the most remarkable specimens that General Cunningham had seen. He believes that they are the sepulchral monuments of the early kings of the country prior to the rise of buddhism, and that their date may be assumed as ranging from 600 to 1500 B C. Every one of these barrows is called simply bhisa, or 'mound,' but the whole are said to have been the kots or fortified dwellings of the ministers and nobles of raja Uttanpat, while the fort of Navadgarh was the king's own residence. The word stupa meant originally only a "mound of earth," and this is the meaning given to it by Colebrooke, in his translation of the 'Amara Kosha.' The author of the Ceylonese 'Atthakatha' explains that they are yakhatthanani, or edifices belonging to Yakha, or demon-worship. The Yakha in Sanscrit Yaksha and Jaksha, were the attendants of Kuvera, the God of Riches, and the guardians of his treasures, and their chief residence was called Alakapura. Somewhere in the neighbourhood of the Gandak there was a city named Alakappô, inhabited by a people named Balaya or Buluka who obtained a share of Buddha's relics.—*Cunnigham's Ancient Geog. of India, pp.* 443, 444, 448, 450.

STURGEON FISH. Along the Asiatic coasts, the high price obtained for the superior and well manufactured isinglass affords inducements not to be expected elsewhere, but all the parts of fish, as the flesh, the roe, and the sounds, can be turned to account, much of the fish caught must be everywhere consumed for food, but considerable quantities are dried, and form articles of commerce, as do shark-fins and fish-maws. The sounds of many Indian fishes might, like sturgeons, yield isinglass, while fish-glue and fish-oil might be obtained from others.

STURNIDÆ, the starling family of birds, which are arranged into the *Sturninæ*, the Starlings or mynas. The *Lamprotorninæ*, glossy mynas, or grakles: the *Buphaginæ* or ox-peckers: the *Quiscalinæ* or boat-tails: the *Icterinæ* or hang-nests; and the *Agelainæ* or maizes. The Sturninæ, Lamprotorninæ and Buphaginæ are peculiar to the Old World. The more frequently occurring genera and species of the family are as under:—

Fam. Sturnidæ.

Sub-Fam. *Sturninæ*.

Sturnus vulgaris, *Linn.*

St. indicus, *Hodgs.*	St. splendus, *Temm.*
Common Starling, ENG.	Nakshi-telia, HIND.
Telia maina, HIND.	Tilgiri, KASHMIR.
Tilora, ,,	

The glossy black starling of Europe, Asia, Africa, Azores, is common in the Himalaya and N. India, Kashmir, Affghanistan, &c., as in Britain. An Affghan specimen, assigned to St. unicolor, appertains to the present species, being an old male with the pale specks obsolete.

Sturnus unicolor, *Marm.*, of Sardinia, Barbary, &c., is very distinct and much less bright in its glosses than the common starling. It is said by Adams to be common in Sindh, the Panjab and Kashmir.

Sturnus cineraceus, *Temm.* Japan.

Sturnopastor contra, *Linn.*

St. capensis, *Linn.*	Pastor jall, *Horsf.*
Ablaka-gosalik, BENG.	Ablak-maina, HIND.
Guia-leggra, ,,	Venda gorinka, TEL.
Pied-starling, ENG.	

found throughout a considerable part of India, but absent in the S. and S. W.

Sturnopastor superciliaris, *Blyth.*

Pastor jalla, *Horsf.*, Malayana.

Pastor tricolor, *Horsf.*, Java.

Pastor temporalis, *Wagler*, China.

Acridotherea tristis, *Linn.*

Gracula gryllivora, *Daudin.*	Mina tristoides, *Hodg.*
Salik, Bhat-salik, BENG.	Maina HIND.
Gorwantera, CAN.	Salonka, MAHR.
Bemni,Saloo, CHOTA-NAGP.	Goranka; Gorinka, TEL.
The common myna, ENG.	

All the head, the crest, neck and breast glossy black. It occurs all over India and Burmah. It was introduced from the Mauritius into India, to destroy the grasshoppers.

Acridotheres ginginianus, *Latham.*

Turdus ginginianus, *Lath.*	P. mahrattensis, *Royle.*
Pastor gregicolus, *Hodg.*	
Gang-salik, BENG.	Gilgila, HIND.
Ram salik, ,,	Bardi-maina, NEPAL.
Bank-myna, ENG.	Lali, SIND.
Ganga maina, HIND.	

Occurs from Affghanistan and the Himalaya southwards to the Nerbudda.

Acridotheres fuscus, *Wagler.*

A. griseus, *Blyth.*	Mama cristatelloides, *Hodg.*
Pastor mahrattensis, *Sykes.*	Gracula cristatella, *Sunder.*
Jhont-salik, BENG.	Jhonti maina, HIND.
Pahari maina, HIND.	

Occurs in hilly and jungly districts throughout India, Nepal, Assam and Burmah.

Acridotheres cristatellus, ——, China.
Acridotheres javanicus, *Cabanis*, Java.
Temenuchus pagodarum, *Gmelin*.

Pastor nigriceps, *Hodg.*		Turdus pagodarum, *Gmelin.*	
Maina sylvestris,	„		
Monghyr Pawi,	BENG.	Brahmany myna,	ENG.
Pabiya pawi,	„	Blade-headed, „	„
Popoyamaina,	HIND.	Papata pariki,	TAM.
Bahmani „	„	Rawanati,	„
Puhaia „	„	Papata gorruki,	TEL.

Occurs throughout all India.

STYLIDIACEÆ, *Lindl.* This small order of plants may almost be said to be confined to the East-Indies as both its genera, Alangium and Marlea (Stylidium, *Lour.*) are common in the southern parts of India, whence they extend along the Malayan Peninsula to Cochin-China, and northwards along the forest-clad base of the Himalaya. Marlea begonifoliæ extends beyond 30. of N. latitude while Alangium decapetalum spreads from the Central Range up to the western bank of the Ganges to Allahabad, and the banks of the Jumna. This is common in the Peninsula with A. hexapetalum, said to afford good wood and edible fruit.—*Royle's Ill. Him. Bot., p.* 215.

STYLIDIUM BEGONIFOLIUM, *R.Br.*

S. chinense, *Lour.*	Marlea begonifolia, *Roxb.*

Khassya hills, extending northwards beyond 30° of N. lat., middle-sized, white, with large yellow anthers, March and April ; fr. July and August. Timber employed by the natives in the construction of their houses.—*Voigt, p.* 40.

STYLIFER, a genus of molluscs.

STYLOCEROS RATWA, *Hodgs.* Syn. of Cervulus moschatus, *De Blain*, the Barking deer, occurs at Siligoree, in the Terai—*Hook. Him. Jour., p.* 399.

STYLOCORYNE WEBERA, *A. Rich.*

Webera corymbosa, *Willd., Roxb., Fl. Ind.* 2, *p.* 533.
Canthium corymbosum, *Pers., Rheede.*
Rondeletia asiatica, *Linn.*
Cupia corymbosa, *DC.*
Tarenna Zeylanica, *Gærtn.*

Kommi chettu,	TEL.	Konda papata,	TEL.
Bomma papata,	„		

The wood of this shrub or small tree is small, but hard, prettily marked, and much esteemed by the natives. The tree is met with on the Godavery. Its leaves and fruit are used in medicine.—*Capt Beddome* ; *Roxb. Fl. Ind., Vol.* ii, *p.* 533 ; *Voigt, p.* 377.

STYLODISCUS TRIFOLIATUS, *Bennett.* Syn. of Andrachne trifoliata.—*Roxb.*

STYRACEÆ, a sub-order of plants ; consisting of trees or shrubs, and comprising eight or nine genera, Symplicos ; Styrax ; Paralea ; and Diclidanthera. Of the E. Indian species are :

Symplocos ferruginea, *Roxb.*, Khassya
„ spicata, *Roxb.*, Khassya.
„ racemosa, *Roxb.*, Burdwan, Nepal, Kamaon.
„ sinica, *Kerr*, China.
„ pulcherrima, *Wall.*, Nepal.
Styrax benzoin, *Dryand*, Sumatra.
„ serratulus, *Roxb.*, Chittagong.

STYRAX BENZOIN, *Dryander.*

Lithocarpus benzoin, *Blume.*

Loobani ood, ood.	DEKH.	Kominjan,	MALAY.
Gum benjamin tree,	ENG.	Husse luban,	PERS.
Storax.	„	Husse ul jawi,	„
Luban,	HIND.	Sambranee,	TAM.

The gum resin.

Asteruk,	ARAB.	Sturax,	GR.
Husse-ul-jawi,	„	Luban,	HIND.
Benjamin,	ENG.	Styrax,	LAT
Benzoin,	„	Husse luban,	PERS.
Gum benjamin,	„		

This tree is a native of Sumatra, Siam and Java, and yields the gum benjamin of commerce : character of wood not known. Benzoin is obtained in Sumatra, by making incisions into the tree, in its seventh year. The juice hardens on exposure to the air, that which flows first being the purest and most fragant. It is also obtained in Siam and Bankok : it is supposed that Styrax finlaysonianum yields the last. It occurs in masses composed of white lumps, joined together by a brownish red substance. It has an agreeable odour and taste. It contains a resin mixed with a considerable quantity of benzoic acid, which may be prepared from this drug. A very useful stimulant, expectorant and diuretic. It is principally used in chronic bronchitis and laryngitis, also in jaundice and disease of the bladder.—*Voigt* ; *Birdwood* ; *Powell's Hand book, Vol.* i, *p.* 359.

STYRAX BROOM ? GER. Storax.

STYRAX OFFICINALE. *Linn.* A native of Asia Minor and Syria, common in Greece, and cultivated in the south of Europe. As this plant does not yield a balsamic exudation in all these situations some Storax has been thought to be yielded by Liquidambar orientale. Du Hamel, however, states having seen it flow from a tree near the Chartreuse of Montriau.

Storax, occurs in three different forms ; viz.

Storax in grains, the rarest and purest of all, in transparent, yellowish-white or reddish-yellow grains, the size of a small bean, the consistence of wax, and capable of consolidating into a thick mass. Odour strong, penetrating and very agreeable. Taste aromatic and bitter.

Storax in soft mass, or amygdaloid storax (Storax calamite, Lemery), softer than the preceding species, easily fusible, with brown fracture, displaying almond-like yellowish tears. Odour very sweet, like benzoin, taste sweet and perfumed.

Massive hard storax, light brown, yellow,

reddish brown and friable, sometimes slightly tenacious, softens under the teeth. Odour less than that of two preceding varieties, and resembling balsam of Tolu ; flavour sweet. This variety is very impure, being usually adulterated with saw-dust, &c.

The better kinds of storax burn with a white flame, and give a light, spongy, carbonaceous residue. It communicates to water a yellow colour and fragrant smell. It is soluble (except the impurities) in alcohol and ether. Storax is brought to Europe from Turkey in Asia ; formerly it was packed in bulrushes, at present it is sent in bladders. M. Fee deems the origin of this drug uncertain ; the styrax tree, cultivated in the south of Europe, affords no balsam, but this may be because the soil and climate differ from those of its native country. The strong resemblance between this product and the balsam copalm produced by the Liquidambar styraciflua, led to the idea that storax might probably be secreted by some congenerous tree, and Bernard de Jussieu pointed out the Liquidambar orientale, a tree common in Syria, as the most likely source of the article. It is now, however ascertained that storax is in reality produced by the Styrax officinale, a native of the Levant, Syria, Palestine, Greece, and the Peloponesus. The term storax or styrax, (Greek στυραξ Arabic estorak,) is a word of unknown origin.—*Ehenb. and Eberm.*, 210, *Fl. Græc. t* 375, *St. and Ch.* 47 ; *O'Shaughnesy, pp.* 429-30.

STYRAX SERRULATUS, *Roxb.*, a tree of Chittagong.

STYX, see Saraswati.

SU, see Swastika.

SU also Abar, a great Scythic horde who entered India, B. C. 126, and gave their name to the province of Indo-Scythia.—*Elliot.*

SU Tuisto (Mercury) and Ertha (the earth) were the chief divinities of the early German tribes. Tuisto was born of the Earth (Ella) and Manus (Menu). He is often confounded with Odin, or Woden, the Buddha of the eastern tribes, though they are the Mars and Mercury of these nations.

The Suiones or Suevi, the most powerful Getic nation of Scandinavia, was divided into many tribes, one of whom, the Su (Yuchi or Jit), made human sacrifices in their consecrated groves to Ertha (Ella), whom all worshipped, and whose chariot was drawn by a cow. The Suevi worshipped Isis and Ceres (of Rajasthan), in whose rites the figure of a ship is introduced ; 'symbolic,' observes Tacitus, 'of its foreign origin.' The festival of Isa, or Gowri ; wife of Iswara, at Oodipoor, is performed on the lake, and appears to be exactly that of Isis and Osiris in Egypt, as described by Herodotus. On this occasion Iswara (Osiris), who is secondary to his wife, has a stalk of the onion in blossom in his hand ; a root detested by the hindoos generally, though adored by the Egyptians. The Suevi sung hymns in praise of Hercules, as well as Tuisto or Odin, whose banners and images they carried to the field ; and fought in clans, using the feram or javelin, both in close and distant combat. In all maintaining the resemblance to the Hericula, descendants of Buddha, and the Aswa, offspring of Bajaswa, who peopled those regions west of the Indus, and whose redundant population spread both east and west. In an inscription of the Gete or Jit prince of Salindrapoor (Sulpoor) of the fifth century, he is styled of the race of 'Tusta' (q. Tuisto ?). It is in that ancient nailheaded character used by the ancient buddhists of India, and still the sacred character of the Tatar Lamas: in short, the Pali. All the ancient inscriptions in the possession of Col. Tod, of the branches of the Agniculas, as the Chohan, Pramara, Solanki and Puriharu, are in this character. That of the Jit prince styles him 'Jit Cat-'hi-da' (Qu. of (da) Cathay)? From Tuisto and Woden we have our Tuesday and Wednesday, In India, Wednesday is Budwar (Dies Mercurii), and Tuesday, Mungulwar (Dies Martis), the Mardi of the French. The Getic creed carried their veneration for the horse, symbolic of their chief deity the sun, into Scandinavia : equally so of all the early German tribes, the Sur, Suevi, Catti, Sucimbri, Getes, in the forests of Germany and on the banks of the Elbe and Weser. The milk-white horse was supposed to be the organ of the gods, from whose neighing they calculated future events : notions possessed also by the Aswa, sons of Boodha (Woden), on the Yamuna and Ganges, when the rocks of Scandinavia and the shores of the Baltic were yet untrod by man. It was this omen which gave Darius Hystaspes (hysna, 'to neigh,' aspa, 'a horse,') a crown. The bard Chund makes it the omen of death to his principal heroes. The steed of the Scandinavian god of battle was kept in the temple of Upsala, and always "found foaming and sweating after battle." "Money," says Tacitus, "was only acceptable to the German when bearing the effigies of the horse." In the Edda we are informed that the Getes, or Jits, who entered Scandinavia, were termed Asi, and their first settlement As-gard. Pinkerton rejects the authority of the Edda, and follows Torfæus, who from Icelandic chronicles and genealogies concludes Odin to have come into Scandinavia in the time of Darius Hystaspes, five hundred years before Christ. This is the

period of the last Boodha, or Mahavira, whose era is four hundred and seventy-seven years before Vicrama, or five hundred and thirty-three before Christ. The successor of Odin in Scandinavia was Gotama ; and Gotama was the successor of the last Boodha ; Mahavira, who was Gotama, or Gaudama, is still adored from the Straits of Malacca to the Caspian Sea. "Other antiquaries," says Pinkerton, "assert another Odin, who was put as the supreme deity one thousand years before Christ." Mallet admits two Odins, but Mr. Pinkerton wishes he had abided by that of Torfæus, in 500 A. C. It is a singular fact, that the periods of both the Scandinavian Odins should assimilate with the twenty-second Boodha, Naimnath, and twenty-fourth and last, Mahavira : the first the cotemporary of Krishna, about 1400 years, the last 533, before Christ. The Asi, Getes, &c. of Europe worshipped Mercury as founder of their line, as did the Eastern Asi, Takshacs and Getes. The Chinese and Tatar historians say Boodha, or Fo, appeared 1027 years before Christ.—*Tod's Rajasthan, Vol.* i, *p.* 64 ; *Tacitus, Vol.* xxxviii.

SU or Shu in the Girnar inscription and in the Bairath stone, has been said to mean a personification of calamity. Sav ; Savath and Su are in the 7th Section of Girnar inscription. Theos θεος, Greek. God, Zeus, is merely deus in one syllable ; genitive dios. Deus is Theos. Zeu in pelasgic Greek is Jupiter. Seu ,Spartan. Seo, Sev or Siva Siva, Shiva.

SUALLA of Celebes. Biche de mar.

SUAR, Chensuar or Chenchwar, or Surah also Chentsu, are a wild, half-savage, forest tribe inhabiting the eastern ghauts of the peninsula of India. They are known to their settled neighbours as the Chenchu kulam, Chenchwar and Chensuar. Wilson names them Chenchu-vadu (vadu, TEL., a man.) They are about 1,200 in number, and dwell in the tract of jungle covering the westernmost range of the eastern ghaut line, between the Pennar river and the Kistnah, and known locally as the Nullamulla, and the Lankamulla. They inhabit clearings in the forest, live in beehive shape huts like the African, Nicobarian and many of the ruder Asionesian tribes. These are of wicker-work with walls about three feet high, and a conical straw roof, with a screen for a door. The men are almost nude, and have in general only a rag for covering. The women dress like the wandering female basket-makers whom they resemble in features. The features of the men are small, but the expression is animated, cheek-bones higher and more prominent than those of the hindoos in general, nose flatter, and nostrils more expanded ; their eyes black and piercing ; in stature they are somewhat shorter than their neighbours, and they are slightly, but well-made, except about the knee, which is large, and the leg. The colour of the skin is darker, and there seems a tendency to cutaneous eruption. Newbold characterises them as between a Tiling and a Jakun of the Malay peninsula. They have no language of their own, but speak Telugu with a harsh and pecular pronunciation. Brahmans say they formerly were shepherds of the Yerra Gola caste. They have large dogs, and a few are employed as hill police, in the pass from the Kuman to Badwail. The Nandial Chenchwar assert their ignorance of a god or a soul. They have no images. They are polygamists ; they bury their dead, but sometimes burn, and, like the Tartars, they carry the deceased's weapons to the grave. They use the spear, hatchet, the matchlock, or a bamboo bow and reed arrow tipped with iron. They look on weaving and other manufacturing arts with comtempt. They are patient and docile. It is suggested by Mr. Logan that the Chenchwar are a continuation of the wild forest Surah of the mountainous tracts further north in the line of the eastern ghauts. Vocabularies of six of the non-Arian tongues, the Kond, Savara, Gadaba, Yerukala and Chentsu are given at p. 39, No. of 1856, of Beng. As. Soc. Journal.—*Newbold, in R. As. Soc. Journ.*, 1865 ; *Logan, in Journal Indian Archipelago.*

SUBA, a province, a government, sometimes a smaller division, also the officer in charge of a suba.

SUBADAR, the governor of a province or suba. A commissioned rank in the native army of India.

SUBADHRA, sister of Krishna, her marriage was by seizure of the maiden by Arjuna at her brother's instigation near the Raibuta mountain, where she had gone to perform certain religious ceremonies. The mind of this lady is shown in her lamentation for her son after he was killed in battle. The lamentation was addressed to his spirit, and she prayed for its being associated with the holy and heroic in the heavenly sphere.—*Mahabharat, Cal. Review, No.* 109, *p.* 41. See Jaganath, Nat'h.

SUBAH, HIND. A province.

SUBAHDAR, HIND. A province holder, a native officer.

SUBAK, see Affghan.

SUBALI, HIND. Crozophora plicata, *Ad. Juss.*

SUBATHU, occupies the crest of a ridge at an elevation of 4,200 feet. It lies nine

miles from Kussowlie on the road to Simla, the hills are bare of wood, the climate differs from that of Kussowlie in being hotter in summer, and warmer in winter; it is altogether more dry and sheltered, and has an advantage in being seldom visited by fogs. Subathu is noted for its nummulitic strata. See Kohistan, Sanatoria.

SUBBA DUMPA, TEL. Dioscorea tomentosa, *Kœn.*; *R.*, *Vol.* iii, *p.* 805; *W. Ic.*, *p.* 815.

SUBAKTAGIN, governor of Khorassan, declared himself independent at Ghuzni, in A. D. 975, he afterwards carried his arms across the Indus, forcibly converting the natives to Islamism. These inroads were repeated, and in the last (A. D. 997), he was accompanied by his son, the celebrated Mahmood, who became, upon his succession to the throne of Ghuzni, the scourge of India. When Mahmood, the successor of Subaktagin, the first sultan of Ghaznavi dynasty, turned his arms towards India, he subjugated the whole of the level district, west of the Indus, to the very foot of the Brahooee mountains. His son, Musaood, extended these conquests still more westerly into Mekran; he adhered, however, to his father's plan of not ascending the lofty ranges, and all subsequent invaders of Sind, seem to have been guided by their example. —*History of the Punjab, Vol.* i, *p.* 64.

SUB-BORAS SODÆ, LAT. Borax.

SUBER, LAT. Cork.

SUB-HIMALAYA, is a term originated by Mr. B. Hodgson, to distinguish all the mountains and their inhabitants below the snowy range. But the term is inappropriate, as it includes precipitous mountains, 8,000 and 10,000 feet high, and people dwelling in them, higher than the highest mountaineers of Europe. The Sub Himalayas comprised in Bhutan, Sikim and Nepal, are chiefly occupied by Tibetan or Botiah tribes, and by tribes more akin to the Gangetic race. The first fossil remains of the colossal tortoise, Colossochelys atlas, were discovered in 1835 in the tertiary strata of the Sewalik Hills, or Sub-Himalaya skirting the southern foot of the great Himalaya chain. They were found associated with the remains of four extinct species of Mastodon and Elephant, species of Rhinoceros, Hippopotamus, Horse, Anoplotherium, Camel, Giraffe, Sivatherium, and a vast number of other Mammalia, including four or five species of Quadrumana. The Sewalik fauna include also a great number of reptilian forms, such as crocodiles and land and fresh water tortoises. Some of the crocodiles belong to extinct species, but others appear to be absolutely identical with species now living in the rivers of India: in particular to the Crocodilus longirostris, from the existing forms of which naturalists have been unable to detect any difference in heads dug out of the Sewalik Hills. The same result applies to the existing Emys tectum, now a common species found in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. Professor Thomas Bell, the highest authority on the family, after a rigid examination, confirms the result arrived at, viz., that there are no characters shown by the fossil to justify its separation from the living Emys tectum. There are other cases which appear to yield similar results, but the evidence has not yet been sufficiently examined to justify a confident affirmation of the identity at present.

The result arrived is, that there are fair grounds for entertaining the belief as probable that the Colossochelys Atlas may have lived down to an early period of the human epoch and since become extinct:—1st, from the fact that other Chelonian species and crocodiles, contemporaries of the Colossochelys in the Sewalik fauna, have survived; 2nd, from the indications of mythology in regard to a gigantic species of tortoise in India.—*Campbell, p.* 46; *Jour. As. Soc. Ben., No.* 247 *of* 1855. See Dehra, Himalaya.

SUBHRAMANYA, Isvara's younger son a favorite with the Shanars. See Hindoo Serpent, Snake.

SUBINJ or SUG-BINJ, ARAB., GUZ., HIND.

SUBJUYA, HIND. Canna indica.

SUBLIME CORROSIF, FR. Corrosive sublimate. Bichloride of mercury.

SUBUNREEKA. The principal cataracts or waterfalls in India, are those near Simorree, in Rohilcund; at Gokak, on the Gutpurba, the Gairsappa, where from top of fall to surface of basin is 888 feet, and the depth of basin is 300 feet—and from 300 to 600 feet across during the rains. Yena in Mahabuleshwar, 600 feet; Cauvery, 300 feet. Cataracts of Suboonreka, Chota-Nagpore, and Hurroree Ghaut—the falls, 15, 20, and 400 respectively; about 500 feet across crest.—*Curiosities of Science, Dr. Bruist's Catalogue.*

SUBRAON, is in the neighbourhood of Ferozepore in the Panjab. It was the scene of a battle between the British and the Sikhs after the death of Runjit Singh.

SUBZA, HIND. Ocimum basilicum, *Linn.*

SUBZAH or Subjah, the Dukani name of

an intoxicating liquor prepared from Cannabis sativa, or hemp leaves ; black pepper, cardamoms ; Poppy seeds : Cucumis utilissimus and sativus. It exhilirates without injurious consequences.—*Ainslie's Mat. Med., p.* 268 ; *Herklots.* See Ganjah, Subji, Sidhi.

SUBZE KE BINJ ? DUK. Ocymum basilicum.

SUBZAWAR. The town and district of Subzawar, lies between that of Turbut-e-Hyderee and Irak, since the death of Nader Shah, it has been in the possession of a chief of a Turkish tribe.—*Malcolm's History of Persia, Vol.* ii, *pp.* 230, 231.

SUCCADANA, on the west coast of Borneo, in lat, 1° 7′ S., a place of trade with India.

SUCCADE, GER. Citron.

SUCCINEA, a genus of molluscs.

SUCCINUM, LAT. Amber.

SUCCORY, Cichorium intybus, much used in France as a winter salad under the name of Barbe du Capucine. The common way to grow this plant is similar to carrots. When the tapering roots have attained some size, they are lifted, the leaves cut off, the roots are then planted in sand in a dark room or cellar ; where in consequence of the absence of light the roots throw out white leaves which make an excellent vegetable. This plant is the cichory of commerce used in the adulteration of coffee.—*Jaffrey.*

SUCCORY ROOT, ENG. See Kasni ki jar.

SUCCOTH BENOTH, an Assyrian deity, whom the Jews worshipped under the name of Astarte or Ashtaroth, and it is said that this deity was of both sexes. This physiological or cosmogynic union of the sexes is attributed to a form of Siva, the right side being male and left side female, and his female energy or sacti is fabled to have assumed both appearances as circumstances required. The Babylonian goddess identical with Succoth Benoth was Mylitta, meaning mother, and the term Mat'ha or mother is applied to the wife of Siva. Amongst the Assyrians, the women, once in their lives had to make a sacrifice of virtue to the goddess Succoth Benoth. Lempriere says that Succoth Benoth was a surname of Venus, in whose temples all the women were obliged to prostitute themselves to strangers. Amongst other names of the wife of Siva was Bali or Vali, under which appellation she assumed the form of a girl of twelve years of age. And in Madura, Balaue and other places, beautiful virgins used to go to the temple once in their lives to offer themselves in honour of the goddess. It was the belief that a god had conversed with them.—*Roberts, p.* ix.

SUCH, HIND. Sticks for keeping extended on its frame, the "mir" or screen in paper making.

SUCHAL, HIND., of Chenab, Cichorium intibus.—*Linn.*

SU-CHAN, CHIN. Oil pea.

SUCHI, HIND, Atropa belladonna.

SU-CHU, a town in China, proverbially an earthly paradise.

> "There's heaven above,
> Su-Chu below."

SUCK'HI, see Kameri.

SUCRA, or Bhrigu, see Graha, Vara or Vasara.

SUDAB, HIND. Euphorbia lathyrus, also Ruta angustifolia, Ruta graveolens, Euphorbia dracunculoides.

SUDANAPU-VEDSU or Sadanapa Vedru, TEL. Bambusa stricta.

SUDANANDA or Sadananda, SANS., from sada, always, and ananda, joy.

SUDAR, see Sudra.

SUDARSHAN, HIND. Hedychium coccineum, called Indian shot, its black seeds used for necklaces.

SUDASHEGHUR, there are two serious drawbacks to the many advantages presented by Sudasheghur as a shipping port. The first is the prevalence of heavy breakers outside, and across the mouth of the Bay, from Carwarhead to Deoghur island, and also throughout its interior (except close under the Head) during the height of the south-west monsoon:—rendering it dangerous at such times for inward-bound vessels to make the anchorage, and impossible for those outward-bound to put to sea. The second is the gradual silting up of Beitcul Cove, and evident decrease of the depth of water in some parts of the Bay.

SUDASHYA, or Sadashya, SANS., bystanders at a council, whose business it is to notice and correct mistakes. The Sudashya regulates the ceremonies of worship, but is not employed on all occasions.—*Ward's view of the Hindoos, Vol.* ii, *p.* 17.

SUDDSAF, HIND., mother-of-pearl.

SUDDAP, ARAB., DUK. Rue.

SUDDAPA, TEL. Dill seed.

SUDDOZYE, an Affgan clan, see Kandahar, Khyber.

SUD-GOPA, SANS., from sut, good, and gop, cow-keeper.

SUDHO-DHANA, see Buddha.

SUDI MIRAPA KAYA or Golakonda mirapa, TEL. Capsicum frutescens, *L.*

SUDIMUSTRA, SANS., TEL. Tribulus terrestris.

SUDQA, ARAB. Propitiatory offerings. Sudqee, or Sudqeejana, to become a sacrifice for the welfare of another.

SUDR DEWANI, see Prinsep.

SUDRA. The Parsees are invested with the sudra or sacred shirt, and the cord or kusti at the age of six years and three months. This investiture is the initiation of the child into the religion of Zoroaster, the "jubhla," being then discontinued. The sudra is made of linen or gauze or net, while the kusti is a thin woollen cincture or cord of seventy-two threads representing the seventy-two Has or chapters of the Izashne, one of the sacred books of the Parsees. The Sudra and Kusti are worn alike by men and women, but the latter likewise dress in the saree, generally of coloured silk and the short sleeved silk vest called the Kanchri or Choli.—*Parsees, p.* 70.

SUDRA or Sudar, is a term, which is now the caste appellation of the mass of the inhabitants of India, whether Gaurians or Dravidians, but seems originally to have been the name of a tribe dwelling near the Indus. Lassen recognises the name in that of the town Συδρος on the lower Indus, and especially in that of the nations of the Sudroi in northern Arachosia. He supposes them to have been with the Abhiras and Nishadas, a black long haired race of aborigines, subdued by the Aryans. It cannot be doubted that by the Aryans, the term was extended in course of time to all who occupied or were reduced to a dependent condition, whilst the name Mlechcha, continued to be the appellation of the unsubdued Un-Aryanised tribes. Lassen and Max Muller, suppose that the whole of the Sudras or primitive servile classes of northern India, belonged to a race different from their Aryan conquerors, but Dr. Caldwell thinks it probable that a considerable portion of them consisted of the slaves, servants, dependants or followers of the high caste Aryans, and like the latter belonged to the Aryan race. And the fact that the Brahmans, Kshatriyas, Vaisyas and Sudras, are all represented as having sprung from Brahma's body, though from different parts of it, is in favour of the idea that the Sudras differ from the twice-born Aryas, in rank only, not in blood. Sudras, otherwise Soodra, or Sudar are mechanics, artizans, and labourers of every description. But in the prosecution of the Sudra's avocations will be found persons of the second and third tribes, or classes, and, perhaps also of the first; but of the first comparatively few. "The natural duty of the Sudra is servitude." Many sects and sub-castes of Sudras burn their dead, like other hindoos. Others inter them decently clad, and in a horizontal position, while others, as the Lingaets, Gold-smith caste, &c., put their dead in a sitting attitude. The Sudras have numerous sub-divisions, in their castes. Aryyan hindoos burn their dead, abstain from eating flesh of horned cattle and from ardent spirits. They believe in the transmigration of souls follow brahmanism. Worship ancient heroes as demi-gods, are governed by municipal institutions in their villages and townships. The bad castes, which did not eat together or intermarry, viz., Brahmanical or priestly caste, Khetri or military caste, Vaisya or mercantile caste, Sudra or cultivator, or labourer, or, landholder caste. The prior races, have no prejudices against animal food of any kind, whether the animal be slaughtered or die a natural death. These have no laws of caste? Burn their dead. Have no race of regular priests, but select them from the lay party. They offer up bloody sacrifices. In Gondwann, Gumsur and Bustar, and in the Assam hills they continue to make human sacrifices. See Chandragupta, Hindoo, Jungum, Mlechcha, Poitu, Zonar.—*Wh., p.* 5.

SUDRAKAS, or Surakousæ.

SUDR-DEWANI, see Prinsep.

SUDR DIN, see Khajah.

SUDRA UPALI, see Sakya muni.

SUDULUNU, SINGH. Allium sativum. *Linn.* See Garlic.

SUDU MOSTRA, SANS. Tribulus lanuginosus. *Linn., Roxb., W. & A., W. Ic.*

SUFFAID-SUMBAL, or Lal-kud-sumbal, BENG., HIND. Canavalia gladiata.

SUFFAID-MUHAMMA, BENG., HIND. Fluggea leucopyrus.

SUFFAID-MOOSLIE, BENG., HIND. Asparagus sarmentosus.

SUFFAID-TOOLSIE, BENG., HIND. Ocymum album.

SUFFAVI, a dynasty that ruled in Persia. See Kajar, Khorassan.

SUFFED SUMBULKHAR, DUK. White oxide of Arsenic.

SUFFEID GOOMCHEE KEE JUR.

SUFFUR, the 2nd month of the mahomedan year.

SUFI, PERS. The Sophists of the east, who indulge in religious erotic poetry. The Jalal-ud-din, says, in the Masnavi, in whatever place, we set our foot, we are always, lord, within thy resort. The Sufi creed is a philosophy, a pantheism. The whole visible creation is the outward manifestation of the invisible Being whose spirit is diffused everywhere through it. The first stage of a Sufi disciple is styled Sharyat or Law in which he practices all the external rites and ceremonies of religion. Tariqat from Tariq, meaning a path, way, or direction, is the second stage, in which the disciple discards the outward forms of religion and devotes himself to the mental worship of the deity. The third stage is

Haqiqat, from Haq, the all-righteous. It means the state of truth, and is a condition accompanied by a preternatural knowledge or meditation, obtained by the devotee through a long meditation on God. The fourth stage is the Marifat, from Arif to know, is attained by long and painful fasts, dwelling in solitary deserts, seeing only his teacher. Few survive the severities of this stage. But when it is reached, the soul absorbed into the divine essence is again with God. But the purified Sufi, may partake of the nature of God, which is termed Jamal: and signifies that mild and gentle beauty which loves to do good and hurts not. Or, he may be intoxicated with the wine of the divine love and absorbed in the contemplation of the Jetal or consuming glory of the deity; in which state, he is full of wrath with the iniquities of the world and if provoked to imprecations, they take immediate effect, or he may pass from one stage to another, may at one time assert that God is in his sleep and then fall back into the condition of ordinary mortals trusting that God will forgive him his sins and make his latter days righteous. The Sufi spiritualist is often almost with views appropriate to eastern pantheistic ideas, but with many almost atheistic, a sort of esoteric doctrine. The word comes it is said from Sufi, Ar., wool because of their use of woollen garments. Sufi spiritualism, though contrary to materialism, has in reality much in unison. Sufi doctrines are principally held amongst the partizans of Ali, and out of it grew the belief in the infusion of divinity in Ali. Evidences of its antiquity may be found in the annals of almost every ancient and civilized race. The Sufi were called by the Guebres, Wiyhah-darun, Roushan-dil, &c., by the hindoos, Gnaneshvar and Atma-gnani. Among the Greeks they became Platonists, and have continued up to the present time. The number of mahomedan sects is not great. As a broad distinction, they are generally classed as Shiah and as Sunni, but the six bodies of sectarians who oppose the Sunni are classed by them as Rafziah, Kharjiah, Jabriah, Kadriah, Jahmiah and Marjiah, each of whom are broken up into smaller bodies. Before the end of the first century, the ascetic turn and,the theosophy inseparable thereform, a combination styled among the Arabs, Sufi, had arisen.. This made rapid strides; and in the end of the third century, was already, itself, the subject of learned works, and the mahomedan world has carried this system to the utmost extreme. Their Sufi outstrip in every point of view both the hindoo Jogi and the Christian monks. The asceticism of the Sufi is more systematic, their pantheistic teaching deeper and more consistent, and their vices more enormous, than those of any other people. Spinoza and Schelling are left far behind by Ibn Arabi. But, a deep metaphysical system may be found among all rude nations; for the supernaturalist has no need of learning; dreams suffice for him.—*Richard F. Burton's Sind, p.* 406; *Westminster Review, 'Oct.* 1869. See Priests.

SUDUSUDU, Malay. Euphorbia canariensis, *Linn.*

SUEVI, or Suiones, the origin of the Suevi, Su, or Yeut of Yeutland (Jutland) has been traced to the Yute, Gete, or Jit of Central Asia, who carried thence the religion of Budd'ha into India, as well as to the Baltic. There is little doubt that the races called Jotner, Jæter, Jotun, Jaet and Yeut, who followed the Asi into Scandinavia, migrated from the Jaxartes, the land of the great Gete (Massagetæ); the leader was supposed to be endued with supernatural powers, like the budd'hist, called Vedianan or magician, whose haunts adjoined Aria, the cradle of the Magi. They are designated Ari-punta, under the sign of a serpent, the type of Budd'ha, or Ari-manus, the foe of man. The Suevi, or Suiones, erected the celebrated temple of Upsala, in which they placed the statues of Thor, Woden and Freya, the triple divinity of the Scandinavian Asi, the Trimurti of the Solar and Lunar races. The first (Thor, the thunderer, or god of war) is Har, or Mahadeva, the destroyer; the second (Woden) is Budd'ha, the preserver; and the third (Freya) is Oomia, the creative power. The grand festival to Freya was in spring, when all nature revived; then boars were offered to her by the Scandinavians, and even boars of paste were made and swallowed by the peasantry. Similarly still, with the Rajput Hindoo, Vassanti, or spring personified, the consort of Har, is worshipped by the Rajput, who opens the season with a grand hunt, led by the prince and his vassal chiefs, when they chase, slay and eat the boar. Personal danger is disregarded on this day, as want of success is ominous that the great mother will refuse all petitions throughout the year. In Tamil countries, on the day that the sun enters Aries, bands of twelve young women, of the non-hindoo races, perambulate the streets. They have a basket of shavings which they surround, and bending low they circumambulate, clapping their hands and singing; in this they represent the twelve signs of the zodiac, with the sun in the centre.—*Tod's Rajasthan, Vol.* i, *pp.* 570, 572–73. See Basant'h, Pongul.

SUEZ, is the ancient Sebaste, whence the

Arabic Suvas, and the English Suez. See Red Sea.

SUF, also Tisi, also Alsi, Guz. Linseed.

SUFAIDA, Hind., Populus alba.

SUFAID KOH, Snowy or White Mountains, near Attock, long. 72° 16' W. to long. 69° 36', proceeding nearly along the parallel of lat. 33° 50'; then sinking into a maze of hill stretching to the Kohistan of Kabool. There are three ranges, running nearly parallel to the S. of the Kabool river; they rise in height as they recede from the river, the highest between 69° 40' and 70° 3'; attaining an altitude of 14,000 feet. Covered with perpetual snow. Generally of primary formation, consisting of granite, quartz, gneiss, mica slate, and primary limestone. The Soorkh Rood, the Kara Su, and many other shallow but impetuous streams rush down its northern face, and are discharged into the Kabool river; which conveys their water to the Indus. The two lowest ranges are covered with pine forests; the highest and most distant has a very irregular outline, is steep and rocky, yet furrowed by many beautiful vales. —*Mohan Lal's Travels, p.* 339.

SUFAID MURGH-KES, Hind. Celosia argentea, *Linn.*, *Rheede*, *Roxb.*, *W. Ic.*

SUFDAR ALLY, a nabob of Arcot, who was murdered there, by Pathans and by Abyssinian slaves.

SUFEDA, Hind. Populus euphratica, Populus pyriformis.

SUFEDA, Hind., Pers. White lead.

SUFED-BARYALA, Beng., Hind. Sida rhomboidea.

SUFED DHAWI, Hind. Buxus sempervirens.

SUFED-GOOL-MUKHMUL, Beng. Gomphrena alba.

SUFED LOBE, Hind. Dolichos tranquebaricus.

SUFED MIRACH, Hind. White pepper.

SUFED MURGH-KES, Hind. Celosia argentea.

SUFED-MUSLI, Duk., Guz., Hind. Asparagus sarmentosus. See Asparagus filicinus, Moosli.

SUFED-ZIRA, Hind. Cuminum cyminum.

SUFED POLKI, Hind. See Polkee.

SUFED POOIN, Beng. Basella alba, White Malabar night-shade.

SUFED RAI, Hind. White mustard seed.

SUFED SAMBUL, Duk. Arsenic.

SUFED SIMAL, Hind. Eriodendron anfractuosum.

SUFED-SHUKUR-KUND-ALOO, Beng. Batatas leurcorrhiza.

SUFED SIRIS, Hind. Acacia elata.

SUFED-TOOT, Beng. Morus alba.

SUFED TOTA, Guz., Hind. Sulphate of zinc, White copperas.

SUFED TULSI, Duk., Hind., Guz. Basella alba, Ocimum album.

SUFED TULSI, Hind. Ocimum villosum.

SUFFA, a mountain near Mecca.

SUFFAID BEHMEN, By. Centaurea behen, *Linn.*

SUFIR, Arab. Sapphire.

SUFI-SUFIYANA, fabric of silk and cotton mixed, 'lawful' for mahomedans to wear.

SUFOORA, Moses' wife, Zipporah.

SUFRI KUMRA, Beng. Cucurbita maxima, *Duch.*, *W & A.*

SUFUF, Ar. A powder, in medicine.

SUFURA KOOMRA, Hind. Cucurbita ovifera. Vegetable marrow.

SUFURI-AM, Beng. Guava.

SUGAFIUN, Pers., Gr. Ferula persica.

SUGANDA MARICHI, Sans. Piper cubeba.

SUGANDAPALA, Tel. Hemidesmus indicus.—*Rheede*; *R. Brown*; *W. Ic. Contr.*

SUGANDHA VACHA, Sans. Alpinia galanga, *Swz.*

SUGANDA YOGA, Sans. Alpinia galanga, *Swz.*

SUGANDHI PALI, or Pala sugandhi, Tel. Hemidesmus Indicus, R. *Br. W. Contr.*, 63; *Ic.*, 594. Asclepias pseudosarsa, R. ii, 39.

SUGANDI KALLU, Tam. Amethyst.

SUGAR.

Shakr, Sakkar,	Ar.	Soola, Sakar,	Malay.
Kyan,	Burm.	Gula,	Maleal.
Shih-mih-Sha-t'ang,	Chin.	Shakkar,	Pers.
Suiker,	Dut.	Acucar,	Port.
Sucre,	Fr.	Sachar,	Rus.
Zucker,	Ger.	Sarkara,	Sans.
Sakxar, Sakkari,	Gr.	Azucar,	Sp.
Shakkar,	Guz., Hind.	Sakkarai,	Tam.
Zucchero,	It.	Panchadara,	Tel.
Saccharum,	Lat.		

The commercial sugars of Asia are chiefly the products of the Saccharum officinarum, S. sinense, Phœnix sylvestris, Borassus flabelliformis, Cocos nucifera, Arenga saccharifera. Nipa fruticans and Sorghum saccharatum.

Coeval with the use of other vegetable products, for domestic purposes in India, appears to have been the employment of the juice of the sugar-cane; though it would not seem that the ancients possessed any knowledge of the process by which this saccharine matter is converted into a crystallized substance. Every mention made of it, from the various passages in Scripture down to the commencement of the Christian era, is simply that of a 'sweet cane,' or of a "fine kind of honey found in an Indian reed." Nearchus, the admiral of Alexander the Great, was the first who made known the existence of the sugar-cane, in the western world; and from his time we find frequent

allusion to this vegetable product, by Theophrastus, Varro, Dioscorides, and others. Herodotus alludes to "honey made by the hands of men;" but enters into no details. Lucan speaks of the sweet juice expressed from reeds, which the people of India were fond of drinking, and which Pliny calls 'saccharine.' Still later, Arrian, in his Periplus of the Red Sea, alludes to the honey from reeds called sacchar, as an article of trade between the Indian ports and the countries of the Red Sea. The sugar-cane was found in the Crusades growing in the meadows about Tripoli in Syria; and mention is made by a writer of that day of eleven camels loaded with sugar being taken by the Crusaders. Marco Polo, who travelled in the East in the year 1250, found abundance of sugar produced in the province of Bengal; and from the almost universal growth of the cane in that province at the first occupation of the country by the British, there is good reason for believing that its culture had rapidly extended at a very early period. From the earliest European intercourse with India, sugar in a great variety of forms was met with in daily use. No hindoo lives without it, either as sugar, in its natural state, or in cakes called 'jaggery.' Upon the first possession of Calcutta by the E.I. Company there was a flourishing export trade in sugar to the Indian costs, some of the Eastern islands, and a few ports in Arabia and Persia, to the extent of about 1,500 tons; whilst the local consumption of the article was enormous. The quality of this sugar was, however, very inferior; and about the year 1776 some attempts were made to introduce into India the Jamaica mode of growing the cane, and manufacturing the sugar; but at that time these efforts were not attended with any success.

In China, from unknown times, the people have manufactured sugar both from the sugar-cane and from the sorgo-cane. In the reign of the emperor Tai-Tsung, of the Tang dynasty, the method of boiling the crushed cane was introduced into Sechuen and other parts of China from Turkestan or Central Asia. Hence, in China, sugar is called tang, the name of the dynasty being combined with the radical for food. Sugar of various quality, is largely manufactured in the Bengal, Madras, and Bombay Presidencies, from the sugar-cane. A large quantity of the sugar made in India is exported to the Arabian and Persian Gulfs, London, &c. China and Siam sugar is largely imported into Bombay, a good deal of which is re-exported to the above named ports. The value of the exports of this article, between the years 1850-51 and 1860-61, ranged from £ 1,006,514 to £ 1,823,789 as under:

Table showing the quantities (as far as can be ascertained) and the value of sugar exported from all India to all parts of the world from 1850-51 to 1860-61.

Whence Exported	Countries whither Exported.																						Total exported to all ports.		
	United Kingdom.		France.		Other parts of Europe.		America.		China.		Arabian and Persian Gulf.		Aden.		Coast of Africa.		New South Wales.		Ceylon.		Other parts.		Quantity.		Value.
	Qnty.	Value.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.	Qnty.	Val.			
	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	£	cwt.	tons.	£
1850-51	1,488,879	1,709,743	1,508	1,792	178	206	..	..	..	..	85,591	96,245	2,812	2,682	1,545	1,777	4,384	4,212	3,614	4,080	3,120	3,052	1,591,631	79,582	1,823,789
1851-52	1,506,051	1,689,152	4,888	4,364	1,360	1,551	1,735	2,362	..	..	65,653	75,584	1,610	1,825	1,866	2,282	14,758	14,144	7,181	7,520	2,401	2,876	1,607,508	80,375	1,801,660
1852-53	1,356,630	1,605,321	..	..	153	208	3,317	4,123	..	..	59,494	64,877	2,184	2,380	1,999	2,200	41,312	37,527	5,847	5,661	7,111	7,465	1,477,647	73,882	1,729,762
1853-54	952,163	784,658	1,667	2,269	..	..	1,004	1,367	48	65	84,390	92,234	3,729	4,281	2,078	2,286	37,808	44,977	3,995	4,725	1,172	1,524	1,088,084	54,403	938,386
1854-55	708,747	842,317	12,616	17,173	1,411	1,922	14,903	3,148	45	62	121,101	148,682	1,661	2,076	2,262	2,828	71,404	82,127	6,019	6,252	2,771	3,470	942,940	47,147	1,110,057
1855-56	1,066,126	1,092,413	7,771	9,322	12,028	15,834	21,340	28,239	1,100	1,490	83,294	92,097	3,532	3,820	1,534	1,668	67,772	86,534	9,837	10,870	2,727	3,515	1,277,060	63,853	1,345,822
1856-57	1,267,192	1,389,464	43,775	59,278	61,625	83,942	50,263	68,417	4,190	5,704	69,528	83,288	1,693	1,832	2,586	3,232	53,434	72,731	5,504	6,297	8,879	11,891	1,568,671	78,433	1,786,076
1857-58	751,745	896,182	33,244	35,689	13,248	17,874	38,440	49,007	..	..	84,936	103,690	4,436	7,009	2,894	3,473	26,313	32,056	5,040	7,379	1,832	2,319	962,128	48,106	1,154,678
1858-59	896,148	1,145,643	2,681	2,918	3,875	4,594	15,519	26,567	211	287	103,953	125,299	3,259	3,900	3,877	4,653	66,658	89,868	8,813	12,742	9,300	12,694	1,113,794	55,690	1,429,165
1859-60	687,490	780,470	..	..	16,508	23,110	11,756	16,458	130	183	69,755	85,819	3,993	4,955	1,225	1,470	48,697	68,048	6,682	8,790	13,768	19,211	860,001	43,000	1,006,514
1860-61	696,012	825,710	225	115	16,326	34,491	19,711	29,566	365	548	59,743	74,804	4,874	6,382	1,484	1,827	34,221	51,331	9,566	12,593	3,434	5,049	845,961	42,299	1,032,416

In the Punjab, the kinds of sugar usually met with are :—

Gur, Shakar surkh, Khand, or shakar tari, sugar, Bura or chini, amorphous, white moist sugar. Misri, refined sugar, more or less crystallized.—*Powell's Hand-book, Vol.* i, *p.* 306 ; *Cat. Ex.* 1862.

SUGAR CANDY.

Ping-t'ang,	CHIN.	Shakr-kand,	HIND.
Chini,	HIND.		

Is made in China by crystalizing the raw sugar ; the best comes from Fukien, called Chinchew, from which province, especially through the newly opened port of Amoy, the exportation is likely to increase. It was for the most part carried to India, but has ceased to be introduced since the customs duties have been altered : Pingfa sugar is the name given to the pounded sugar candy ; Pingfa means 'crystal flowers' and is applied to this sort, because it is the ping taug, or candied sugar made fine. It was formerly carried to the United States, and to India.

SUGAR-CANE. Saccharum officinarum.

Kassib shakar,	AR.	Kumad,	HIND.
Ghanna,	DEK.	Ukh,	„
Oons,	GUZ.	Shakkar,	PERS.
Gundari,	„	Kairam-boo,	TAM.
Nai,	HIND.	Sherakoo,	TEL.

The sugar-cane thrives from the equator to the 32° of latitude. It is one of the largest of the grasses, growing from 8 to 12 feet in height, and acquiring a diameter of one to two inches ; the sugar being contained in the loose cellular juicy pith, with which the stalk is filled. The sugar-cane says Mr. Colebrooke, whose very name was scarcely known by the ancient inhabitants of Europe, grew luxuriantly throughout Bengal in the remotest times. From India it was introduced into Arabia, and thence into Europe and Africa. In the Lahore district is a purple cane, called, "kumad kala," a hard thin cane, called kumad lahori, another called "kata" and others the plants of which were obtained from Jalandhar and Saharanpur. In Gujranwalla, are three kinds of cane, "daula," "treda," and "chinkha." Daula, or white, is the best, treda is yellowish, chinka, which is reddish and small, produces good kand and chini, moist sugar. Sugar-cane, was brought to Ceylon from the Mauritius by a merchant of Colombo about 1832, and is the only article the manufacture of which has been introduced into Ceylon by Europeans. The first canes were planted in the Central province, in the valley of Dambera. At the Aska works, the mill is dispensed with, the cane being cut into thin slices and the saccharine contents of its cells being extracted by bringing the slices into contact with water at an elevated temperature. The water extracts only the soluble substances contained in the juice of the plant, while most of the impurities—which in the ordinary process pass into the juice, and must be subsequently removed at great expense—are left in the unbroken cells of the cane and do not contaminate the juice. By this process, it is said, the extraction can be carried so far that 95 per cent. of all the sugar contained in the cane is passed into the clarifier, while the best roller mills at present in use do not extract more than 75 per cent. of the sugar contained in the cane, and the average West Indian practice is an extraction of less than 60 per cent. The diffusion process thus not only improves the quality of the sugar but produces an increased out-turn of 20 per cent. In commerce, sugar is met with in different degrees of purity, from common brown, to double refined and crystallized ; each quality being generally characterised by a distinctive appellation.—*Cal. Cat. Ex.* 1862 ; *Mad. Ex. Jur. Rep.*; *Les Anglais et l'Inde, p.* 246 ; *Faulkner* ; *Ward on the Hindoos, Vol.* iii, *p.* 113 ; *Powell's Hand-book, Vol.* i, *p.* 304.

SUGAR OF BAMBOO, see Tabasheer.

SUGATA, see Inscriptions, Lama, Sakya muni.

SUGATAM GACHHATO, see Inscriptions.

SUGBINUJ, ARAB., GUZ., HIND. Ferula persica, sagapenum.

SUGHANDA-MARICHU, SANS. Cubebs.

SUGHANDHI PALA. TEL. Hemidesmus indicus.

SUGHDA, see Arians.

SUGHERE, also Suvero, IT. Cork.

SUGMOONIA, ARAB. Convolvulus scammonia, *Linn.*

SUGO DI REGOLIZIA, IT. Liquorice.

SUGORIA, HIND. Hyelaphus porcinus, *Sundev*, Axis porcinus, *Jerd.* See Hog deer.

SUGRIHITA NAMNA ARYA CRHANAKYASYA, is a phrase of constant occurrence in the Sanscrit dramas, and indicates the importance attached, not to well-sounding, but to lucky or propitious appellations. This superstition was common amongst the nations of antiquity ; and, according to Cicero, care was taken in the lustration of the people, that those who conducted the victims, and on the formation of the army that the first soldier on the muster-roll should have auspicious names. Cum imperator exercitum, censor populum lustraret, bonis nominibus qui hostias ducerent, eligebantur, quod idem in delectu consules observant, ut primus miles fiat bono nomine.—*Hind. Theat., Vol.* ii, *p.* 160.

SUGRIVA, a monkey prince, and friend of Rama. See Vishnu.

SUGUDI KULLU, TAM. Amethyst.

SUGUNDI, SANS. See Kilioorum bark.

SUGUR GUSHT, HIND., dawn of day perambulation.

SUGARA, or Sagara, SANS., from sa, with, and gura, poison.

SU HERMÆUS, see Greeks of Asia.

SUHAILI, ARAB., from Sahilah, a sea shore, a name given to the African races dwelling along the coast to the south and north of the Straits of Bab-el-Mandeb, also applied to those on the Morocco coasts. See Semitic Races, Somali.

SUH-GING, *Less.* Nemorhœdus goral, *Jerd.*

SUHI GANDAL, HIND. Lahore, see Sittu.

SUHOKTEE, or Sahokti, SANS., from saha, with, and ooktee, a word.

SUHNUK, or Sanuk. See Fateeah.

SUHNUK K'HANAY WALAY, partakers of the lady's dish.

SUHOORA, HIND. Epicarpurus orientalis.

SUHOYUM, KASHM. The burning ground mentioned by Abul Fazl in the Ain-i-Akbari. It lies near the village of Nichi-Hama, in the pergunnah of Muchipora, at the north-west end of the valley of Kashmir, where the plain is about 6,100 feet in height. Flames frequently issue from the spot.—*Vigne.*

SUHRAI, PERS., water of the desert.

SUHUR, or Suhurgahee, HIND., dawn of day, breakfast during Lent, so called.

SUHASRANGSHOO, or Sahasrangshoo, SANS., from sahasra, a thousand, and angshoo, rays of light.

SUHASRAKSHA, or Sahasrakshoo, SANS., from sahasra, a thousand, and akshee, the eye.

SUHTONG, LEP. Felis tigris, *Linn.*

SUHU-TUM, LEP. Cuon rutilans.

SUHAI, or Sahai. There are four grand officers of the government of Mewar, viz., the Purdhan, or prime-minister; Bukshee, commander of the forces; Soorutnama, keeper of the records; Suhaie, keeper of the signet, or rather, who makes the monogrammatic signet "Suhaie" to all deeds, grants, &c.—*Tod's Rajasthan, Vol.* i, *p.* 479.

SUI of Kangra, a tailor.

SUI, GUZ., HIND. Needle.

SUI-CHUKA, HIND. Anethum graveolens, *Linn.*

SUICIDE. The practice of 'traga,' or inflicting self-wounds, suicide, and the murder of relations, formed a strong feature of the manners of the people of Rajpootanah. The practice, was common in Kattiwar to the bhat and charan of both sexes, and to brahmans and gossein, and has its rise in religious superstition, and although tragas seldom wore a very formidable aspect, still they were sometimes more criminal, by the sacrifice of a greater number of victims. The traga ceremony borders much upon the brahman practice of dharna, but is more detestable. The charan, besides becoming security for money on all occasions, and to the amount of many lacs of rupees, also become what is called fa'il zamin, or security for good behaviour, and hazir zamin, or security for the appearance.

SUIDÆ, the hog family of mammals. See Babirussa alfurus of the Archipelago. Boar; Sus.

SUIF, FR. Tallow.

SUIKER, DUT. Sugar.

SUIMINTA, properly Sominta, TEL. Æschynomene sesban, *Linn.* Syn. of Sesbania ægyptiaca, *Pers.*

SUIRA, HIND. Epicarpus orientalis, *Blume.*

SUJA O DOWLA, the vizier of Oudh, in 1764, under the pretence of assisting Meer Kassim Ally, invaded Behar, but his army was completely routed, and the vizier was obliged to throw himself on the generosity of the British. Nujum o Dowla, died on 8th May 1766, and was succeeded by his brother Syf ud Dowla, a youth of sixteen. Syf ud Dowla was succeeded in 1770 by his brother Mobarik ud Dowla, with whom a new engagement was made. By this engagement the nabob's stipend was fixed at 31,81,991 Rs. This is the last treaty which was formed with the nabob. The office of subadar had now become merely a nominal one, all real power having passed into the hands of the E.I. Company. In 1772 the stipend was reduced to sixteen lakhs a year, at which rate it is paid to this day. Bengal was declared to be the chief presidency on the 16th June 1773. By the treaty of 22nd February 1845 with Denmark, the British government obtained possession of Serampore.—*Aitchison's Treaties, &c., p.* 5.

SUJAKARA, CAN. Soda.

SUJANA, also Suhanjana, HIND. Hyperanthera moringa, Moringa pterygosperma. See Horse radish, Moringa.

SUJDAH, or Sijidah, AR. In the ritual of mahomedan prayer, a single 'prostration' with the forehead touching the ground. It is performed from a sitting position, after the Dua or supplication that concludes the two prostration prayer. Some of the Ulema, especially those of the Shafei school, permit this 'Sujdah of thanks' to be performed before the prostration prayer, if the visitor have any notable reason to be grateful.—*Burton's Pilgrimage to Mecca, Vol.* ii, *p.* 67.

SUJI, or Sooji, groundwheat. See Soojie. Wheat.

SUJNA, BENG., HIND. Hyperanthera moringa.

SUKA, MALAY, see Johore.

SUKA-KI-BIJ, HIND. Cannabis sativa.

SUKBINUJ, Arab. Sagapenum.

SUK-CHINA, Beng. China root.

SUKCHU, or Sucheu, in Kansu province, towards the Great Desert, called Sukchu by Shah Rukh's ambassadors, and Sowchick by Anthony Jenkinson.—*Yule Cathay, Vol.* ii, *p.* 268.

SUK-EL-SHUYUKH, see Chaldea.

SUKHADASS, see Oriza sativa.

SUKHA GHANS, Hind. Hay.

SUKHANAND, Hind. A kind of rice.

SUKHARA, Saiva mendicants, distinguished by carrying a stick three spans long. They dress in a cap and petticoat stained with ochery earth, smear their bodies with ashes, and wear ear-rings, of the rudraksha seed ; also over their left shoulder a narrow piece of cloth dyed with ochre, and twisted in place of the zonar. They use the word A-lakh. See Rukhara, Ukhara.

SUKHAT, Dan. Citron.

SUKHCHAIN, Hind. Pongamia glabra.

SUKH DARSAN, Beng., Hind. Crinum defixum, *Ker.*, also Crinum asiaticum, *Willd*, C. zeylanicum and Amaryllis grandiflora.

SUKHDAS, or Sudas, a variety of rice.

SUKHEE BHUVUS, see Mendicants.

SUKHET. The petty chiefships of Mandi and Sukhet were originally a single state, bounded by Kangra on the west and Kullu on the east, and by the Dhaoladhar mountains on the north and the Sutlej on the south. Mandi means the 'market,' and its favourable position on the Beas river, at the junction of the two roads from the west and south, must have ensured its early occupation, which was rendered prosperous and lasting by the existence of valuable mines of iron and black salt in its immediate vicinity.—*Cunningham's Ancient Geog. of India, p.* 143.

SUKHI HARI, Hind. Aconitum heterophyllum.

SUKH SEN, see Bengal.

SUKHTAWA, a river near Shapoor in Baitool.

SUKHUR, Pers. Pistacia terebinthus.

SUKH, or Sank'h, Duk. Chank-shells.

SUKH, Turk. Horse.

SUKKA BUMMI, Tel. Catharanthus pusilla, *G. Don.* Vinca parviflora, *Willd.*—*R.* ii, 1—*Rheede*, ix, 33.

SUKKAN KIRE, Tam. Rumex vesicarius.

SUKKAPAT, Hind. Monetia tetracantha.

SUKKARA VELLI-GADDA, Tel. Convolvulus batatas.

SUKKARE VALLI KALANG, Tam. Convolvulus batatas.

SUKKEE LURWAR, see Khyber.

SUKKU, Tam. Ginger.

SUKKUNAROO-PILLOO, Tam. Andropogon iwarancusa.

SUKKUR, a river near Bhowani in Gurrawarra.

SUKKUR, a town on the borders of Baluchistan, Sind and Affghanistan, near Bukker. Its heat is proverbial .Ai Allah ! duzakh chon sakhti keh Sukkur hasti ; Oh Lord why did you make hell, when you possess Sukkur. Opposite Sukkur is the old town of Rori, built high and overhanging the stream. In the centre of the stream, nearly opposite Rori, is the celebrated fort of Bukkur ; and on the western bank Sukkur now designated " Victoria on the Indus."—*Postan's Personal Observations, pp.* 30-31.

SUKKUR, Arab. Sugar.

SUKKUR-AL-ASHUR, Arab, see Calotropis.

SUKKUR-KUNDA-ALOO, Beng. Batatas paniculatus.

SUKMUNIA, Arab. Scammony.

SUKNAM, Lep. Ailurus fulgens, *F. Cuv., Bly., Hard.*

SUKRA, Shuni or Sani. See Brahminicide, Graha.

SUKTA, Sans. A division of a hymn, the worship of the Vedic race is briefly but comprehensively described by themselves, where it is said, 'the standers around associate with (Indra) the mighty (sun,) the indestructive (fire), the moving (wind,) and the lights that shine in the sky.'—*Asht. I, Adhy. I, Sukta,* 6. See Aryan, Hindoo.

SUKTI or Sacti, in hindooism, the female energies of the hindoo gods, the wives of the gods, thus the sacti of Brahma is Saraswati of Vishnu, Lakshmi and of Siva, Parvati.

SUKU, Lep. Cervulus aureus, *Ham.*

SUKU KADA, Tel. Bigelowia lasiocarpa, *W & A.*

SUKUM, Malay. Artocarpus integrifolia.

SUKUN-KHOR, Hind, Manis pentadactyla, *Linn*

SUKUR, a river of Nagpore.

SUKUR KUND, Duk. Convolvulus batatas.

Sweet potato, Eng | Nuttur Aloo. Hind.

A sweet-tasted nutritious root, of which there are two sorts, red and white. The tubers are long, and, when boiled or roasted, very wholesome. They are sown precisely in the same manner as a potato, after the hot season, and are fit to be taken up in six months.—*Riddell.*

SUKUS, Malay. Clans. See Johore.

SULA, Hind. A pointed stake or weapon, Trisula, a trident.—*Wils.*

SULAEE, Hind., a probe, needle, or piece of wire used for applying soorma to the eyes.

SULALI, Hind. Populus ciliata.

SULAM, Ar. Peace, a mahomedan salutation of which there are several kinds, viz.

Sulam Bundugee.
Sulam Koornish.
Sulam Tusleem, or Tusleemat.
Sulam Qudumbosee, or Zumeenbosee.
Sulam Sashtung (prop. Hashtang.)
Sulam Gullay-milna, or embracing.

. Us-sulam-oon-alei-koom-Ruhmut-Oolahe,*ie.* The peace and mercy of God be with you all.

It is incumbent upon all mahomedans to return the words Aleikoom-us-sulaam to the salutation "Salaam Aleikoom ;" or, ("peace be with you !") of a true believer, whatever be his rank.—*Fraser's Journey into Khorasan, p.* 81.

SULAMBRA, Hind. Odina wodier.

SULAMEE, a present given on particular occasions to persons making a sulam.

SULEA, Hind. Polynemus sela, a fish of the Ganges river yielding isinglass. Russian isinglass is prepared from the sounds of the Sturgeon Accipenser sturio, found in the Caspian and Black Seas and their tributary rivers. In America, from the Labrus squeteague, the intestines of the cod, Morrhua vulgaris ; and in Calcutta, from the sounds of the Polynemus sela, the Sulea of Bengal. The sounds of two Madras fish are so employed. The following are the principal species of fish from which Russian isinglass is derived—Acipenser huso or the Beluga, A. Gouldenstadtii or the Osseter, A. Ruthenus or the sterlet, A. stellatus or the Sewruga; Silurus glanis and Ciprinus carpio. In addition to the above isinglass is obtained in different parts of the world from several other kinds of fish. In New York from the Labrus squeteague of Mitchel. In New England it is procured from the intestines of Morhua vulgaris or the common cod. In the Brazils it is obtained from a large fish, probably a species of Silurus, and in Iceland from the cod and Lota Moloa or Ling.—*O'Shaughnessy, p.* 685.

SULEMANI, a range of hills near the Khyber.

SULFAH, Hind. A sort of hukka.

SULFURE d' ANTIMOINE, Fr. Sulphuret of Antimony.

SULFATE DE CUIVRE, Fr. Sulphate of Copper.

SULFATE DE FER, Fr. Sulphate of Iron, Green vitriol or Copperas.

SULFATE DE ZINC, Fr. Sulphate of Zinc, White vitriol.

SULFURE DE FER. Fr. Pyrites.

SULFURO d' ANTIMONIO, It. Antimony.

SULFURE ROUGE DE MERCURE, Fr. Cinnabar.

SULI, Hind. Euphorbia royleana.

SULIMAN, a merchant who made several voyages to India from the Persian Gulf, of which he wrote an account A. D. 851 (A. H. 237) and this was continued by Abu Zaid. He visited India when Balhara was ruled by the Ballabhi sovereigns.

SULIMAN MOUNTAINS form the western boundary of the British provinces west of the Indus and extend from Lat. 34° N., southwards for about 350 miles. The Takht-i-Suliman their loftiest peak rises 11,000 feet high. They run from near Koh-i-Baba peak, due south and form the water-shed between the Indus and the Helmand. The axis of this chain runs close to Ghazni, which is elevated 7,726 feet, and to Quetta 5,540 feet. The highest part of the chain is near the Koh-i-Baba. It is called the Safed Koh, and is 14,000 feet high. Near Ghazni it is 9,000 to 10,000, and near Quetta, the same, the peak of Chahal-Tan being 10,500 feet. The Takht-i-Suliman near Dera-i-Ismael Khan is 11,000 feet. From L. 33° 40', they run nearly S. in the 70th meridian of long. to the mountains about Hurrund and Kahun, in lat. 29°. The highest elevation, Takht-i-Suliman, is called also Khaissa-Ghur, lat. 31° 35'; 11,000 feet. The E. face dips rather steeply to the Indus, but the W. declivity much more gradual, to the table-land of Sewestan. The sides of mountains are clothed nearly to the summits with dense forests ; valleys overgrown with a variety of indigenous trees, shrubs and flowers. From Tank down to Sind, the most important features in the range of hills are the three "Tokes." These Tokes are the narrow precipitous defiles separating the outer from the inner range. In places their gorges are so confined as to resemble fissures in the rock, not more than ten yards wide. The passage is most difficult, being interrupted by rocks running right athwart the defile ; occasionally it widens out, and the bed thus formed is choked up with sand. These glens, almost impassable to strangers, can be easily footed by mountaineers and their horses. From these defiles, running parallel with the outer range, there are numerous outlets opening into the plains. The base of the hills is skirted by a "mehra," or open uncultivated plain from ten to twenty miles broad, having villages on either side ; it becomes contracted towards the south, near Dera Ghazee Khan. In this vicinity it is overgrown with brushwood, but elsewhere it is generally a naked waste, without any sign of life or vegetation. The villages adjoining this sterile strip are far apart and more or less fortified. Their cultivation is scattered, and depends for irrigation not on wells, but on tanks, and on the

mountain-torrents rudely trained to descend in steps and terraces. The alluvial line of the Indus differs little from that of the other rivers, except that the floodings are more wide spread and more impetuous. On the right bank are the Derajat, or encamping grounds of Ismael, Futteh and Ghazee Khan, all chiefs in the great Affghan invasion of the last century. Dera Ghazee Khan is a lovely spot, surrounded by date-groves. Besides these, are Kalabagh at the termination of the Khuttuk hills, and Mithunkote at the confluence of the five rivers.—*Rep. Roy. Com.*

SULIMANIA is the capital of a district now bearing its name, but which, formerly, was known by that of Kara-Choran, or that of Babana. It stands in lat. 35° 28′ 28,″ long. 45° 17′ 3,″ and is also the metropolis of South Kurdistan. The situation is central, being at the foot of the Shar-i-zool mountains, the ancient Siozuros chain, the remains of the old capital, which bore their name, lying in ruins on their eastern side. It was also the ancient city of Siazuros; but having fallen into utter decay, the present town was built about A. D. 1,800 by Suliman, the celebrated pasha of Bagdad, and took his name. The people of this district are, in general, of low stature, but well proportioned, robust and healthy; and of a much fairer tint than the swarthy Arabs, or their Kurdish brethren in the neighbourhood of Kermanshah. Their physiognomies do not indicate the shrewdness which marks the tribes more to the southward. The plain of Sulimania appeared open to the south, where it has for its boundaries the snow clad mountains of Avroman, which are a part of Taurus and Zagros. These mountains are the frontier between the territory of Sulimania and that of Sinna, a province of Koordistan under the Government of Persia. That part of Mount Goodroon which is just over Sulimania is called Azmir. The summit consists of a hollow, or basin, in which the snow lodges and consolidates into ice. A perpetual store of ice is thus kept ready for the use of the inhabitants of Sulimania, who make great use of it during the summer to cool their fruit, sherbets, water, &c. Naphtha springs and a burning hill, are a little way out of the direct road to Sulimania, a range of low hills crowned, with a regular line of rock rising from their clayey and sulphurous brows. On the side of one of these hills, and which faces the north-west, Strabo describes the situation of the naphtha springs. They are ten in number. For a considerable distance from them the air is felt to be sulphurous; but in drawing near, it became worse, and all were instantly struck with excruciating head-achea. The springs consist of several pits or wells, seven or eight feet in diameter, and ten or twelve deep. The whole number are within the compass of four or five hundred yards. A flight of steps has been cut into each pit for the purpose of approaching the fluid, which rises and falls according to the dryness or moisture of the weather. The natives lave it out.—*Porter's Travels, Vol.* si, *pp.* 440, 448-49; *Rich's Residence in Koordistan, Vol.* i, *pp.* 63-64; *Mignan's Travels, p.* 329.

SULIMAN KHAIL, a tribe of Affghans who occupy the district which ranges from north to south on the Ghuzni side of the pass. There are said to be about twelve thousand of them, nearly all thieves, but not so bloodthirsty or formidable as the Waziri of the mountains near Derabund. They will not kill a man in cold-blood without reason, and their attacks rather resemble those made by the nightly prowlers of India, who creep into your house or tent, and steal a ring from your finger, or take a sheet from under you, without waking you. The Suliman Khail were in possession, Vigne was told, of a million of sheep and they paid a yearly tribute of one camel, for every forty men, to Dost Mahomed Khan. Their country extends from north to south, for seven or eight caravan marches, between Ghuzni and Kandahar and for two or three from east to west. Once a year, in the winter season, they send a kafila of three or four hundred camels into the plains of Derabund and Derah-i-Ismael Khan. The Ghilzye is next to the Daurani tribe in importance. It has eight divisions or sub-tribes, or clans, viz., the

Hotuki,	Ali Kheil,	Turruki, and
Tokhi,	Subak,	Kharoti.
Suliman Kheil,	Under,	

Of these, the Suliman Kheil is the most important numbering from 30,000 to 35,000 families. General Cunningham thinks it not improbable that the district of Falana or Barana, may have some connection with that of the great division of the Ghilzye tribe named Buran, as the upper valleys of both the Kuram and Gomal rivers, between Ghuzni and the Sulimani mountains, are now occupied by the numerous clans of the Sulimani Kheil, or eldest branch of the Buran. But Vana, or Wana, as the Affghans call it, is only a petty little tract with a small population, whereas Banu is one of the largest, richest and most populous districts to the west of the Indus.—*Vigne's A Personal Narrative*; *Cunningham's Ancient Geog. of India, p.* 85; *Records Govt. of India.* See Abdali, Affghan, Kaker, Kashmir, Kaysar, Khyber, Nasiri.

SULISADATTA, see Inscriptions, Junir, Karli.

SULJUK. In the beginning of the fifth century of the Hejira, the Suljuk Tartar appeared in Khorasan, and in the short space of ten years, wrested that kingdom from the house of Ghaznavi. It was ceded to Alp Arslan, and constituted a part of the Seljukide dominions, until the extinction of that race, about 150 years posterior to Togrul Beg having assumed the title of emperor.

SULKEA, a town on the Hooghly river.

SULLA, also Sullah, Surul, and Thausa, HIND. Pinus longifolia.

SULLA, a wood of Nepaul, see Bechia cori.

SULMA, a peculiar kind of gold tinsel for embroidery. Gold and silver thread used in making turbans, slippers and hookahs.

SULMANIA, see Kidder.

SULOOPHA, or Sulpha, BENG, HIND. Anethum sowa.

SULPHATE DE CUIVRE, FR. Sulphate of copper, blue stone. See Copper.

SULPHATE DE FER, FR. Sulphate of iron. See Iron.

SULPHATE DE MAGNESIE, FR. Magnesiæ sulphas.

SULPHATE DE SOUDE, FR. Sulphate of soda. See Soda.

SULPHATE DE ZINC, FR. Zinci sulphas, white copperas.

SULPHATE OF BARYTA, Heavy spar.

SULPHATE OF COPPER, or Blue vitriol, is made at Umritsur by boiling sheet copper in oil of vitriol. Sells at 8*d*. per lb. It is the Nilatutya of the bazaars and is an impure pale blue salt, and might easily be purified by re-crystallizing ; but there is also in most bazaars some very pure sulphate of European manufacture. See Copper.

SULPHATE OF IRON.

Green copperas,	ENG.	Kahi,	HIND.
Green vitriol,	,,	Heera kasis,	,,

Is procured at Pind Dadun Khan, and is said to be dug out of the ground in large masses, alsosaid to be produced by concentrating the mother liquid, from which alumina has crystallized out, and it therefore contains much sulphate of alumina with sulphate of iron, and other impurities. A Belgium horticulturist, named M. Dubreuil, has recently discovered that wonderful results may be obtained by watering plants of every kind with a solution of sulphate of iron. Even the growth of fruits may be promoted in an extraordinary degree by the same process. M. Dubreuil brought fruits to enormous size by watering with sulphate of iron. The trees or bushes should be watered three times in succession, after the fruit has attained about one-quarter of its development, and when not exposed to the influence of the sun. The sulphate is used in the proportion of one gramme (about the 24th part of an ounce) to one litre (about a gill less than a quart) of water.—*Cat. Ex.*

SULPHATE OF LIME, ENG. Gypsum.

SULPHATE OF MAGNESIA, see Magnesia.

SULPHATE OF QUININE, see Cinchona.

SULPHATE OF SODA, Kharinoon, effloresces on the soil of Tirhoot and Sarun in the province of Behar. See Soda.

SULPHATE OF ZINC, see White copperas.

SULPHIDE OF ANTIMONY, or Surma, is used by the natives of the south of Asia as an application to the eyelids, either solely for appearance or with other substances as a medicine. But under the name surma many substances are supplied, especially the sulphuret of lead, the sesqui-oxide of iron, and occasionally bin-oxide of manganese ; while the name 'surma safaid' is usually applied to calcspar, carbonate of lime, and sometimes to sulphide of lime or gypsum. Men use the surma: women the kohl or lamp black.

SULPHUR, from Sal salt and pur fire.

Kibreet, cholok,	AR.	Balirang,	MALAY.
Kan,	BURM.	Blerong or balerang,	,,
Shih-liu-hwang,	CHIN.	Gowgird,	PERS.
Brimstone,	ENG.	Gandhaka,	SANS.
Soufre,	FR.	Gundaka,	SINGH.
Schwefel,	GER.	Azufre,	SP.
Gaogird, Gandak,	HIND.	Sanyaya,	TAG.
Solfo, Zolfo,	IT.	Gendagum,	TAM.
Walerang,	JAV.	Ghendagum,	TEL.

The great repositories of sulphur are either beds of gypsum and the associated rocks, or the regions of active or extinct valcanoes. In the valley of Noto and Mazzaro in Sicily, at Conil near Cadiz in Spain, Bex in Switzerland, and Cracow in Poland, it occurs in the former situation. Sicily and the neighbouring volcanic islands, Vesuvius and the Solfatara in its vicinity, Iceland, Teneriffe, Java, Hawaii, New Zealand, Deception Island, and most active volcanic regions, afford more or less sulphur. The native sulphur of commerce is brought mostly from Sicily, where it occurs in beds along the central part of the south coast and to some distance inland. It is often associated with fine crystals of sulphate of strontian. It undergoes rough purification by fusion before exportation, which separates the earth and clay with which it occurs. Sixteen or seventeen thousand tons are annually imported from Sicily into Britain alone. Sulphur is also exported from the crater of Vulcano, one of the Lipari islands, and from the Solfatara near Naples. It is also found in the United States of America, on the Potómac, and in districts where sulphuretted hydrogen is evolved from

mineral springs. Sulphuric acid is said to occur in the waters of the Rio Vinagro in South America, also in Java, and at Lake de Taal in Luzon in the eastern islands. About thirty miles north of Andipore in Upper Hindustan, it is met with, but of a quality inferior to that brought from the Gulph of Çutch and Persia. In Tenasserim, sulphur only exists in the ores that are found in the form of sulphurets, as the sulphuret of iron, the sulphuret of antimony, the sulphuret of lead, and the sulphuret of copper ; but native sulphur has not been found in the provinces. Sulphur from Canara and Nellore at the Madras Exhibition was of fair quality, and in pure though small crystals. This substance is found in small quantities, in several districts of the Madras presidency, as Salem, Masulipatam, Guntoor, Cuddapah and Trichinopoly ; it occurs along with Gypsum in marl and clay beds, and also very largely in the form of metallic sulphurets. The natives are acquainted with the modes of subliming sulphur, and they prepare it of indifferent quality for the manufacture of the gunpowder, which is used for engineering purposes, &c. Dr. Heyne met with sulphur in small heaps and in tolerable abundance, at the northern extremity of a lake which is near a small village called Soorasany yanam, about 12 miles east from Aumlapore, and not far from Maddepolem. It was in a loose soft form, or in nodules of a greyish yellow colour. The greater part of the sulphur, which is exposed for sale in the Indian provinces, is brought from Muscat, from Sumatra, or from the Banda island called Gonang-api, where it is a volcanic production. In China, Dr. Abel had some most beautiful and splendid native sulphur brought to him from the crater of Gunang karang. The Chinese obtain their supplies from the volcanic districts of Turfan, Tangut and Seshuen and from Satsuma in Japan: but formerly it was brought as tribute from Siam and Sumatra. We know that it is a product of the Philippine islands particularly in the island of Zeyti, whence the gunpowder works of Manilla are supplied : most of the sulphur brought to Hindustan contains a considerable portion of orpiment, being much less pure than either that which is dug out of the Solfaterra near Naples, or that imported from Sicily, which last, Dr. Thomson says, contains seldom more of impurity than about three per cent. of a simple earth. A bright shining yellow sulphur is sold in the bazaars of Lower India under the Tamil name of Nellikoya gundagum. In Nepaul sulphur is plentiful: this useful article is also found in Persia in mountains behind Takran also in mountains south of Kelat in the province of Mekran. It is met with in Cabul, in the district of Balkh, it is also a product of China and Tibet ; also, according to Morier, at Baliaulia in Persia. Sulphur is found in all the volcanoes of the Archipelago in great purity, but the manufacture of gunpowder amongst the Malays is very imperfect. In the district of Oudipur in Upper India, it is to be met with, but of a quality inferior to that which is brought from the gulphs of Cutch and Persia. In Travancore it was discovered by Captain Arthur, of the corps of Engineers, in combination with iron, in the form of pyrites, and also in combination with alum. In Cotiole (in Canara) too, he was told, it may be procured. The greater part of the sulphur, however, exposed for sale in the Madras provinces, was in Ainslie's time brought from Muscat, from Sumatra, or from the Banda island Gonang-api. Sulphur is in the Malay balirang, and in Javanese walirang, essentially the same words. This name extends from Sumatra up to Celebes, where we find a new one for it, cholok. In one of the languages of the Philippines, the Tagala, strangely enough the name is sanyaya, which is, no doubt, a corruption of the Malayan word sandawa, saltpetre. In the Bisaya as well as in the Tagala, the name for gunpowder is maliling, doubtless a corruption of the Malay and Javanese name for sulphur. In the Madagascar, the name for it is sulifara, a corruption of the French soufre, from which it may be safely inferred that the article was unknown to the natives of this non-volcanic island until brought to their knowledge by Europeans. It is hard to say to what use the natives of the Malay Archipelago could have put sulphur, before the introduction of fire arms, unless to the manufacture of fire-works, known by the native names of marchun and rabok. The Malay and Philippine Archipelagos, the most extensive volcanic region in the world, must necessarily contain a vast supply of sulphur, but hitherto it has been very little availed of for economic use. From the Philippines alone it is exported, the export being to China only, and at the price at Manilla usually of about a Spanish dollar of *4s. 2d.* a cwt. Among these islands, those which most abound in it are Luzon and Leyte, but particularly the last, where the article is of the best quality. A Spanish writer asserts that the quantity is such at the volcano of Taal, or Bombon, in the province of Botengas in Luzon, that many ships might be loaded with it. The difficulty, in all these cases, of obtaining a cheap supply, must arise from the absence of good roads, and the consequent costliness of transport. Sulphur, somewhat mixed with impurities, occurs in the Murree

hills, and the Sulaiman hills near Dera Ismail Khan, at Kalabagh. It is found extensively throughout the salt range, and is manufactured also at Kubat. The valley of Puga, in Ladakh, from whence borax is obtained, yields also sulphur. The Puga sulphur mine is situated a short distance from the Rulangchu, a small stream which is full of hot springs and runs into the Indus, at the foot of a gypsum cliff. It is probable that the sulphur has been deposited in crystals, and is still deposited in the same manner in the fissures of the mica schist by loaded aqueous vapours. Besides the numerous springs charged with sulphuretted hydrogen, and which deposit sulphur on the rock over which they pass, and on the grass and weeds by their sides, sulphur in a mineral form occurs near the surface of the nummulite limestone at Jabba, a little above the petroleum springs, in a white porous gypsum, which has evidently been formed by the decomposition of the limestone, unaltered pieces of which are still imbedded in it. Sulphur also occurs near Panobar, 4 miles from Shadipur on the Indus. The crystals of native sulphur picked out of the rock are called "aunlisar." Mrs. Hervey visited the mines of sulphur and borax or sohaga, from which two hundred cutcha maunds of sulphur were annually sent to the maharaja of Kashmir, to whom these mines solely pertain. She saw the rocks whence the sulphur had been dug out, and she also went to see it manufactured into cakes, in the form sent to the maharajah. Two or three men were putting the sulphur into copper vessels, placed over a good strong fire, to dissolve and refine it. After being allowed to cool, these sulphur cakes are of a crescent-shape, and quite hard. There are numberless hot springs all over this valley, the temperature of the water varying from 130° to 169° fahrenheit. Close to a hot spring, the rest of the water was quite cold, about 53°. A rather deep stream runs through the Puga valley. Sohaga, or unrefined borax, is also found all throughout this valley. It is in large quantites beneath a white, salt-like deposit, which covers the surface of the ground for a mile and a half in breadth, and a couple of miles in length. This is called the "Puga valley." This white stuff resembles snow at a distance; when examined closely, it is not unlike Sal ammoniac in appearance, as well as taste. Close to the hot springs it is curious to observe the sulphur forming in masses. The borax is sold in large quantities by the Roopshoo people, and if the trade were properly carried on, it might prove a source of great wealth. Considering these profitable resources, the tax levied on the wandering Tartars, by the Maharajah is less heavy (in proportion) than the imposts extorted from his Kashmirian subjects. This valley alone must bring the people of Roopshoo (even as they manage) fifteen hundred or two thousand rupees per annum. The sulphur mines, if diligently and properly worked, would yield thousands of "maunds," instead of the "two hundred" now exported, and they would be a great source of wealth in the hands of any able government. The people are not permitted to sell any of the sulphur, as it belongs exclusively to the Government. Near the little green plot at Puga on which travellers generally encamp is one of the sulphur and borax mines. Here she found several men and boys employed melting the minerals, the former in shallow basins. The hollow in the rock was only a few feet from the surface, and lined with beautiful octohedral crystals of sulphur, more or less mixed with white powder or crystallized borax. Sulphur is called in the Punjab, "gandhak," "gogird," or "kibrit." When in a vitreous state it is called aunlasar, which term means like the "aunla," fruit of the emblic Myrobalan. It is sometimes called "chachya," when in the form of "flower of sulphur," in which state it is first obtained from the ore by sublimation: roll sulphur is occasionally imported.

Immediately above the open plain in which Dr. Thompson joined the Indus, it would appear to have a very rocky and rugged channel. He followed up the left bank of the Indus, which gradually assumed a more northerly direction. The mountains on both sides approached more closely to the river and those on the right continued extremely lofty. The river now flowed more rapidly, and was often wider and more shallow, one rapid was not less than 150 yards in width. Banks all alluvial clayey conglomerate were usually interposed between the mountains and the river, forming cliffs which attained not unfrequently an elevation of fifty feet. Advancing up the stream he found that numerous hot springs rose on its banks, and sometimes under the water. The hottest of these had a temperature of 174.° From these springs gas was copiously evolved, smelling strongly of sulphur; he noticed fish in the water of Pugha, at an elevation of nearly 15,500 feet above the level of the sea, thus indicating that air at that elevation is not, from its rarity, insufficient for the support of life in animals breathing by gills. The whole of the lake plain of Pugha is covered, to the depth of several feet at least, with white salts, principally borax, which is obtained in a tolerably pure state by digging the superficial layer, which contains a little

mixture of other saline matters, being rejected. There was then but little export of borax from Pugha, the demand for the salt in upper India being very limited, and the export to Europe almost at an end. It has long been known that borax is produced naturally in different parts of Tibet, and the salt imported thence into India was at one time the principal source of supply of the European market. Dr. Thompson, quotes Mr. Saunders (Turners Tibet, p. 496,) as describing from hearsay the borax lake north of Jigatzi as twenty miles in circumference, and says that the borax is dug from its margins, the deeper and more central parts producing common salt. From the account of Mr. Blane (Ph. Trans. 1787, p. 397), who describes, from the information of the natives, the borax district north of Lucknow, and, therefore, in the more western part of the coarse of the Sanpu, it would appear that the lake there contains boracic acid, and that the borax is artificially prepared by saturating the sesquicarbonate of soda, which is so universally produced on the surface of Tibet, with the acid. At least, the statement that the production of borax is dependant on the amount of soda, leads to this conclusion. Mr. Saunders does not notice any hot springs in the neighbourhood of the borax, but in the more western district described by Mr. Blane, hot springs seem to accompany the borax lake as at Pugha. It is not impossible that the three districts in which the occurrence of borax has been noticed, which are only a very small portion of those which exist, may represent three stages of one and the same phenomenon. The boracic acid lake may, by the gradual influx of soda, be gradually converted into borax, which, from its great insolubility, will be deposited as it is formed. On the drainage or drying-up of such a lake, a borax plain, similar to that of Pugha, would be left behind. Two miles from their ecampment in the Pugha valley he stopped and examined the spot whence sulphur is obtained, at the base of the mountain slope on the north side of the valley. Ascending a few feet over a loose talus of shingle, which skirted the bottom of the hill, he found two narrow caverns in the slaty rock, apparently natural, or only a little widened by art, roughly circular, and less than three feet in diameter at the mouth. One of these caverns continued a long way inwards, nearly horizontally, but it contracted considerably in diameter, and was so dark that he could not penetrate far. The rock was principally gypsum, interstratified with very friable mica slate. Sometimes the gypsum was amorphous and powdery, at other times in needles two or three inches long, perpendicular to the strata of slate. The sulphur was in small quantities, scattered among the gypsum, and was more abundant in the lower beds. It was frequently in very perfect crystals, not, however, of any great size.

The greatest quantity of sulphur of Japan is brought from the Province Satzuma It is dug up in a small neighbouring island, which from the great plenty it affords of this substance, is called Iwogasema, or the sulphur island. It is not above a hundred years since they first ventured thither. Even since that time this island brings in to the Prince of Satzuma about 20 chests of silver per annum, arising only from the sulphur dug up there, besides what he gets by the trees and timber growing along the shore.

In the island of Leyte, abundance of sulphur is met with, and thence the gunpowder works of Manilla are supplied at very reasonable prices.

Sulphur is brought from the mountains of Beloochistan, and from mines near Shoruns.

Sulphur is found in Formosa to a large extent. It is seen to effloresce in the ravines near the petroleum wells of Burmah. Sulphur, occurs in the province of Batanga, 60 miles east of Manilla.

In the volcanic district in the northern end of the island of Formosa are three solfataras. One of these is about five miles east from Tamsui and a superior one is three or four miles to the north-east. The pits are about 1,750 feet above the sea, in a rocky gorge in the mountains, and clouds of steam and sulphureous vapour issue from numerous vents in the rocks. Several hot springs and pools occur and a miniature geyser throws intermittent jets of boiling water to a height of fifty or sixty feet. A third solfatara is near the village of Kim-pao-li, 7 or 8 miles N. W. of Kelung. The sulphur is obtained by a rude process of melting when the frothy slag is skimmed of, the heavier impurities sink to the bottom of the shallow iron pan and the liquid sulphur is ladled out into wooden buckets which are broken up when the sulphur has become solid. Similar solfataras exist in Satsuma in the island of Kiu-siu, in Japan.

The ground is volcanic and impregnated with sulphur. At the southern extremity of Satsuma, is the burning Sulphur Island of Ivoo-sima, which supplies the Chinese with some of their sulphur for making gun-powder. In 1803, Dr. Voysey found sulphur in some heaps, at the top of a lake near the Godavery river the village of Sura Sany Yanam not Maddepollam and Amalapore about 12 miles east from the latter place. In Beloochistan it is got from the Suni mine, on the ridges separating Saharawan from Kach Gandava ; the

great mart for its sale is Bagh in Kach Gandava. Sulphur and saltpetre are found in the mountains behind Tehran. In Mazanderaun and Kerman are mines of iron, copper and silver, and lead is procurable in the neighbourhood of Yezd. But these mines are not worked, more from the ignorance of the people than a scarcity of timber. The marbles of Tabreez and Khorassan are transported to the most remote quarters of the empire; and the turquoise is obtained in Persia.—*Mason's Tenasserim*; *Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 168; *History of Japan, Vol.* i, *p.* 107; *Walton's State, p.* 37; *Mrs. Hervey's Adventures of a Lady in Tartary, Vol.* i, *p.* 163-65; *Adams, Naturalist in India*; *Powell's Hand-book, of the Punjab; Cat. Ex.* 1862; *Smith's Materia Medica of China.*

SULPHURET OF ANTIMONY, see Antimony.

SULPHURET OF LEAD, see Galena.

SULPHUR-FLOWERED CASSIA, ENG. Cassia glauca, *Linn., Lam., W. & A.*

SULPHURIC ACID.

Rohazim; Maulkibrit,	AR.	Gandak-ka-tezab,	HIND.
Liu-hwang-yu,	CHIN.	Gundac-ka-tel,	,,
Spirits of vitriol,	ENG.	Acidum sulphuricum,	LAT.
Oil of vitriol,	,,	Arak-i-gowgird,	PERS.
Vitriolic acid,	,,	Gandaka rasa,	SINGH.
Acide sulfurique.	FR.	Ghendaga travagum,	TAM.
Schwefel-saure,	GER.		

This acid is produced in small quantities in nature, as near volcanoes, in some acid springs, and exists in combination in numerous sulphates, especially those of lime (gypsum) and of magnesia, found as minerals, or in the water of springs. It was known to the Arabs, Persians, and Hindoos. Sulphuric acid appears, from its name, to have been originally made in Europe, and probably also in Persia, from the decomposition of vitriol or sulphate of iron, a practice still followed at Nordhausen in Saxony. The sulphate is first calcined, so as to expel nearly the whole of the water of crystallization it contains. The acid, distilled off in an earthenware retort at a red heat, comes over in vapours, which condense into a dark-coloured oily-looking liquid. This fumes when exposed to the air, and contains less than 1 eq. of water to 2 of sulphuric acid, has a sp. gr. of 1·9, and is known in commerce as the Nordhausen, Fuming, or Glacial sulphuric acid. Liquid sulphuric acid, a dense oily-looking liquid, usually colourless, devoid of smell, but intensely acid, and powerfully corrosive. Sulphuric acid used to be made in England by burning the imported sulphur with a little nitre. After the great increase which took place in the price of sulphur, some manufacturers employed that obtained from Pyrites, which often contains arsenic as an impurity. The proportion of nitre $\frac{1}{8}$ which was burnt with sulphur either in the same chamber, lined with lead, and having its bottom covered with water, or in a furnace, from whence the vapours produced were conveyed into a similar chamber. In the mode of making sulphuric acid now, sulphurous acid, from burning sulphur, nitric acid vapour, and steam, are simultaneously admitted in oblong leaden chambers, so partitioned that the vapours can only advance slowly, and thus allow the whole of the sulphuric acid to be deposited. Sulphuric, nitric, mixed nitric, or aqua regia, and hydrochloric acids are all made at Lahore and sulphuric acid is largely made at other parts of India.—*Royle.*

SULPHUR ISLAND, in lat. 24° 48′ N., long. 141° 20′ E., is five miles long.

SULPHUR SPRINGS exist in many parts of Java and Celebes, and in the Pekalongan district west of Mount Prau. At the base of a high volcanic peak in the island of Damma is another. Sulphur springs occur between Mbang-ka and Tam-suy in Formosa. The sulphur is deposited in crystals. As Jell, is a town in Beluchistan in the south-western part of Kach Gandava, in a district replete with monuments, remnants of a former people, which bear a great analogy to the ponderous Celtic vestiges of ancient Europe, a hot spring there, the Garm-ab, preserves its temperature throughout the year. The sulphureous spring of Lakha is some twenty miles south of Jell, there is another a little below Sehwan, on the hills west of the Indus, and again other very hot springs near Karachi. These several springs are found in the same line of hills, and those inferior ones at the base of the superior range dividing Sind and Kachi, from Beluchistan. Under the same hills, north of Jell and west of Suran and Sanni are sulphur mines, indications of the same geological formation. Jell and Shadia are the chief towns of the Magghassi, one of the Beluch tribes, who have been located for a long time in Kachi. They are divided into four principal families or clans, of which the Butani is the more illustrious, and furnishes the Sirdar of the whole. They boast of being able to muster two thousand fighting men, and when visited by Mr. Masson, had been engaged in endless hostility with their neighbours, the Rhind, an inextinguishable blood feud existing between the two tribes. The Magghassi and the Rhind are alike addicted to the abuse of ardent spirits, bang and opium. In China, sulphur springs are met with near Che-foo and waters containing sulphuretted hydrogen and sulphurous acid gases are not uncommon.—*Bikmore, p.* 126; *Masson's Journeys, Vol.* ii, *pp.* 124 *to* 149. See Jell.

SULS, an ornamental style of arabic writing.

SULTAN, ARAB. King. The Adal Shahi dynasty of Bejappre, the Bahmany dynasty of Beder, Kutub Shahi dynasty of Hyderabad, Tippu the son of Hyder Ali of Mysore, Kamran of Herat, the rulers of Johore and Palembang all took the Arabic title of Sultan.

SULTANA CHAMPA, HIND. Calophyllum inophyllum.

SULTANA RAZIA, the eldest daughter of Altamsh. After a six months rule of her brother she succeeded to the throne of India, A. D. 1235, and ruled with ability for three and a half years, but was then put to death by her nobles, through jealousy of an Abyssinian slave to whom she had shown a partiality. The eldest daughter of Altamsh reigned. She possessed many talents and great virtues. She is not the only mahomedan woman of celebrity. In 1265 Muhammed II, had only one queen, who was employed in performing every homely part of housewifery. In A. D. 1611, Nur Mahal or Nur Jahan cut a conspicuous figure as the queen of Jahangir. She exercised considerable influence on state affairs, as well as on matters connected with her sex for a period of twenty years. To her is attributed improvements in female drapery and the preparation of the attar of roses. Her extempore verses used to captivate her husband. In his military exploits she acted as his guardian angel, and herself showed uncommon heroism, Jahangir in his memoirs, says, there is scarcely a city in which the princess has not left some structure, some spacious garden, as a splendid monument of her taste and magnificence.—*Calcutta Review, No.* 109, *p.* 49.

SULTANIAH, was built as a royal residence by Oljaitu, son of Argon, the eighth of the Mongol khans of Persia, in 1305. Long after the destruction of the city by Timur, indeed into the seventeenth century, the tomb of Oljaitu was still magnificent, and especially noted for its colossal gates of damasked steel. The city was re-occupied by some of the Persian kings in the sixteenth century, till Shah Abbas transferred the seat of government to Ispahan. The ruins were of vast extent in Chardin's time. The present Persian dynasty has again adopted Sultaniah as a summer residence. Pope John XXII set up an Archbishopric at Sultaniah in 1318, in favour of Francis of Perugia, a Dominican, and the series of archbishops is traced down to 1425. During Major Porter's halt at Sultaniah, when accompanying Abbas Mirza to Teheran, he observed an exemplary custom of the inhabitants in the manner of taking the honey, and at the same time saving the bees. The hives were constructed like long thin barrels thrust through the mud walls of the house; one end opens to the air for the ingress of the bees, and the other projecting more than a foot into the inhabited rooms. That extremity was closed with a cake of clay. The proprietor explained that when he wanted to take the honey, he had only to make a continued noise for some little time on this shut up end, to set all the bees to flight out at the other. He then removed the cake, and during their absence, cleared the hive of the honey; always leaving them sufficient for their store. The seal was then re-fixed, and the little labourers soon after returned to their homes to commence anew. —*Yule Cathay, Vol.* i, *p.* 49; *Porter's Travels, Vol.* ii, *p.* 471.

SULTANPOOR, a town on the upper Beas river, the capital of Kulu, a hill-state in the N. W. Himalaya. This province consists of the mountain basin of the Beas, and the west bank of the Sutlej. Sultanpoor, its capital, is elevated 4,584 feet. The chain bounding the Sutlej on the west, is considerably higher than that on its east bank, and is crossed into Suket, by the Jalauri pass, elevated 12,000 feet. The province of Chamba bounds it on the west, and the physical features of Kulu and Chamba are similar. The poorer Kulu people wear only a blanket, wound around the waist and one end flung across the shoulders and pinned across the chest, men and women often dress alike, but the long hair of the women is plaited in one tress. The natives of Busahir, Sookeyt-mundee and Kulu, in the Kohistan of Jhullundhur, have all sallow complexions and seem all of the same race. In the hills of Kulu and Kangra are the 'Goojura' and 'Guddi races,' who cultivate little, and keep herds of buffaloes, and flocks of sheep and goats. They claim certain beats of the forests as their 'warisi,' or ancestral property, subject to the payment of pasturage tolls. The forests of the lower hills are apportioned out among the Guddi or shepherds of the snowy range, who, in the winter season, bring down their flocks to graze. In the same manner, the Goojura with their buffaloes, will take up divisions on a hillside, and carefully respect their mutual boundaries.—*H. f. et T.*, *p.* 203; *Cleghorn's Punjab Report, p.* 89.

SULTANPOOR, see Jellalabad, Kohistan.

SULTAN SAKADA is worshipped by the Kur. Sakal Deva, or Sakra Pen, the chain-god, is worshipped in Seone and elsewhere.

SULTAN SUKHI SARWAR, a man noted for his liberal and charitable disposition, and great generosity of character. On his

death he was exalted to the position of a saint, and during February to May, a fair is held at the shrine, to which annually about 200,000 pilgrims, sikh, hindoo and mahomedan resort. It is at the mouth of the Sieree Pass, leading to Candahar, and is built on the skirt of the mountain. They are about 1,650 priests who issue to poor people parwane or orders in the name of Sukhi Sarwar.

SULU. The Sulu group of islands in the Archipelago embraces sixty inhabited islands, governed by a sultan, residing at Soog. Some parts of the interior of the island of Sulu, the largest island of this group, are occupied by Papuans who appear to be further advanced than any other mountain tribe of this race to be found in the Indian Archipelago; and the recent information that has been obtained respecting them, serves to show that they are useful and obedient subjects to the sultan of Sulu, whose family is said to be descended from a chief of that race. The Sulu government is divided into three estates: the sultan; nobility, or datos; and Orangkys, or the people. The religion of Sulu is mahomedan the sound of the Sulu language is not agreeable to the ear; it is said to have as great affinity to the Bissaya, as Spanish to Portuguese, and appears to be copious from the different appellations of quantity, &c. The Sulu have adopted some terms, not common to the Chinese, and corrupted others by pronunciation; in the following table, is represented the Sulu weights, and their relation to the Chinese terms:—

Sulu.	Chinese.		Sulu.
10 Muhuk....	10 Cash ——	1 Candarin. .	1 Ulandang or Chuchocks.
10 Ulandang or Chuchock..	10 Candarins..	1 Mace.... ...	1 Ammas.
10 Ammas....	10 Mace..........	1 Tael........	1 Tael.
16 Taels... ..	16 Taels...	1 Catty... ...	1 Catty.
5 Catties....(	5 Catties).....	....	1 Bubut.
10 Bubuts....(	50 Catties).....	....	1 Lacksa.
2 Lacksas...	100 Catties......	1 Pikul.......	1 Pikul.

Sulu until recently continued to be the market where the Lanun and other pirates disposed of much of their plunder, and in former times itself was decidedly piratical. The mahomedan religion has made much progress in Mindanao and the Sulu islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. The island of Basilan, is the largest of the Sulu Archipelago, on which the Spaniards have established a small settlement. From ten to twelve thousand Chinese annually visit the island of Basilan, the most northerly of the group, to cultivate its soil, and take away its products. The peculiar situation of these islands, and their contiguity to the Philippines, to Celebes, Borneo, Manilla, China and Singapore, make them well adapted for a European colony.—*Mr. Bartlett, Cor. Secretary of the American Ethnological Society in the Transactions of the Society*; *Keppel's Ind. Arch.*, *Vol.* i, *p.* 71; *Jour. of the Ind. Arch.*, *No.* vii, *July* 1849, *p.* 412; *No.* iv, *Sep.* 1849, *pp.* 546, 548–49, 561. See Ladrone islands, Sooloo.

SULUM PALLI, Tam. Garcinia mangostana.

SUM, Hind. Fraxinus floribunda, Ehretia serrata, Bombax heptaphyllum.

SUM, Arab. Garlic.

SUM, Duk. Sarcostemma viminale.

SUMAC, Fr. Sumach.

SUMACH. Sir A. Burnes tells us of the celebrated colossal idols and innumerable excavations called "Sumach," to be seen in all parts of the valley of Bamian for about 8 miles and still form the residence of the greater part of the population. A detached hill in the middle of the valley is quite honeycombed by them and is called the city of Gulgula. Caves are in greater number on the north side of the valley where the idols occur, on all sides of which excavations occur.

SUMACH or Shumac.

Tumtum,	Ar.	Sumac,	Fr.
Shih-Chu-Yu,	Chin.	Schmack,	Ger.
Divi Divi; Libi-Libi,	Eng.	Sommaco,	It.
		Sumak,	Pers.

The sumach tree of Europe is the Rhus coriaria, that of India is the Cæsalpinia coriaria, that of China is the Rhus venenata. The Cæsalpinia coriaria or Divi Divi of commerce, is a plant which was introduced about A.D. 1830 by Dr. Wallich, but which does not appear to have been distributed to the extent its importance merits. American sumach is a hardy plant of easy cultivation, it requires a little care, attention and watering during the first year or till the plant attains the height of 2 or 3 feet, it does not come into full bearing till about the third year, but in favourable localities it attains a height of 10 to 16 feet, and the produce of one full-grown tree is about 70 lbs. of pod valued at £8 to £12 per ton as a tanning substance.

It is a good hedge-plant and appears to be hardy and to bear pruning. The pods have been extensively used for tanning at Hoonsoor and it is approved of by the natives, but it is questionable if it will ever come into competition with the bark of the (Cassia auriculata) a wild shrub abundant on waste ground in the Peninsula. Should there be a demand for either of these plants at a remunerative price they could easily be procured now from almost any district in Southern India.

The price of Divi Divi was quoted in the public Ledger of London of 26th August 1863 at 12sh. to 13sh. per cwt., some bags of Divi Divi shipped some time ago for sale

in London did not realize a sufficient sum to cover the freight.

American sumach is not quoted in the Ledger of the 29th August, but the following quotations are given :—

	1863.	1862.
Sumach, Sicily, per cwt.	12-0	14-0 11-0 14-0
Do. Palermo do.	12-9	
Do. 1 do. new crops	14-6	

Divi Divi has been used in considerable quantity at Hoonsoor ; it answered admirably for light skins such as sheep and goat for fancy leathers, but for strong hides it is not so suitable, it does not as the tanners call it fill the hide and instead of pliant thickish leather gives a thin hard material. It thrives well at Hoonsoor and the pods contain a large quantity of tanning stuff.—*Madras Agri-Horticultural Society* 1861, *Proceedings of the Board of Revenue, No.* 2441, 14*th May* 1861, *letter from Surgeon Major E. Balfour* ; *Major Loudon, Assistant Commissary General.*

SUMADHEE or Samadhi, Sans., from sung, prep and adhanu, a receptacle.

SUMAH, a tribe of Sind. They are Jut, though they are generally known by the former title. Such also are the Machi and numerous other subdivisions of the Jut tribes. See Jat, Sind.

SUMAICHA, one of the nyad, or proselytes to Islam, from the Soda race, are numerous both in the t'hul and the valley, where they have many pooras or hamlets. They resemble the Dhotes in their habits, but many of them associate with the Sehraes, and plunder their brethren. They never shave or touch the hair of their heads, and consequently look more like brutes than human beings. They allow no animal to die of disease, but kill it when they think there are no hopes of recovery. The Sumaicha women have the reputation of being great scolds, and never veil their faces.

SUMAJ BAREE. At Kulna is the Rajbaree of the rajah of Burdwan, several noble buildings and lofty temples, there is also the Sumaj-baree or the houses of sepulchre, where a bone of every deceased member of the rajah's family is deposited. The rajah belongs to the Khsetrya class, and observes the custom of preserving the ashes of the dead. He must have adopted this in imitation of the princes of Rajpootana, or otherwise he cannot find any authority in Menu to sanction the proceedings. They show here the bone of the last rajah, wrapt up in a rich cloth. It is regarded as if the rajah was living himself, and is placed on a velvet musnud with cushions, and silver salvers, tumblers, hookas, rose-water and utter-holders in front of the seat, just as the late rajah used to sit with all the paraphernalia of state about him.—*Tr. of Hind., Vol.* i, *p.* 23.

SUMAK, Hind., Pers. Rhus coriaria, Pistacia integerrima.

SUMALAYA, see Saisunaga, or Sesnag.

SUMALI, Arab. A people, on the African coast, and found in Aden and along the west coast of Arabia. Those on the coasts are slaves, or their descendants brought from the interior of Africa by the traders. The dress of the men consists of merely a single piece of white cloth wound round their thin waist, one end of which, after being carried across the breast, is thrown negligently over the shoulder. In addition to a cloth of this kind, of smaller dimensions, the women wear a piece of tanned hide round their waist ; to which is added a smaller apron of the same material, suspended by loops over the shoulder to conceal their breasts. The hair of the men is frizzled into large ringlets, several of which hang on either side of the face. The hair left in the middle is also frizzled and raised by the same means, the whole being anointed with large quantities of mutton fat. Through the upper part they thrust a straight piece of wood, resembling in form and size a skewer, which serves the double purpose of a comb, and also as an instrument for adjusting their curls.—*Wellsted's Travels, Vol.* ii, *p.* 370.

SUMALI Hind., of Chenab, Callicarpa incana.

SUMALYA, see Magadha, Nanda.

SUMANAKUTA, Singh. Adam's Peak in Ceylon. See Serapad, Sripada.

SUMANAP. The industrious, peaceful and numerous people who speak the Madurese language with its dialect the Sumanap, occupy the island of Madura, divided from Java by a strait, and form in some districts the bulk of the population on the opposite shores of Java, to which, depopulated by long wars for the past two hundred years, they have been emigrating.

SUMASOKTEE, or Samasokti, Sans., from samasa, to compound, and ooktee, a word.

SUMATRA. A chain of mountains, as in Java, divides it longitudinally, running nearest to the western coast. It contains five active volcanoes. Three-fourths of the island, especially towards the south and east, are covered with impenetrable woods. Fifteen nations, speaking as many different languages, inhabit it, and six have made considerable progress in civilization. The Malays are here also, as in Java, the dominant race. The island, although three times the size, contains only one-fifteenth of the population of Java. There are plains and

mountains of volcanic origin that rival in fertility the richest portions of Java; but many of the raised valleys of the country present a very different aspect. A recent Dutch writer has given a description of two of the great elevated plains or table-lands, which present a uniform scene of sterility. Nicolo de Conti, of Venice, returned from his oriental travels in 1449, and communicated to the secretary of Pope Eugenius V, a much more consistent and satisfactory account of what he had seen than any of his predecessors. After giving a description of the cinnamon and other productions, of Zeilam, he says, he sailed to a great island named Sumatra, called by the ancients Taprobana, where he was detained one year. His account of the pepper plant, of the durian fruit, and of the extraordinary customs, now well ascertained, of the Batech or Batta people, prove him to have been an intelligent observer. Sumatra was visited by Odoardus Barbosa, who wrote a journal of his voyage in 1516 in which he speaks of Sumatra with great precision. The productions of the island, he says, were chiefly exported to Catai or China. From Sumatra he proceeded to Banda and the Moluccas, from thence returned by Java and Malacca to the west of India, and arrived at Lisbon in 1508. Leaving out of view its modern alluvial accessions, Sumatra consists of a rectilinear belt of elevation, stretching from the parallel of Pinang to that of Bantam, and shutting in the Malay Peninsula and China Sea from the Indian Ocean. Its extreme northwest and southwest points differ 10° 30′ in longitude and 11° 40′ in latitude, the former being in 5° 45′ N. L., 95° 10′ E. long. and the latter in 5° 55′ S. L., 105° 40′ E. long. The belt thus makes an angle of about 36° with the meridian, its direction being a little west of N. W. by N., which gives it a length of about 925 geographical miles. Its average breadth appears to be rather more than 90 miles, as it nowhere expands to a much greater breadth for a considerable space save in the middle region, nor contracts to a less save at the northern and southern extremities. The area covered by it is about 85,000 square miles. The true limits and configuration of this mountain region on the east have not been ascertained, but it probably forms a vast number of systems of low hills as on the west coast, and as in the Malay Peninsula on the margins and in the depressions of the belt of mountain groups. The body of the Sumatran zone does not appear to consist of elevated chains of great length, but of numerous short ranges and isolated mountains varying extremely in all their dimensions. The circumstance of the belt being partly plutonic and partly volcanic forms its peculiar character. Its configuration is, in fact, a combination of that of the Malay Peninsula with that of Java, with this difference that its middle region is more elevated and expanded than any part of the peninsula, several of its masses being about thrice the height of the highest summits of that range. If a number of volcanic mountains rose here and there amongst the peninsular groups, and in greatest number in Pera, Tianggann and Patani, where it is broadest, it would be identified in character with Sumatra. The greater elevation of the mountains of the latter is however accompanied by a greater expansion of the plains and valleys which lie amongst them. In crossing it anywhere, save towards its northern and southern extremities, three, and sometimes more, principal ranges are found with wide table-lands, plains or valleys between them, watered by numerous streams, and in some places containing lakes, as in the principal Korinchi plain, the great Malayan plain of Menangkabau and the Bata plain of Tobah. The most western ranges form the water-shed, and as the land to the west of it, chiefly hills, is not more than 25 miles broad, about one-fifth only of the waters of the island fall into the Indian ocean, the Straits of Malacca and the Java sea receiving the remainder, in nearly equal proportions as regards the drainage of the mountains, but with a large excess to the latter from the wide plain traversed by the rivers that disembogue into it.

The western margin of the belt, washed by the strong waves of the Indian Ocean, has retrograded to the eastward, the sediment of the rivers and the debris of the coast being carried away instead of being deposited. The northern part of the east coast, exposed to the assault of the Bay of Bengal, has retained its ancient dimensions, if it has not contracted, but as soon as the open sea is exchanged for the Straits of Malacca, the mountain belt begins to retire from the coast, and a great alluvial plain commences, which, to the south of the S. E. extremity of the Batta country opposite Parcelar hill, where the Peninsular and Sumatran belts approach nearest each other, expands to a breadth varying from 60 to 110 miles. The length is about 600 miles and the average breadth about 70 miles which gives a surface of about 42,000 square miles. This plain and the mode of its formation, was described in a sketch of the Physical Geography and Geology of the Malay Peninsula, in the Journ. Ind. Arch. Vol. ii, p. 129-132-176. If to this we add 1,500 square miles for the area of the flat alluvial land to the north of the great plain, we shall have 128,500 miles as the area of the whole island, the mountain

region occupying about two-thirds. This result is nearly identical with the gross estimate of Lieut Melville van Carnbee, which is 8,035 leagues = 128,560 Eng. sq. geo. miles. The islands on the west coast give a further surface of 5,000 miles to be added to the elevated region, and this will make it almost exactly double the size of the alluvium. Its S. W. coast has a narrow tract of low land, beyond which the mountains suddenly rise.

Talang, ... ft.	10,500	Indrapura, estimated at ft.	12,255
Singalang, ...	9,634	Luse, territory of Achin, in 3°40′ N.	11,250
Merapi, ...	9,570	Lombok, according to Melville van Carnbee, by triangulation, about	12,363
Sago, about ...	5,862		
Ophir, ...	9,776		
Kalabu, (west of Rau) ...	5,115		
Seret Merapi, ...	5,860		
Pitya Keling, ...	680		
Lubu Rajah, ...	6,234		

The Sumatra coast, from Diamond Point to the Arroa Island, is low and woody, fronting the sea, having along it several rivers, towns and villages, which are only frequented by coasting prahus or other small vessels. Sumatra is known amongst the eastern people and the better informed of the natives themselves, by the two names of Indalas and Pulo Percha, (or, in the southern dialect, Pritcho.) The meaning or analogies of the former, which seems to have been applied to it chiefly by the neighbouring people of Java, is not known. Sumatra is rich in minerals. No country has been more famous in all ages for gold, and though the sources from whence it is drawn may be supposed in some measure exhausted, yet at this day the quantity procured is very considerable. There are also mines of copper, iron, and tin, sulphur is gathered in large quantities about the numerous volcanos. Saltpetre the natives procure, by a process of their own, from the earth which is found impregnated with it; chiefly in extensive caves that have been, from the beginning of time, the haunt of a certain species of birds, of whose dung the soil is formed. Coal, mostly washed down by the floods, is collected of a greater quantity.

The island is divided into a number of petty states, the chief of which are Acheen, Delly, Langkat, and Siack. British political relations with Acheen date as far back as 1602. Various attempts, however, which were made to establish a factory at Acheen, failed. In 1815 a revolution broke out, and the reigning sovereign, Jowhar Shah, a dissolute prince, was deposed, and Syful Alum Shah, the son of a wealthy merchant, who was related to the Royal family, was raised to the throne. After protracted negotiations, however, the ex-rajah was restored, through the mediation of Sir Stamford Raffles, and a treaty was concluded with him. With Delly, Langkat, and Siack, treaties exist, but after the treaty with the Dutch, of 1824, the diplomatic connection of the British with Sumatra ceased.

The *Malay* race extends through the Malay peninsula south from Siam to Singapore; all Sumatra is Malay,—so is all Borneo and with a slight change of type, the Philippines are the same. In these situations they are found pursuing their livelihood as seamen or engaged in commerce with other countries. In the Malay peninsula they are in part mahomedan and in part pagan in the more impracticable parts of the Malay peninsula. The Malays of Sumatra generally wear the same weapons as those of the peninsula, with the addition of the rud and pemandap, swords, and the suvar, dagger, used for assassination. Vanderworm in 1677 and Valentyn in 1727 gave correct though imperfect digests of the Sijara-Malayu and other Malay histories. Marsden in the 3rd edition of his history of Sumatra retracted his previous opinion that the Malaya of Sumatra had emigrated from the peninsula, cited the account in the Sirja correctly from Valentyn and Vanderworm, but added an ingenious conjecture of his own that the Maha Meru of the Malay historians was the mountains of Sungei Pagu in the Menangkabau country, and that the adventurers who established Singapura were from the Sunka Malays in that country 'one of the four great tribes.' Mr. Crawfurd adopts this conjecture and, misled by Marsden's loose transcript comprehension of Valentyn's notice of the Sukus, tells us that the parent race, that is, the Menangkabaus, consist of these four tribes, the fact being that they are the Sukus. not of Menangkabau but of the country of the Sapulobua Bander to the south, which lies around Gunong Sungei Pagu. In Marsden's and Raffles' maps of Sumatra the inland part of this country is a perfect blank, the name being erroneously confined to its maritime division. The number of Sukus or clans is very great and their names are various. Thus the Malays of Pandang belong to eight distinct Sukus, one of which is also named Malayu. But Mr. Craufurd does not rest his opinion merely on Marsden's misinterpretation of the Dutch authorities. This great authority goes further and declares that we may believe the universal assertion of the Malays themselves that all the Malayu tribes, wherever situated, emigrated directly or indirectly from Menangkabau. Enquiries however satisfy us that neither the Malay histories, nor the belief of the Malays, support the opinion that Singapura was founded by a swarm thrown off by the inland people of Menangkabau itself. Singapura, was founded by Malays from Bentan, and the Ma-

lays of the peninsula at this day so far from considering the Orang Menangkabau, including those of the Sungi Pagu Malays, as Orang Malayu, regard them as a distinct though allied people. Although there can be no doubt that both originated from the same stock there are differences in manners, institutions and even to a certain extent in language, which even without reference to their traditions and opinions, would render it doubtful to any mind, that the Malays of the principal states of the peninsula are descended from the Orang Menangkabau. The existence of a Suku Malayu in Menangkabau, which is the foundation of Marsden's conjecture, proves nothing in itself as to the origin of the word, because if a considerable number of Malays from Sungai in Plembang resorted to Menangkabau, the rulers of the latter would have placed them in a separate Suku. The same policy is followed by the Menangkabaus of the peninsula and both there and in Sumatra, Sukus are generally named from the places where the clan had its first origin. The Menangkabau traditions derive their kings, and even the first inhabitants of Sumatra, from the country extending from the Plembang to the Indragiri, and Malay histories relate that Sangsapurba from Plembang, after visiting Java and Bentan, ascended the Indragiri or Kuantan and was chosen by the Menangkabaus for their king. Plembang did not even form part of the region over which Menangkabau extended its dominion in ancient times. Mr. Marsden's conjecture that by Maha Meru or Buit Saguntang-Guntang, the mountain of Sungei Pago is to be understood, requires no other comment than that it is a mere supposition, unsupported by evidence, and contradictory of the Malayan histories which were his only authority for a derivation of the Malays of the peninsula from Sumatra. As this eminently candid and sagacious author had only seen the Dutch abstracts of these histories, he could not have been aware of the extent to which his hypothesis departs from them. The Bukit Saguntang-guntang is in Plembang and is now known by the name of Bukit Se-buntang. It may probably be shown hereafter that the name Malayu having been carried by the clan to Singapore, and these to other maritime states subsequently formed, came to be applied by foreigners to all the people speaking the same or a similar language. At the time when Marco Polo visited the Archipelago the name appears to have been still confined to the first maritime state, which he calls Malaieur. The primitive Malay stock of Sumatra, from which all the civilised tribes were derived, appears to have been the rude tribe still scattered over the interior, from the southern limit of the Batta country to the extremity of the mountain ranges. From this stock, civilised tribes probably originated not only in Menangkabau but in other parts of the great region extending from the Rakau to the Straits of Sunda, and which from its possessing all the large rivers as well as the richest inland vallies of Sumatra, would be favourable to civilisation. The evidences of the language are almost decisive on this point. The people on the most southern of these rivers, the Talang Bawang, although so near to Java, preserve Malay as the bulk of their vocabulary. The same remark appears applicable to the people on the next river, the Plembang, with the exception of the greater number of the inhabitants of the capital who are of Javanese extraction. At the time when Sang Nila Utama left Plembang, the people were Malayan according to the Sijara, a fact which the history of the Javanese confirms, for they inform us that the Javanese colony which settled at Plembang left Java in the reign of the last king of Majapahit, or in the latter half of the 15th century. The people of the hilly country along the western coast from which the feeders of the Plembang are derived, also speak dialects essentially Malayan, and having a slight mixture of Sundanese. The people of the other rivers to the north, the Jambi, Indragiri, Kampar, Siak, and Rakau, are Malay. It is this whole region, and not merely the small country of Menangkabau in its N. W. corner, that may be regarded as the primitive land of the Malays. The people on all its rivers must have had some intercourse with the Peninsula and the Johore Archipelago from times long before the foundation of Singpura, but whether for centuries or thousands of years it is hardly possible that we shall ever know. In all points in which the Peninsular Malays differ from the inland and purely agricultural Malays of the region in question, they assimilate to its river and maritime Malays, and Malay history does not go back to a period when the maritime Malays were entirely confined to Sumatra. The Indragiri in particular appears to have been crowded with Hindu-Malay settlements, many of the numerous villages on its banks retaining purely hindoo names to this day. It was by this river probably that they reached the fertile plain of Menangkabau. We are inclined to think that the Malays on this river must have attained a certain civilisation, in advance of the wandering mountain tribes, even before the hindoos came. If any colonies of the latter settled in the country they must have been few in their numbers or unaccompanied by

women, for the present inhabitants, unlike the eastern Javanese, preserve no physical traces of Indian descent. If hinduism was gradually introduced in the course of a commercial intercourse, the difficulties attending the hypothesis of hindoo colonisation would be got rid of. It is very conceivable that hindoo merchants remaining in the country for a time and unaccompanied by women, like the Klings at this day, would be led to marry the daughters of the native chiefs, assume political power, obtain priests and architects from India, and engraft on the old republican-oligarchical governments of the land semi-hindoo monarchical dynasties, the representatives of which, at each generation of descent, would depart further from Indian type, till all physical trace of foreign blood was lost. The Hindu-Javan influence was probably more modern and comparatively transient. The Menangkabau are a purely agricultural, mining, and inland trading people, and consequently when they began to emigrate to the peninsula their proceedings were precisely the reverse of those of the Singapore colonist and indeed of all other Malays. They passed through the maritime districts, and sought valleys amongst the mountains of the interior.

I. Wild Tribes. There are two races which, not being confined to particular localities, it is necessary to mention first. They are at the opposite extremes of the civilization of the island. The one is a half-wild people, the scattered remnants of the aboriginal inhabitants, now broken by oppression and solitary restriction for centuries in the jungly mountains, into a number of disconnected patches of communities, differing, it is probable, considerably in language and little in condition and ideas. In the north, where they are known under the name of Orang Lubu ; the Battas describe them as having inhabited Pertibi before they occupied it. (Willer, Tigd. v. N. Ind. 8th y., 2d part, p. 402) They are found up the Mandan above Siak. (J. Anderson, Mission to Sumatra, p. 349.) In the south again they are mentioned under the name of Orang Kubu by Marsden and other writers who resided on the west coast, and we know from information received from Malays that they are found in the interior on ascending most of the large rivers whose embouchures are on the east coast. Major Sturler in his account of Palembang gives a particular description of the Orang Kubu, who in condition and habits entirely agree with the wilder tribes of the Malay peninsula. The same remark applies to the Orang Gunong of Banka. The southern extremity of the mountain belt is inhabited by the Orang Abung, a head hunting race. These are the mountain nomades, but there are also half-wild people, some living in boats in the salt water creeks, and others in the sago forests and low jungles of the east coast. In this lowest class of Sumatran tribes should be included those inhabiting some of the western islands, such as the Enganoans. Their physical resemblance to the Malays is everywhere remarked, and, as stated, in the Journ. Ind. Arch., Vol. ii, pp. 332, 517, there seems no room to doubt that they are the aborigines of the Malayan region of Sumatra, and the remnants of the stock from which the present Malays have descended. Their numbers may be provisionally assumed at 6,000. The Abung and Kabu in the south appear to near about 2,000.

II. Orang Malayu (*Malays.*) The Malay races are the principal inhabitants of the island, whether we consider their range, numbers, actual territory, influence or civilization. They entirely occupy the wildest and middle region of Sumatra extending from the Rakan nearly to the Palembang on the east coast, and from Ayer Bangis to Kataun on the west coast, a length of about 275 miles with an average breadth of about 190 miles, and a superficies of 52,250 square miles, or little short of one-half of Sumatra. The east coast is nearly straight, running throughout in a direction due N. W. by N. The breadth of the highlands is about 95 miles. The lowland that stretches from their base to the east coast has about the same average breadth, so that the region is divided in nearly equal proportions between them. The greater part of the lowlands appear to be nothing more than the waste matter of the mountains brought down by the streams. It is this accumulation of sediment over so wide a surface on the east side of the mountains that has given rise to the great rivers which intersect the plain, the Siak, Kampar, Indragiri, Iambi and Palembang. It was the possession of this central, largest and most highly favoured region, that enabled the Malays to grow in numbers and civilization till they obtained supremacy in Sumatra. The mountains contain numerous valleys, some of great extent, all well watered and many encircled by volcanic soil. The population varies extremely in density. The higher parts of the mountains, and the lowland between the rivers, are left to the jungle and wild animals, and possess hardly any human inhabitants. The rivers have considerable collections of houses scattered at greater or less intervals along their banks, and extending a short distance from them. The principal valleys in the mountains, on the other hand, are completely cultivated and

filled with inhabitants. While the countries of Siak, Indragiri, Jambi and the northern part of Palembang, including a portion about 25 miles broad of the eastern flanks of the mountain land, contain about 200,000 souls or .5 to the square mile, the single province of Menangkabau has a population of about 385,000 or 128 to the square mile, and the whole mountain land taken together gives a mean of 40 to the square mile.

The population is distributed as follows :

1st.—Malays of the mountain region.
a. Menangkabau.
b. Malays of the region of Sapulo Bua Bandar and Gunong Sungei Pagu.
c. The Korinchi.
d. The Rawa.

2d.—The Malays of the hilly territories to the west of the mountain region.
a. The sea-bord of Menangkabau (1,700 sq. miles.)
b. The sea-bord of Sapulo Bua Bandar having a surface of 1,300 sq. miles.

3rd.—The Malays of the low lands or eastern countries.

4th.—The Malays of the East Coast of the northern region.

Their entire number does not appear to be above 60,000. Anderson gives 350,000 as the population of this part of the east coast, but he includes a considerable portion of the Bata region lying behind the Malayan seabord, and it is clear that this number was a mere guess made without reference to the data of which he was in possession, for the numbers which he set down at the different places which he visited do not give an aggregate of much more than one half of this estimate, distributed as follows :

Southern Races.
III. Orang Palembang.
IV. Orang Rejang.
V. Orang Serawi.
VI. Orang Lampong.
The Northern Races.
VII. Orang Batta.

1st. Battas on the West Coast formerly subject to Malay rulers.

2nd. Battas on the low land and hilly region on the east side of the mountains.

3rd. Battas of the mountain region.

VIII. Orang Ache.
Western Islands.
IX. Orang Engano.
X. Orang Mantawei.
XI. Orang Niha or Nias.
XII. Orang Maruwi.

It will be borne in mind that the above estimates are for the most part rough approximations. These races blend with each other at their boundaries, many districts and villages in the northern region for instance being peopled by Malays and Battas, Malays and Achinese, or Achinese and Battas, and most of the settlements near the coast possess in addition a very mixed population of foreigners from the rest of the Archipelago, China, India and Arabia, while Europeans are found in small numbers in the Netherlands possessions, chiefly at Palembang, Bankaulu and Padang, little more than two millions for the entire population. Mr. Francis, estimates 4,500,000.

Malays.................	2,000,000
Rejangs and Pasumahs..	600,000
Lampongs..............	150,000
Battas.................	1,200,000
Achinese	600,000

but the following Table exhibits ascertained results :—

	Area.	Population.	Per sq. m.	Per cent, of population.
I. Wild tribes..............	......	6,000	...	...
II. Orang Malayu............	......	......	...	...
Mountains.				
Menangkabau............	3,000	385,000	128	...
Its Seabord..........	1,700	64,350	38	...
Sapulo Bua Bandar...	3,250	40,000	15	...
Its Seabord..........	1,300	31,200	24	...
Korinchi..............	5,000	75,000	15	...
Rawa..................	1,600	25,000	16	...
Northern Seabords	......	......	...	...
East Coast............	3,000	60,000	20	...
West Coast............	3,400	24,000	80	...
Estn. lowlands & hills.	36,000	184,000	5	...
Malays elsewhere......	......	10,000	...	...
Total........	59,050	898,656	15	42
III. Orang Palembang ...	13,400	201,000	15	9
IV. Orang Rejang.........	4,500	72,000	16	3
V. Orang Serawi.........	4,875	160,000	32	7
VI. Orang Lampong......	8,280	92,900	11	4
VII. Orang Batta...........	......	......	...	...
West Coast.	......	4,300	...	...
Estn. lowlands & hills.	3,200	63,280	20	...
Mountain region......	......	......	...	...
Northern division....	1,800	36,000	20	...
Middle division... ...	4,176	125,280	30	...
Southern division. ...	6,624	83,000	12	...
Total...	15,800	311,860	20	14
VIII. Orang Ache..........	22,600	450,000	20	21
Grand Total...	128,505	2,186,410	17	...
Western Islands.				
IX. Orang Engano.........	400	900	2¼	...
X. Orang Mantawei.	2,240	5,000	2¼	...
XI. Orang Niha............	1,800	286,000	160	...
XII. Orang Maruwi.........	600	3,000	5	...
Total...	5,040	294,900	58	...

A Sumatran ever scrupulously abstains from pronouncing his own name ; not, from any motive of superstition, but merely as

a punctilio in manners. It occasions him infinite embarrassment when a stranger, unacquainted with their customs, requires it of him. As soon as he recovers from his confusion, he solicits the interposition of his neighbour. He is never addressed, except in the case of a superior dictating to his dependant, in the second person, but always in the third ; using his name or title instead of the pronoun ; and when these are unknown, a general title of respect is substituted, and they say, for instance, 'apa orang kaya punia suka,' 'what is his honour's pleasure,' for 'what is your, or your honour's pleasure.' When criminals or other ignominious persons are spoken to, use is made of the pronoun personal kau (a contraction of angkau), particularly expressive of contempt. In Sumatra there were formerly three perfectly distinct kinds of marriage ; the 'Jugur,' in which the man purchased the woman ; the 'Ambel-anak,' in which the woman purchased the man ; and the 'Semando,' in which they joined on terms of equality. In the mode of marriage by Ambel-anak, says Marsden, 'the father of a virgin makes choice of some young man for her husband, generally from an inferior family, which renounces all further right to, or interest in, him, and he is taken into the house of his father-in-law, who kills a buffalo on the occasion, and receives twenty dollars from his son's relations. After this, the buruk baik'nia (the good and bad of him) is invested in the wife's family. If he murder or rob, they pay the bangun, or the fine. If he is murdered, they receive the bangun. They are liable to any debts he may contract in marriage, those prior to it remaining with his parents. He lives in the family, in a state between that of a son and a debtor. He partakes as a son of what the house affords, but has no property in himself. His rice plantation, the produce of his pepper garden, with everything that he can gain or earn, belongs to the family. He is liable to be divorced at their pleasure, and though he has children, must leave all and return naked as he came.

The *Batta*, a supposed aboriginal race inhabiting the island of Sumatra, are not unlike the Malay and Benua of the Malay peninsula in feature ; but are a finer race of men. They are said to eat their aged relatives, a custom mentioned by Herodotus as prevalent among the Massagetæ (Herod. Clio., i, c. 216), and speaking of the eastern countries of India (Thalia, iii, c. 99), producing gold, and tributary to the Persians under Darius, he particularizes the Padai, a pastoral people ; amongst whom when any person falls sick, or arrives at an advanced age, his friends despatch him, and eat his flesh with rejoicing. Rennel, in his chapter on the twenty Satrapies of Darius Hystaspes, is of opinion, that Herodotus, when he thus describes the east of India and customs of the Padai, must have meant a tribe who inhabit the banks of the Ganges, the proper and Sanscrit name of which, he says is Padda: Ganga being the appellative only : so that the Padæi may answer to the Gangaridæ of later Greek writers. Formerly it was usual for the people to eat their parents when too old for work. The old people selected the horizontal branch of a tree, and quietly suspended themselves by their hands, while their children and neighbours forming a circle, danced round them crying out 'when the fruit is ripe, then it will fall.' This practice took place during the season of limes, when salt and pepper were plenty, and as soon as the victims became fatigued, and could hold on no longer, they fell down, when all hands cut them up and made a hearty meal of them.

The *Batta* or Battah occupy wholly the valley of Mandeling in Sumatra and have an alphabet and language of their own. The women wear the sarong, only, from the waist to the knee.

The *Lubu* are a people apart from the Malays of Menangkabu. They now build houses like the Malays. One of their towns is Lubu Sipeking. The Lubu eat fruit, maize, dogs, monkeys and snakes, but never rice. They are slaves to the rajah of Achin. Lubu rajah peak rises 6,200 feet above the sea. It is the highest in the Batta land.

The Batta language is alphabetic and invented by themselves. It has several dialects. They believe in evil spirits and omens. They are an inland people, the Malays from Menangkabau having spread and occupied all the coasts. All the Batta beyond the territories of the Dutch are from time immemorial cannibals. On the Dutch acquiring the plain of the Mandeling valley, the Batta dwelling there were compelled to abandon their cannibalism. The writings of Marco Polo show that so early at least as 1290, they were addicted to this. The rajah of Sipirok assured the Dutch government at Pedang that he had eaten human flesh at least forty times and that nothing he had ever eaten was equal to it. Professor Bikmore travelling amongst them in 1865, confirms what Sir Stamford Raffles wrote in 1820 after visiting Tapanuli Bay, that for a person convicted of adultery, midnight robbery, prisoners of war, intermarrying into another tribe and for treacherously attacking a village, house or person, the punishment is to be cut up and

eaten. Sir James Lancaster arrived at Achin in 1602, with four ships.

The character of the inhabitants of Komring, and especially those of Komring Ulu, is more substantial than that of the Ogan people; they have a peculiar language, their writing in letter and sound agrees much with that of the Battas. The so called menareh (dancing) and berswara (singing) also differ in Komring from what they are in the other districts. The young girls dress better, are more pleasing in the movements, and their voice is more harmonious than that of women of the country usually is in singing. Girls are able, in free, agreeable and melodious tones, to pour forth improvised couplets and verses in honour of persons and events. In former days the concubines of the sultan were chosen from the fair sex in Komring. The Sumatrans speak of tigers with a degree of awe, and hesitate to call them by their common name (rimau or maching), terming them respectfully satwa (the wild animals), or even nenek (ancestors); as really believing them such, or by way of soothing and coaxing them.

The Malayan peninsula and Borneo, extensive as they are, have never given rise to an indigenous civilization, sufficient to raise their inhabitants beyond the condition of small and miserable communities, and hence no indigenous alphabet can be traced to them. Their more civilized inhabitants are invariably stranger emigrants. This must be owing to the absence of a certain kind of fertility in the land, available to the rude and feeble efforts of a native industry, such as elsewhere gave rise to a concentrated population, to leisure and to letters. In Sumatra and the groups of islands on its western coast, in addition to the Malay, there are at least nine other languages, five of which, the Ache or Achin on the north-western end of this island, the Batak or Batta, the Korinchi east of the Batak, the Rajang or Rejang and the Lampung, are cultivated and written tongues. There are also several rude languages among the scattered tribes on the mainland. The Batak or Batta nation lie to the east of the Malays, and furnish perhaps the only recorded example of a people acquainted with letters, who practice a modified cannibalism. The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the Straits of Sunda, has its own peculiar alphabet, which consists of 19 substantive letters with double or treble consonants making them up to 44. It has a great deal of that angular, linear, and meagre form which characterizes the other Sumatran alphabets. The Lampung people occupy the eastern end of Java, on the Straits of Sunda and fronting the western extremity of Java. In the groups of islands on the western coast of Sumatra, are several unwritten tongues, amongst which may be named that of the Pogy or Pagi islands, the language of the Nias and that of Maros. In Sumatra, beginning from the west, the first evidence of a native written character is among the Batak, and it is singular that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each another. The form of the Batak letters is horizontal. The Bima alphabet formerly in use amongst the Bima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes. The Achin and Malay of Sumatra are written in the Arabic character. The Rejang, at Taba Pananjong in Sumatra, are a distinct race from the Malays of Menangkabau, though they belong to the Malay race. They have a language and alphabet of their own.

There is a kind of indigo called in Sumatra tarum akar, the Marsdenia tinctoria.

The Sumatra forests contain an inexhaustible store and endless variety of timber trees, many sorts of which are highly valuable and capable of being applied to ship-building and other important purposes. On the western coast, the general want of navigable rivers has materially hindered both the export and the employment of its timber; but, those on the eastern side, particularly Siak are, more favourably situated.

Red bintangur.—For masts and yards the wood preferred is the red bintangur, a species of Uvaria or Calophyllum which in all the maritime posts of India, has obtained the name of poon or puhn, from the Malayan word signifying tree in general; as puhn upas, the poison tree, puhn kaya, a timber tree, &c., the source of the commercial term for the poon or peon spars.

Camphor wood, useful for carpenters' work.

Kayu pindis or *Kapini*, a species of Metrosideros, is named also Kayu besi, or ironwood, on account of its extraordinary hardness, as it turns the edge of common tools.

Marbau, the Metrosideros amboinesis, *R.*, grows to a large size, and is used for beams both in ship and house-building, as well as for other purposes to which oak is applied in Europe.

Pinaga is valuable as crooked timber, and is used for frames and knees of ships, being also very durable. It frequently grows in the wash of the sea.

Juar, ebony, called in Batavia 'kayu

arang, or charcoal-wood, is found here in great plenty.

Kayu gadis, a wood possessing the flavour and qualities of the sassafras, and used for the same purposes in medicine, but in the growth of the tree it resembles rather the British elm than the laurus, to which latter tribe the American sassafras belongs. It is very common in the plains near Bencoolen.

Kayu arau, the Casuarina littorea, is often termed a bastard pine, and, as such, gave name to the Isle of Pines discovered by Captain Cook. By the Malays it is usually called Kayu chamara, from the resemblance of its branches to the ornamental cow-tails of Upper India. It has been already remarked of this tree, the wood of which is not particularly useful, that it delights in a low sandy soil, and is ever the first that springs up from land relinquished by the sea.

Rangas or *Rangi*, commonly supposed to be the manchineel of the West Indies, but perhaps only from the noxious quality of its juices, is the Arbor vernicis of Rumphius, and is particularly described in the Batav. Trans., Vol., v, under the name of Manga deleteria sylvestris, fructu parvo cordiformi. Sumatra produces by far the greatest quantity of pepper. In 1842, the annual produce of this island was reckoned at 30,000,000 lbs., being more than the amount furnished by all the other pepper districts in the world. A little pepper is grown in the Mauritius and the west India Islands, and its cultivation is making some progress on the Western Coast of Africa, as England imported from thence 2,909 bags and casks in 1846, and about 110,000 lbs. in 1847. Mr. J. Crawfurd, F.R.S., one of the best authorities on all that relates to the commerce and agriculture of the Eastern Archipelago, recently estimated the produce of pepper at lbs. 50,000,000 as follows :—

Sumatra (West Coast)... lbs.	20,000,000
Do. (East Coast).........	8,000,000
Islands in the Straits of Malacca	3,600,000
Malay Peninsula..............	3,733,333
Borneo.....................	2,666,667
Siam.......................	8,000,000
Malabar....................	4,060,000
If we add to this,	
Western Coast of Africa and B. W. Indies....................	53,000
Java........................	4,000,000
Mauritius and Ceylon............	80,000

It gives 54,133,000 as the total produce of the world.

Helarctas Malayanus or *Sun bear*, lives in Sumatra. It is herbivorous.

There is a goat-like animal in Sumatra ; the two-horned and the long-horned rhinoceros, occur in Burmah, Sumatra and Java ; and the elephant of India is found in Malacca, Sumatra and Borneo. There are in this island ten species of monkeys, none of which are found in Java. And in Java there are four species, none of which occur in Sumatra. The orang utan occurs in Sumatra and Borneo, but is not known on the Malay peninsula.

Coal occurs at Ayar Sumpur, at Suban and at Kamuning in Sumatra.

Papilio memnon and P. coon also occur in Sumatra.

Kallima paralekta, of Sumatra, or leaf butterfly, when settled on a dead leaf, looks like a dead leaf, amongst which it rests.

Kallima machis, a very similar species, inhabits the Himalaya.

A Semnopithecus takes enormous leaps.

Siamang an ape of sumatra swings itself along in the trees hanging with its arms.

The elephant Elephas Sumatranus, and Rhinoceros sumatranus occur, also the Orangutan.

Galeopithecus of Sumatra feeds on leaves. It has a broad membrane extending all round the body to the points of the toes.

Buceros bicornis occurs in Sumatra. The male plasters up the female with her egg.

After the rainy season, when the torrents are wasted, Tavernier says they find veins of gold in the stones, which the waters wash down from the mountains that lie toward the north-east. Upon the west-side of the island, when the Hollanders come to lade their pepper, the natives bring them great store of gold, but very coarse metal, if not worse than that of China.

One of the most terrible active group of volcanoes in the world, says Mrs. Somerville, begins with the Banda group of islands, and extends through the Sunda group of Timor, Sumbawa, Bali, Java, and Sumatra, separated only by narrow channels, and altogether forming a gently curved line 2,000 miles along ; but as the volcanic zone is continued through Barren Island and Narcandam in the Bay of Bengal, (lat. 12° 15,) and northward along the entire coast of Arracan, the entire length of the volcanic range is a great deal more. The band extends northward to Chittagong, lat. 22° or 600 miles beyond Barren Island. Lieutenant Colebrooke, visited Barren Island in 1787, when it was in a state of violent activity ; he does not seem to have landed on it, and he quotes entire the account of it given by Capt. Blair in his survey of the Andaman Islands. The cone which springs from near the level of the sea, rises at an average of 32° 17', to 1,800, feet nearly. [Later authorities make it 500 feet, and this is probably its true altitude, Captain Blair gives no separate

representation of it on his chart ; he merely sets it down as a volcano.] Lyell quoting Von Buch as his authority, says Barren Island, in the Bay of Bengal, when seen from the ocean, presents on almost all sides a surface of bare rocks, which rise up with a moderate declivity towards the interior : but at one point there is a narrow cleft, by which we can penetrate into the centre and there discover that it is still burning. The volcanoes of Narcondam, Chedooba, Chittagong, in the Bay of Bengal are known. Barren Island was visited by Dr. John Adam in 1831. The water close in shore was then hot and steamy, while steam and smoke issued from the crater, but no lava or flame. He estimated the diameter of the base at about 300 or 1,000 yards, and the orifice of the crater, which occupies the entire summit of the cone, at about 30. A later description has been published of Barren Island by Captain Miller, who visited it in 1834.

The cone of the volcanic island of Narcondam, lat. 13° 22′, is about 800 feet high, no soundings are to be had within half a mile of the shore.

The volcanic belt of the Archipelago is marked by a chain of active and extinct volcanoes through the whole length of Sumatra and Java and thence by the Islands of Bali, Lombok, Sumbawa, Flores, the Serwatty islands, Banda, Amboyna, Batchian, Makian, Tidore, Ternate and Gilolo to Morty islands. Here the belt is broken and shifted 200 miles to the west, to north Celebes, from which it passes on to Siau and Sanguir, to the Philippine islands, along the eastern side of which it continues in a curving line to their northern extremity. From the extreme eastern bend of this belt at Banda, for 1,000 miles to the N. E. coast of New Guinea is a non-volcanic district. But on the N. E. coast of New Guinea another volcanic belt can be traced through New Britain, New Ireland and the Solomon islands to the farthest eastern limits of the Archipelago. The united length of these volcanic belts is 90 degrees, their width about 50 miles, but for about two hundred miles on either side of them evidences of subterranean action are to be seen in recently elevated coral rock, or in the barrier coral reefs which indicate recent submergence. In some part or other of all this line earthquakes are felt every few weeks or months, varying from a slight tremor to great movements shaking down villages and destroying life and property, and some of them devastating the adjacent lands. In Java in 1772, the volcano of Papaudayang was blown up by repeated explosions and a large lake left in its place. In Sumbawa in 1815, 12,000 people were destroyed by the great eruption of Tomboro. Makian, an island of the Moluccas, was rent open in 1646, by a violent eruption. On the 29th December 1862, it again suddenly burst forth, blowing up and altering its face and destroying the greater part of the inhabitants and sending forth such quantities of ashes as to darken the air at Ternate forty miles off and destroying almost the entire crops of that and neighbouring islands. Java has nearly 45 volcanoes, active or extinct, many of them with volcanic cones, and averaging 10,000 feet high. Sumatra, in reference to its extent has few volcanoes and a considerable portion has probably a non-volcanic origin. Sumatra, the uncultivated parts of Java and Celebes, Borneo, the Philippines and New Guinea are all forest countries, but on Timor and on all the islands around it there is absolutely no forest, and this character extends to Flores, Sumbawa, Lombok and Bali.

Mr. George Windsor Earl, in a pamphlet on the Physical Geography of South-eastern Asia and Australia, (1855) pointed out that the islands of Sumatra, Java and Borneo are connected with the Asiatic Continent by a shallow sea, and that a similar shallow sea connects New Guinea and all the adjacent islands with Australia, these last being all characterized by the presence of marsupial animals, and, carrying out Mr. Earl's suggestion, Mr. Wallace maintains that some of the islands had long been connected with the Asiatic Continent, and others equally long with that of Australia, and that a line of separation can be drawn between these, and he designates the Asiatic portion Indo-Malayan, and the Australian division Austro-Malayan. The seas between Sumatra, Java and Borneo are so shallow that ships find anchorage in any part of it, as it rarely exceeds forty fathoms and the seas eastward to the Philippines, and Java rarely exceed one hundred fathoms. The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia, and of the birds and insects, every family and every genus of the groups found in any of the islands occurs also on the Asiatic Continent and in a great number of cases the species are also identical. The great islands of Java, Sumatra and Borneo, even yet resemble in their natural productions the adjacent parts of the continent almost as much as such widely-separated districts could be expected to do, even if they formed part of the Asiatic Continent. The Philippine islands agree in many respects with Asia and the western islands, but present some anomalies. The eastern portion on the other hand, from

Celebes and Lombok eastwards, exhibits as close a resemblance to Australia and New Guinea as the western islands do to Asia. Australia has no apes, monkeys, cats, tigers, wolves, bears, hyenas, no deer, or antelopes, sheep or oxen, no elephant, horse, squirrel or rabbit. In lieu it has Kangaroo, opposums, wombats and the duck-billed polypus. It has no woodpeckers or pheasants, but has in lieu, the mound-making brush turkeys, honeysuckers, cockatoos, the brush-tongued loris, which are found nowhere else in the globe : and all these peculiarities are found in the islands which form the Austro-Malayan division of the Archipelago. The islands eastward from Java and Borneo, form a part of a previous Australian or Pacific Continent, although some of them may never have actually been joined to it. The Aru islands, Mysol, Waigyiou and Jobie agree with New Guinea in their species of mammalia and birds and they are all united to New Guinea by a narrow sea. The 100 fathom line around New Guinea, marks the range of the paradise birds. This separation has no relation to their geological character. The Indo-Malayan and Austro-Malayan divisions, hold two distinct types of the human race, the Malay and the Papuan, who differ radically in their physical, mental and moral characters and, under one or other of these two forms as types, the whole of the peoples of the Eastern Archipelago and Polynesia can be classed, and the line separating these two types comes near but somewhat eastward of that part of the zoological regions. This easterly jutting of the Malay line, has been caused by the maritime enterprise and higher civilization of the Malay races who have overrun the nearer part of the Austro-Malayan region have supplanted the original inhabitants and spread much of their language, their domestic inhabitants and their customs far over the Pacific. To the Malay type and to the Papuan type respectively, all the people of the various islands can be grouped. The Asiatic races, include the Malay and all have a continental origin which the Pacific races including all to the east of the Malay (except perhaps some in the northern Pacific) are derived not from any existing continent but from lands that now exist or have recently existed in the Pacific Ocean.

The most extensive volcanic band in the world runs through the Archipelago, taking a part of Sumatra, all Java, and the chain of islands to the east of it, most of the Molucca or Clove islands, a small part of Celebes and much of the Philippines. In 1815, there was a great eruption from the Tombora mountain in Sunbawa, the fifth island of the Sunda chain which is said to have destroyed 12,000 people. An active volcano lies N. E. of Kapaiyong in Sumatra. The island of Simo, one of the Batu group, on the west coast of Sumatra, had an earthquake and sea-wave on the 9th March 18 . Before the occurrence the island had 120 houses and a population of 1,045 ; on this day 96 houses were destroyed, and 675 of the inhabitants, besides 103 temporary residents, lost their lives. An earthquake was felt at the fall of the evening, shortly before the inundation. All the inhabitants then assembled, on the open space in the middle of the campong, but a moment afterwards they tried to make their escape from thence, as they dreaded the fall of the houses which were already tottering. They were driven back, however, by a rush of water which approached from the back of the campong. Running back from this they were overwhelmed by another terrific wave, which, out of 282 persons, swept off 206. Two waves met each other at this point and wrought a frightful destruction. Large masses of rock were carried from the sea for 100 to 200 paces inland. A colossal old jawijawi tree, which formerly stood on the bay, lay with its roots and branches, broken and twisted about two hundred paces from the shore. The water retired with so much force that much must have been swept into the sea. Soon after the earthquake very heavy reports were heard, like distant cannon shots, on which was observed approaching at a great distance from the sea a wave of the height of a full-grown cocoanut tree, and which dashed with furious force on the island ; some saved themselves by an immediate flight, the rest were overtaken by the water and swept away, except such as were caught by the jungle, or possessed presence of mind and strength enough to hold on to trees. Three such waves succeeded each other.

Volcanoes in Java are usually bare of foliage, alike on their summits as on their base, owing to the large quantities of sulphur that are washed down their sides. Mount Slamat peak is 11,330 feet above the sea, and is an active volcano, it is next to the highest in the island. Ungarung peak is about 5,000 feet. The north coast of Java is low. Further inland from Ungarung are Mount Prabu, Mount Sumbing and Mount Sindoro. At Boro-Boro hill in Java which is terraced, is a buddhist temple built A. D. 1344 and many buddhist images and remains, and at Brambanan are 296 hindoo temples erected A. D. 1266-1296. Telaga-bodas, or white lake, in Java, is in the old crater of the volcano of Papandayang. Java coast towards the south

is high and bold, and its rocks consist of hard volcanic basalts and trachytes.

The *Volcano of Tael* is in the island of Luconia in Manilla. The island is formed by a mountain from three hundred and fifty to four hundred yards above the level of the Laguna de Bombon, is about three leagues in circumference and has a crater about two miles at its circumference on its summit. The lining walls of the interior are fifty to seventy-five yards in perpendicular height and five cones of eruption covered with sulphur rise from the centre of the crater, a lake of green water which boils in several places. The Laguna de Bombon, itself has a circumference of thirty leagues; its waters are brackish and bituminous, and of great depth, in some parts no soundings at 125 fathoms. The great eruptions occurred in the years 1716, 1746 and 1754.

North of Batchian is Makian, a volcano, of which in 1646 there was an eruption.

Makian island 50 miles from Ternate, consists of a single grand volcano. In 1646 there was a violent eruption, which blew up the whole top of the mountain, leaving a truncated jagged summit, and vast gloomy crater valley. It was said to have been as lofty as Tidore before the calamity. On the 29th December 1862, another eruption of this vast mountain took place in which all the villages and crops were destroyed and many of the inhabitants killed. The sand and ashes fell so far that crops 50 miles off, at Ternate, were destroyed, and it was so dark at Ternate that lamps had to be lighted at noon.

North of Makian is Motir, a trachytic cone.

The Tenger mountains of Java, mean the wide or spacious mountains. There is here an old volcano with its trachyte crater 7,500 feet above the sea, in diameter 3½ and 4½ miles. It is the largest crater in Java and one of the largest in the world. Its bottom is a level floor of sand, which in some places is drifted by the wind like the sea and is called by the Malays the Laut Pasar or Sandy Sea. Four cones of elevation rise from this sand floor, the smallest of which called Bromo in 1866 was active, throwing out ashes. It rises like Monte Somma in the crater of Vesuvius. But trachyte, obsidian and pumice have been thrown out in succession.

Papandayang volcano, on the south of Java, in Lon. 108° in 1772, in a single night threw out scoriæ and ashes which Dr. Junghuhn thinks made a layer 50 feet thick for seven miles around. In Dr. Horsfield's account of it, drawn up from the native testimony, it is stated that an extent of ground, of the mountains and its environs, 15 miles long and full 6 broad, was by this commotion swallowed up within the bowels of the earth, but this sinking, according to Mr. Bikmore, p. 75, does not seem to have occurred.

Mount Galung-gong, a few miles N. E. of Papandayang, is also a Java volcano. On the 8th July 1822, at noon, not a cloud was seen in the sky when suddenly at ½ past one a frightful thundering was heard in the earth, and from the top of this old volcano a dark dense mass was seen rising higher and higher into the air, and spreading itself out over the clear sky with such an appalling rapidity that in a few moments the whole landscape was shrouded in the darkness of night. Through this darkness flashes of lightning gleamed in a hundred lines, and many natives were struck down by falling stones. Then a deluge of hot water and flowing mud rose over the rim of the old crater and poured down the mountain sides, sweeping away trees and beasts and human beings. At the same moment, stones and ashes and sand were projected high into the air, and as they fell destroyed nearly everything within a radius of more than 20 miles. A few villages on the lower declivities of the mountains escaped from being built on eminences, as they were above the streams of hot water and mud, and the stones thrown out fell beyond them, destroying villages at a greater distance. By 4 P. M. the extreme violence of the eruption had passed, by sunset the sky was again clear, and the sun shining on a scene of desolation. A second eruption occurred five days afterwards, and by that time more than 20,000 persons had perished.

Tenger mountains are occupied by a peculiar people who speak a dialect of Javanese, and still follow the hindoo religion.

At about 5 o'clock in the evening of the 15th April 1872, the volcano Merapi, in Java, which had been quiet since 1863, began to show signs of vigorous life. Glowing streams of lava issued out of the mountain, and rushing furiously downwards, buried whole villages in their fiery masses, filled up ravines and checked the course of rivers. This outburst was one of the most frightful ever known, it came so unlooked for, that every one was surprised by it. A river in the neighbourhood of the mountain was filled with lava to a depth of 15 feet; all the trees on its banks (which are 80 feet high) were consumed or scorched by the fearful heat. A great many human beings have perished together with their villages. Showers of ashes, stones and sand followed the casting out of the lava, and caused

dreadful devastation. At several places, the sand and ashes lay from two to four feet deep, whereby great damage was done to the coffee and other crops—coffee especially, because the berries were almost ripe. At Solo and other places the ash and sand showers lasted three days, and it became so dark that lamps had to be lighted in the daytime. The volcanic outburst was accompanied by slight shocks of earthquake. Thousands of Javanese had to take flight after having lost their all; their villages had become uninhabitable owing to most of the houses having fallen down. 200 dead bodies were found on one side of the volcano. A woman who escaped brought news, that her fellow villagers, 160 in number, had perished.

Ternate is merely a high volcano, with its base beneath the ocean. Its circumference around its shore is six miles and its height is 5,400 miles. Severe and destructive eruptions took place in 1608, 1635, 1653, 1673 and next on the 26th February 1838, then on the 25th March 1839 and on the 2nd February 1840. In that of 1673, a considerable quantity of ashes was carried to Amboyna. In that of 2nd February 1840, for fifteen hours, the solid ground rolled like the sea, but the heaviest ground wave was at 10 A. M. of the 15th February, and the people then took to their boats. In this interval were great eruptions of ashes and hot stones which fell like hail, Lava poured from the crater into the sea. For ten days clouds of black smoke poured out. About midnight of the 14th, the shocks were more violent, and before half past three A. M. every house was levelled. Fissures formed in the earth out of which hot water rose for a moment and then the earth closed again to re-open at another place. Its population in 1865 was 9,000. The lower part of the mountain behind the town is covered with fruit trees and hundreds of men women and children go daily to the mountain to bring in the fruit, durian and mango, lansat, mangustin. When Drake visited Ternate in A. D. 1579, the Portuguese had been driven out of the island by the sultan. Ternate with Batchian constitutes the ancient Moluccas. In the great earthquake of 1840 nearly every house was destroyed. The people are of three well-marked races, the Ternate Malay, the Orang Sirani and the Dutch. The first are the descendants of the intruding Malay who drove out the indigenes (who were no doubt the same as those of the adjacent mainland of Gillolo) and established a monarchy, their language is quite unintelligible, the Sirani are the christian descendants of Portuguese. Ternate town is at the foot of the mountains. Ternate, Tidore, Motir and Makian are only cones standing on the same great fissure of the earth.

Goram, is a group of three islands in the Eastern Archipelago. S. E. of Goram is a high group, composed of raised coral reefs, 300 or 400 feet, with a volcano on the island of Teor which broke forth in 1659. In the Goram group, at Manowolko, east of Ceram, a slight infusion of Papuan on a mixture of Malay and Bugi, has produced a good-looking people. The Goram people are wholly traders, every year they visit the TenimberKe and Aru islands the whole N. W. coast of New Guinea, from Oetanata to Salwatty, and the islands of Waigiou and Mysol. They also extend their voyages to Tidore, Ternate, Banda and Amboyna. Their prahus are all built by the Ke islanders, who annually turn out hundreds of neat boats. The Gorgam people trade in tripang, medicinal Musso bark, wild nutmegs and tortoiseshell, which they sell to the Bugi traders at Ceram, Laut and Aru.—*Bikmore, pp.* 124, 306, 312, 408-9, 418-9, 425; *Times of India*; *London Geog. Trans., Vols.* ix, xv; *Bombay Times, January* 16, 1839; *Cor. Ind. Rev., Vol.* iii; *Bombay Med. Trans., p.* 666; *Bombay Times,* 1840, 1843, *p.* 467; *Bombay Geo. Trans., Vol.* i, *p.* 302, 1848; *Dr. Buist on the Volcanoes of India, in Edin. Phil. Journal,* 1852; *Bom. Geo. Trans.* 1852., *Vol.* x; *Jour. of the Indian Archipelago, Vol.* iii, *No.* 1, *June* 1849, *pp.* 345 *to* 361; *Newbold's British Settlements, Vol.* ii, *pp.* 370-3; *Tijdschrift* v. *Neerl, Ind. Ed. in Jour. Ind. Arch., No.* 8, *August* 1849, *p.* 534; *Cal. Rev., No.* 73, *Sept.* 1861, *pp.* 39, 41, 43, 48; *Marsden's Hist. of Sumatra, pp.* 94, 162–262; *Wallace, Vol.* ii, *pp.* 19, 41, 53, 60.

SUMATRAS also Sumatrans, a term given by navigators to squalls from the south-west, often experienced in the south-west monsoon, in the Straits of Malacca. They are sudden and severe, blowing a moderate gale for 6 or 8 hours, and accompanied with loud thunder, lightning and rain. The tempestuous squalls are called Sumatras, because they rise in the direction of the island of Sumatra. They were formerly, and are still in some degree, the terror of those who navigate the Straits of Malacca. They are caused by the south-west monsoon being obstructed in its course by the mountains of Sumatra. The approach of the squall is betokened by a dense black cloud which rises from behind the opposite islands of Battam, and soon overspreads the sky, casting a dark shadow over the strait, within which the sea is lashed to foam by the strength of the tornado. Its effects are first felt by the ships in the roads, which heel to

the breeze, and swing round to their anchors, the cables, which were previously hanging in bights under the bows, being now stretched out ahead to their full extent. The squalls seldom last more than half an hour, when, after a smart shower, the sun again breaks out, and the wind subsides to a pleasant sea-breeze, leaving an agreeable freshness in the atmosphere, which renders the remainder of the day comparatively cool and pleasant.—*Earl's Indian Archipelago, pp.* 354 *to* 356 ; *Horsfield* ; *Newbold's British Settlements, Vol.* i, *p.* 3.

SUMB, HIND. Fraxinus floribunda.

SUMBA or Sandalwood Island, of about 4,000 geographical square miles, is composed of a range of hills that rise immediately from the sea to a height of 2,000 feet, and almost of equal height. Mount Romba peak, however, is 7,000 feet. Vessels visit it in the S. W. monsoon from Surabaya, and return in the N. E. monsoon with the active little ponies of the island. They are, after the ponies of the Batta of Sumatra, the best of all the horses of the Archipelago. Bikmore thinks its people are Malays, though this is questioned and they are also said to have a different tongue. It yields sandalwood and copper. Sumba, is mountainous, three hundred miles in circumference, lying to the south of Flores, from the coast of which it is distinctly visible in clear weather. The inhabitants of Savu possess a settlement near the south-west extreme of the island, and the Bughis traders of Ende have two or three small stations on the north coast which are occasionally visited by small European vessels for the purpose for obtaining horses ; but the natives of Sumba all dwell in the uplands, where they cultivate maize, yams and other produce similar to that grown on Timor, and are said to use the plough, which is unknown in any other island to the eastward of Sumbawa.—*Mr. Earl, pp. from* 6 *to* 185; *Bikmore, p.* 112. See Archipelago, India, Papuan.

SUMBHA, HIND., a tool to make holes in hot iron, a tool used in metal embossing.

SUMBAJI, son of Sivaji, succeeded his father in 1680 and reigned for 9 years. He was a tyrannical voluptuous prince, but courageous. He refused to become a mahomedan. He was murdered by Aurungzeb. He was succeeded by Saho an infant son, a captive in Aurungzeb's camp.

SUMBAWA ISLAND, the third in a direct line east of Java is about three times the extent of Bali or Lombok, and divided by a deep bay into two peninsulas. It has three languages, the Sumbawa, the Bima, and the Tombora. The natives are little inferior in cultivation to the most improved nations of Celebes. The Sumbawa and Bima languages are written in the Bugis character, but there exists in this island a singular and curious obsolete alphabet. It is ascribed to the Bima nation, but the characters do not generally correspond with the simple sounds of the Bima language as exhibited in the specimen given of it.

One of the three peoples speaking distinct languages current in the island of Sumbawa, are the Bima. Their alphabet, once distinct, has been displaced by that of the Celebes. In Sumbawa, the mahomedans take a high place, and they are largely proselytising the mountaineers who, however, secretly trust in their idols. In Grobagan at the centre of the limestone district is a mud volcano, 16 feet in diameter. The black mud every two to five seconds bubbles up and subsides, it rises to a height of 20 to 30 feet, then explodes with a dull noise scattering a shower of warm black mud in every direction ; round about are warm brine springs from which salt is extracted Its eruptions are most frequent in the rainy season. It is called Kuwu, " the place of abode," and an old legend is that it is the residence of a monster snake whose writhings cause the eruptions. The Javanese give picturesque names to the various places in the Island, Prosperity ; Country of ghosts, Unlucky : Heroic difficulty : the Javanese are skilful workers in metals, gold, iron, brass, cutlery, and carpentry. Their kris has a hundred forms. Mount Tomboro is on a peninsula on the northern side of Sumbawa. On the 5th April 1815, commenced a series of frightful explosions which lasted five days. They were heard so distinctly at Jokyokarta, in Java, a distance of 480 miles, that troops were sent out, to repel, as was supposed, some attack that had been made. Similar movement of gun-boats was made at Surabaya, and to the north, the reports accompanying the eruption were heard as far as the island of Ternate, near Gillolo, a distance of 720 geographical miles. To the westward these reports were heard at Moko Moko, a port near Bencoolen which is in direct line 970 geographical miles. The ashes that were thrown out, fell to the eastward, against the prevailing wind, as far as the middle of Floris, about 210 geographical miles ; and westward on Java, in the mountains of Cheribon, about 270 miles from the volcano. So great a quantity of ashes were thrown out, it is estimated that on the island of Lombok, about 90 miles distant, 44,000 perished in the famine that followed and Dr. Junghuhn calculates that within a circle described by a radius of 210 miles, the average depth of the ashes was at least two feet. During the erup-

tion, Timboro lost two-thirds of its previous height. A ship approaching the coast had to sail through a sea of pumice. About 7 p. m. of the 10th April, an eye-witness, the raja of Sangir, mentions that three distinct columns of flame burst forth, from near the top of Timboro, all of them, seemingly, within the verge of the crater, and on gaining some height in the air, the flames mingled in a confused manner. In a short time the whole mountain next Sangir, appeared like a body of liquid fire, extending itself in every direction. Towards 8 p. m. at Sangir, stones, some as large as a man's fist, generally of the size of walnuts, fell very thick, and obscured the view of the mountain. Between 9 and 10 p. m., ashes began to fall and soon after a violent whirlwind ensued which blew down nearly every house in the village of Sangir, carrying their tops and lighter parts along with it. In the Sangir district next to Timboro the whirlwind tore up trees and threw down men, cattle and houses. Sumbawa, is thinly inhabited, since the eruption of Mount Tambora, on April 11th, 1815.—*Bikmore, pp.* 108-110. See India, Pulo majo or Mayo, Teak.

SUMBEM, JAV. Blumea balsamifera.

SUMBOONATH is looked upon as one of the oldest temples in Nepaul, and was erected, according to Kirkpatrick, when Nepaul was ruled by a race of Tibetians; its possession was at one time claimed by the Dalai Lama, or sovereign pontiff of H'Lassa, but he has since been obliged to abandon the claim. The Dagoba resembles the temple of Buddha, but is only about half its size; the spire is covered with plates of copper, gilt. It is surrounded by pagodas, as well as numerous more modern shrines of a bastard hindoo class, to which Bhootyas and Bhamas, a tribe of Newars, resort in great numbers. Occasionally the Ghoorkas visit these shrines; the thunder-bolt of Indra, which is here exhibited, being the object of attraction to them, as they pride themselves on being orthodox hindoos.—*Oliphant's Journey, p.* 84.

SUMBU, TAM. Aniseed.

SUMBUL, or Sunbul, a generic term in Arabic and Persian works on Materia Medica.

Sumbul-ul-taib, or fragrant Sumbul, the root stocks of Nardostachys jatamansi, the Nardos or spikenard of the ancients.

Sumbul Rumi, is said to be the Narden ukluti, and supposed to be Valeriana celtica.

Sumbuljibali, or mountain nard, is thought to be Valeriana tuberosa.

Sumbul-i-Farsi, or Persian sumbul, is supposed to refer to Adiantum capillus veneris: but it has the description of Hyacinthos applied to it, and Polyanthes tuberosa is substituted for it in India.

Sumbul-i-khotai, or Cathayan sumbul, is also mentioned.

SUMBUL, of BENG., is Spikenard, Nardostachys jatamansi, also Oriental hyacinth, Hyacinthus orientalis.

SUMBULFAR, PERS. White oxide of arsenic.

SUMBUL-KHAR, HIND. White oxide of arsenic.

SUMBUL ROOT, of modern commerce, reaches Europe by way of Russia. The Sumbul root which has recently been introduced into the French market, is the root of an umbelliferous plant, which is characterised by a strong odour of musk. The pilgrims, on their return from Mecca, generally import to Salonika, Constantinople, &c., among other articles of trade, various plants with a musk-like odour. The preparation of these vegetable substances is said to be effected by smearing them over with musk-balsam.—*Simmonds' Commercial Products, p.* 648.

SUMUNDAR PHAL, also Hijjul, HIND. Barringtonia acutangula.

SUMBULPUR, a district of the interior of Orissa. On the cession of Sumbulpore and Patna and their dependencies, the British annulled the dependency of the other zemindars on these two chiefs, and in 1821 separate sunnuds were granted to each zemindar, and separate engagements taken. 21 mahals form the S. W. Frontier of Bengal which may be classified in four groups, Sumbulpore, Patna, Sirgooja and Singhboom, viz.:

Sumbulpore group.

Sumbulpore proper,	Sarungurh,
Burgurh,	Bunnie,
Raigurh,	Bamea,
Suktee,	Rehra Cole.
Gungpore,	Sonepore.

Patna group.

Bora Samur,	Patna proper,
Khuriar,	Phooljhur.
Bindra Nowagurh,	

The territories comprised in the Sumbulpore and Patna groups were ceded to the British Indian government by the treaty of 1803 with Ragojee Bhonsla but were, all but Raigarh, restored in 1806 and finally reverted to the British in 1826. The Sumbulpore and Patna groups are in the circle of the Cuttack Tributary Mahals. The following are names of pergunnahs of Sumbulpore which the British government transferred to the rajah of Nagpore by an engagement dated 24th August 1806, viz.:

Sumbulpore,	Serakole,
Sonepoor,	Benvia,
Saurungurh,	Bonee,
Burgurh,	Kautikpoor.
Suktee,	

The only territory reserved was that of rajah Joojar Singh. Several timber trees are procurable in abundance in the forests of the Sumbulpore district, and the banks of the Mahanuddy, Brahminy, and Bytury rivers, and it is believed that their uses might be very much extended were a demand to spring up, and some experiments be made to test their properties and value.—*Aitchison's Treaties, Vol. iii, pp.* 168, 190; *Calcutta Engineer Journal, July* 1860. See Kol, Nagpore, Patna.

SUMBUT, see Vikramaditya.

SUMEISAT, see Iran, Mesopotamia.

SUMERU, see Manasarovara lake.

SUMI, Tel. Soymida febrifuga, *Ad. Juss.*

SUMITRA, B. C. 2100 Jones, 57 Tod. It is from this prince the Mewar chronicles commence their series of rajahs of Sahrashtra. It is the last name in the Bhagavat Purana, and he is said by Tod to have been contemporary with Vikramaditya. See Inscriptions, Saurashtra.

SUMLU, Hind. Berberis aristata, also Berberis lycium, *Royle.*

SUMMA, Hind. Glochidion, *sp.?* An insignificant tree, wood worthless except for fuel. Bark used by tanners.

SUMMA, a race in Sind, who now claim to be descendants of Sam, son of Noah. They have been long in Sind, of which they are supposed to be the original occupants. They were in power as rulers from A. H. 752 to A. H. 927, when they were overthrown by the Arghoni. Their subdivisions are very numerous, nearly two hundred. The chief seem to be the Summa, with the sections Sumaja, Dera-Sumani, Loond Summa, Joona-Summa, Oto-Summa, Saheb-Summa, Sahad-Summa, Shekhab-Summa and Sind-Summa. As they are regarded the original occupants of the country, the names of their tribes may suggest to ethnologists the regions whence they came.

Abra,	Kaka,	Oottur,
Abaraja,	Kakajah,	Phool,
Ageel,	Kidri-pota,	Phoolnabia,
Amra,	Koraja,	Potor,
Babria,	Koria,	Pullee,
Beeya,	Loodia,	Puria,
Bodia,	Lookba,	Rahtor,
Buda,	Lound,	Ramabey,
Budio,	Lukkha,	Randbheer,
Buttee,	Mindra,	Shora,
Charshoo,	Moosra,	Sooltanote,
Chellari	Muhur,	Sootia,
Chugra,	Munabya,	Subta,
Coor,	Munapya,	Summa,
Dissur,	Mungra,	Sumaja,
Doongua,	Nalica,	Derra-summani,
Gooba,	Nalua,	Loond-summa,
Hajana,	Nara,	Joona-summa,
Halla,	Notia,	Oto-summa,
Hingoja,	Notiar,	Sahd-summa,
Hingora,	Numria,	Saheb-summa,
Janspuwar,	Oodbahulgora,	Shekhab-summa,
Jaraja,	Oodbaja,	Sind-summa,
Jasingorah,	Oodha,	Tukhra,
Jokia,	Oodhar,	Vurriah,
Jugseea,	Oonur,	Wahud,
Jutt,		

—*General Merewether.*

SUMME, Hind. Bignonia suaveolens. Amru sun, Hind., is Pyrus malus.

SUMMER BARLEY Hordeum distichon, *Linn.*

SUMMER WHEAT. Triticum æstivum, *Linn.*

SUMMULZYE, or Ismailzye, see Affghan.

SUMMUNPOOR, see Burabur caves.

SUMOOM or Simoom. Ar., a pestilential wind, from Sum, Ar., poison. The Bad-i-Sumoom blows in Kutch Gundava during the summer months; and many people lose their lives by it.—*Pottinger's Travels in Beluchistan and Sind, p.* 322.

SUMPU, Tel. Aniseed.

SUMPAGHY, Can. Michelia champaca, *Linn.*

SUMPITAN, Malay. A blowpipe used as a weapon amongst the Binua, and other races in the Malay peninsula and Eastern Archipelago, the bow and arrow are also known but not used. The Malays have not supplied them with articles so costly and dangerous as fire arms. All the Bermun tribes use the sumpitan and poisoned darts. Their sumpitan is a light and neat instrument and differs from that of the Dyak which is a piece of wood bored. That of the Bermun tribes (timiang) consists of two bamboos seven feet in length one enclosed within the other. The external one, which is merely for strength and ornament, is about three-fourths of an inch in diameter, and neatly carved for about a foot at each end and in the middle. To prevent it splitting the fibrous bark of the triáp is bound round about 6 inches of the extremity and a coating of dammar placed over it. The internal tube, which is the proper sumpitan, is of the same length with the case but only three-fifths of an inch in diameter. It is composed of two pieces of bamboo, united by a piece 8 inches long, which embraces the ends tightly at the junction. The bamboo used (the bulu timiang) is very light and fine grained. The arrows (damák) are small darts made of the stem of the birtam leaf, 10 inches in length, and one-sixteenth of an inch in diameter at the base, from which they gradually taper to a very fine sharp point. The base is inserted into a cone of káyu tutu (which is very porous and light) about an inch in length and one-third of an inch in diameter at its base. The point of the dart is dipped for about five-sixths of an inch in ipoh. This is made by taking akar ipoh, batang ipoh (or kyas), limes and tuba, which are bruised, boiled and strained. To this arsenic is added. Other substances, such as pachet, jimardès, mállye, and gadong, are also sometimes added.

The preparation, called ipoh, has the colour and consistency of chandu. An incision is made round the dart above the ipoh so as to ensure its breaking off and remaining in the wound. Each dart is kept ready for use in a case of bamboo about one-fourth of an inch in diameter. Fifty of these cases are laid side by side and united by strings. They are then rolled up and inserted into a case also made of bamboo, and which has a neat lid of jalutong. The same case contains a quantity of barok (a very light, spongy substance, also used as tinder) extracted from a tree called runout. After inserting the dart into the sumpitan a little barok is introduced. When the Binua blows into the tube, it is pressed against the base of the kaya tutucone, and prevents any of the air escaping between it and the sides. In shooting, the sumpitan is held firm by both hands being tightly clasped over its end, which is inserted into a handle.

SUMRA, HIND., of Hushyarpur, Sizygium jambolanum. The wild tree.

SUMRA, a dynasty of Agnikula Rajputs, who, in A. D. 750, succeeded to the Arabs in the government of Sind. The Sumra during the early part of their sway continued to be hindoos, indeed many of the tribe still continue so, and roam as shepherds through the thals of Jesulmir and the Upper Dhat country to the east of Sind. The Sumra of the desert, are one of the sub-divisions of the Pramara Rajputs and from their frequently combining with the Umar, the two gave name to the large tract of country which is still recognised as Umra Sumra and within which Alor is situated. Some of the mahomedans of Sind so early as A. D. 1032 adopted the Karmatian schism, and the Sumra, before they apostatized from their ancestral faith to mahomedanism intermediately adopted the tenets of the Karmatian dynasty. The Sumra race seem to have been ruling as early as A. D. 1032, but their dominions do not seem ever to have been extensive—*Elliot.*

SUMROO, the name by which Walter Raymond was known to the natives of India. He had been a serjeant in the French army. In 1763, on the orders of nabob Mir Kassim, he slew all the British prisoners.

SUMSIHAR, or Samsihar, HIND. A tree of Chota Nagpore with hard timber, *Cal. Cat. Ex.*, 1862.

SUMSUM, ARAB. Sesamum orientale. Gingelly seed.

SUMUL, also Sumbul-khar, HIND. Arsenic.

SUM-UL-FAR, AR. White oxide of arsenic.

SUMUNDAR PHAL, also Hijjul, HIND. Barringtonia acutangula.

SUMUNDUR JUG, Sumundr-phen, HIND. Bone of the cuttle fish, considered refrigerant, used in eye ointments, also in mesalihs, *Gen. Med. Top.*, *p.* 150.

SUMUNDER-SOKH —? Convolvulus argentaceus.

SUMUVARTTI, SANS., from sama, equal, and vrit, presence.

SUN, DUK. Briedelia spinosa, *Willd.*

SUN. It was worshipped separately (II. Kings xxiii, 5) in its physical character. Bel seems to have been a designation of the sun, amongst those who worshipped the heavenly host. The hindoos still worship the sun, and the Parsi race turn to the sun as an emblem of light. The Egyptian sun deity, was known there as Mu, Osiris and Ra. The ancient Arians, worshipped the sun as Mitra, which the modern Parsees still do as Mihr, and name their children after it, Mihr Bi, being in every household. In the city of Heliopolis, (Balbek) the Assyrians celebrated the worship of the sun with great ceremony. The image had been brought from Heliopolis in Egypt. The Phœnician Hadad, in Syria, Palestine and Mesopotamia, was the sun-god, representing the generative power of the sun, he was joined with the Phœnician Poseidon, (Demarus), the water-god, and Astarte, with her cow-horns, the producing and nourishing earth. Amun and Ham are said to mean the moon. Ham the chief god of Thebes was Amun-Ra, the sun, the king of the gods. Every king of Egypt was styled Zera, or son of the sun, and he was often sculptured as the third person of the trinity in the place of Chonso. With the spread of the Theban power, we note the acknowledgment of that power in the spread of the worship of Amun-Ra. In Nubia and at Elephantine to the south of Thebes, the chief god was Kneph, the Spirit, with a ram's head, who, in imitation of the worship in the capital became Kneph-Ra. So Sebek, the crocodile, called also Seb the father of the gods, became in due time Sebek-Ra-Chem, the god of generation, had his name from Chemi. He is in form a mummy, with his right arm raised, and a whip in his hand. He also was sometimes joined to the gods of Thebes and formed a trinity in unity under the name of Amun-Ra-Chem. At Heliopolis and the neighbourhood the name of the god of the sun was pronounced Athom, and he gave his name to the city of Thoum. At Mendes in the Delta, and at Hermanthis near Thebes, the sun was called Mando, and became Manda-Ra-Pasht, goddess of chastity, was worshipped chiefly at Bubastis, and has a cat's head. Athor was the goddess of love and beauty ; at Momemphis near Sais she was worshipped under the form of a cow. At

Sais was worshipped Neith, the queen of heaven, the mother of the gods. She wears sometimes the crown of Lower Egypt. Thoth, the god of letters, has the head of an ibis, and holds a pen in his hand. He was one of the gods of the moon and lord of Hermopolis. Hipimon, the god of the Nile, has water-plants on his hand, and carries fruits and harvests in his arms, the river's gifts to his worshippers. Pthah, the god of fire, was worshipped in Memphis and little known in Upper Egypt. He is bandaged like a mummy and was the chief god of the lower country as Amun-Ra of the upper. The only group of gods that was worshipped in every city alike was Isis, Osiris, and their family. They had once reigned on earth. They were feared less and loved more than the great gods, as being between them and the human race. Osiris had been put to death by his wicked brother Typhon.

Fire was held in the highest reverence, by many ancient sects, Chaldæans, Magians, hindoos, and Platònists. The noble principle of the Pur Zoegonion *πυζξοηγονιον* of the Stoicks, the universal agent of all nature, the *ψυχη κοσμη* of the Platonists, which, emanating from the sun, for that, like the other orbs of heaven, was thought to be composed of ætherial fire, was diffused through the boundless universe. The Greeks preserved a fire in the temple of Apollo, the Romans entrusted its charge to the Vestal Virgins. The Jews had their sacred fire, according to the Levitical laws. All nations have had their piers and altars; Les Brames lui addressent tous les matins des prieres. Aguini est le Dieu du feu, ils ne l'adorent, (they say) que parceque le feu est le figure de Chiven, "Seva," Dieu destructeur. In Apollonius's visit to Upper India, he describes the magnificent temple of the sun at Taxila. The sun was adored as the brightest symbol of the Deity. The Natchez of America worshipped the sun with singular honours, and preserved with the same reverence the sacred fires; and ministers were appointed to watch over and feed them. Sumpto exemplo ab igne altaris in templo. Dei Persæ etiam didicerunt in suis Pyræis ignem servare perennem, quem quamvis non cultu divino adoraverint nimio tamen superstitiose habuerunt, et hodie habent. The great Gete of Central Asia deemed it right to offer the horse to the sun, as the swiftest of created to the swiftest of non-created being. Colonel Tod tells us that Bal-nath was the God Bal of the ancient times of India, and the bul-dan was the gift of the bull to the sun. In Central India, at the present day the worship of the sun as the Supreme Deity is the foundation of the religion of the Ho and Oraon as well as of the Moondah. By the former he is invoked as Dhurmi, the Holy One. He is the Creator and the Preserver, and with reference to his purity, white animals are offered to him by his votaries. The sun and moon are both regarded as deities by the Khond, though no ceremonial worship is addressed to them. In Northern Asia the Samoyedes are said to have worshipped the sun and moon. The earliest objects of adoration in Rajputanah were the sun and moon, whose names designate the two grand races, Surya and Chandra or Indu. Bud'ha, son of Indu, married Ella, a grand-child of Surya, from which union sprung the Indu race. They deified their ancestor Budha, who continued to be the chief object of adoration until Krishna, hence the worship of Bal-nath and Bud'ha were coeval. That the nomade tribes of Arabia, as well as those of Tartary and India, adored the same objects, we learn from the earliest writers; and Job, the probable contemporary of Hasti, the founder of the first capital of the Yadu on the Ganges, boasts in the midst of his griefs that he had always remained uncorrupted by the Sabeism which surrounded him: "If I beheld the sun when it shined, or the moon walking in brightness, and my mouth has kissed my hand, this also were an iniquity to be punished by the judge, for I should have denied the God that is above." That there were many hindoos who, professing a pure monotheism like Job, never kissed the hand either to Surya or his herald Bud'ha, we may easily credit from the sublimity of the notions of the 'One God,' expressed both by the ancients and moderns, by poets and by princes, of both races; but more especially by the sons of Bud'ha, who for ages bowed not before graven images, and deemed it impious to raise a temple to them. At Oodipoor the sun has universal precedence; his portal (Surya-pol) is at the chief entrance to the city; his name gives dignity to the chief apartment or hall (Surya-mahal) of the palace; and from the balcony of the sun (Surya-gokra) the descendant of Rama shows himself in the dark monsoon as the sun's representative. A huge painted sun of gypsum in high relief, with gilded rays, adorns the hall of audience, and in front of it is the throne. In addition to these, the sacred standard bears his image, as does that Scythic part of the regalia called the changi, a disc of black felt or ostrich feathers, with a plate of gold to represent the sun in its centre, borne upon a pole. The royal parasol is termed kirnia, in allusion to its shape, like a ray (carna) of the orb. The most revered text of the Vedas of the Hind-

doos, is imparted to a brahman youth on his initiation and is a invocation to the sun.—*Bunsen, Vols.* iii, *pp.* 525, 581 ; iv, *pp.* 269, 318, 325, 687 ; v, *p.* 127 ; *Sharpe's History of Egypt, Vol.* i, *pp.* 98 *to* 100 ; *Chatfield's Hindoostan, p.* 191 ; *Lubbock's Origin of Civilization, p.* 215 ; *Tod.* See Hindoo, Rama, Singhalese, Siva, Vidya.

SUNA or Sanna, ARAB. Cassia lanceolata, *Royle,* Cassia forskalii.

SUNA or sona, GUZ. Gold.

SUNAHSEPHA, a brahmin's son destined to be a victim to Varuna. See Hindoo, Sacrifice.

SUNAKA, a dynasty of Magadha kings of Bharatkanda reigned 128 years.

SUNA MAKHI, GUZ., HIND. Cassia elongata, Senna. See Cassia plants.

SUNAR or sonar, HIND., a goldsmith.

SUNARI, see Kelat.

SUNBAL, HIND. Abutilon indicum.

SUN-BIRDS, Cynnyridæ. The purple honey-sucker of Jerdon, the beautiful blue winged sun-bird (Arachnechthra asiatica, *Lath.*,) is common, and nothing can exceed the grace and elegance of its congener, the Ceylon sun-bird (Leptocoma zeylanica). This exquisite little creature sports round the top of the prickly pear, sucking the nectar from its flowers like a humming bird. Neither species, however, subsists altogether on honey, for flies and minute insects are frequently found in their gizzards. The brilliant green spot on the wing of the male is wanting in the female. In the gardens the tiny sun-birds hover all day long, attracted to the plants, over which they hang poised on their glittering wings and inserting their curved beaks to extract the insects that nestle in the flowers.—*Adams* ; *Tennent's Sket. of Nat. Hist., p.* 249.

SUNBUL-UL-TIEB, ARAB. Spikenard.

SUNCAISHLA, TEL. Poinciana elata.

SUNCHUL, GUZ. Bit-laban.

SUNDA, see Chalukya, India.

SUNDA, an island in the Eastern Archipelago, forming with Borneo and others a group of islands of which Borneo is the chief. The Sunda people exhibit many features of a mountain race. They are shorter, stouter, hardier, and more active men, than the inhabitants of the coast and eastern districts. In some respects they resemble the Madurese. Sunda Strait has two channels which lead into it from the westward, the small channel between the west end of Java and Princes' island, and the great channel to the northward of the island, betwixt it and the south coast of Sumatra, which occupies upwards of a degree of longitude indented by two large bays, the shores of which are fronted by numerous islands and rocks.—*Raffles' Hist. of Java, Vol.* i, *p.* 59. See Johore, India.

SUNDA-KAIA, TAM. Solanum torvum.

SUNDAL, also Sukur, DUK., GUZ., HIND. Sandal wood.

SUNDAL-KA-TEL, HIND. Sandal wood oil.

SUNDAN, see India.

SUNDAR, HIND. Blitum virgatum.

SUNDARA BADINIKA, TEL. Viscum orientale, *Willd.*, also V. verticillatum, *Roxb.*

SUNDARER, or Sundara murtti, a famous Saiva poet.

SUNDE-KIRE, TAM. Desmanthus natans.

SUNDEL, DUK. Santalum album, *Linn.*, Sandal wood.

SUNDEL AHMER, ARAB. Pterocarpus santalinus.

SUNDEW, ENG. Drosera indica, Drosera peltata.

SUNDERBANS. The islands in the delta of the Ganges. The name may be derived from the Chandra bhanda tribe, employed on the salt manufacture there, and like the Molangis, only a step or two removed from slavery. Others derive the term from the abundance of the Sundra tree: and it is said also to be from two Bengali words, Sundar ban, great or beautiful forest. The Sunderbun forest occupies about 8,000 square miles, which may be represented by that portion of the English coast lying between Plymouth and Chichester, or one hundred and fifty-three miles east and west, and reaching as far north as Gloucester, or eighty miles from the sea and occupying the counties of Wiltshire, Dorset, the half of Hampshire, Somersetshire, the half of Devonshire, and the half of Gloucestershire. The northern, or cleared portion of the Delta, is highly cultivated and densely populated, supporting 420 souls upon each square mile, or nearly 5,000,000 inhabitants ; the southern portion on the contrary is occupied by extensive swamps and dense forests, and their few inhabitants live in boats, not daring to venture on shore by day on account of the numerous tigers, nor by night on account of the fatal miasm, exposure to which is almost certain death. Dr. J. D. Hooker in his interesting Himalayan Journal, Vol. ii, p. 340, remarks upon several very anomalous circumstances connected with the eastern portions of the Delta :—He says, the total breadth of the Delta is 260 miles, from Chittagong to the mouth of the Hooghly divided longitudinally by the Megna ; all to the west of that river presents a luxuriant vegetation, while to the east is a bare muddy expanse, with no trees or shrubs but what are planted. On the west coast the tides rise twelve or thirteen feet, on the east, to forty or eighty. On the west, the water is salt enough for mangroves to grow for fifty miles up the Hooghly ; on the east, the sea coast is too fresh for that

plant for ten miles south of Chittagong. On the west, fifty inches is the Cuttack fall of rain ; on the east 90 to 120 at Noacolly and Chittagong, and 200 at Arracan. The east coast is annually visited by earthquakes, which are rare on the west ; and lastly, the majority of the great trees and shrubs carried down from the Cuttack and Orissa forests, and deposited on the west coast of the Delta, are not only different in species, but in natural order, from those that the Fenny and Chittagong rivers bring down from the jungle. Mariners, when approaching the Sandheads, having no land in sight, not even the height of a span to guide them, and are obliged to trust entirely to their lead to inform them of their position. The sand that is brought down by the rivers hardens under the surface of the sea into a concrete, nearly as hard as rock, to touch upon which is fatal to any craft ; but as the waters descending the rivers cut a subaqueous channel through the sand, the lead informs the pilot at once, whether he is on a bank or in a channel. Government pilots are always cruising a few miles from the land, and at night continually burn blue lights to inform ships of their position. The segregation of the sand from the mud is as follows : the freshes or heavy rains bring down from up-country vast quantities of sand and earth calculated at 40,000 million cubic feet, or nearly one-third of a cubic mile, rendering the waters of all the rivers opaque or of a dull yellow colour. This body of water rushing along with great impetuosity reaches the sea ; a contest immediately takes place between the rushing water and the advancing tides, the effect is to cause the heavier sand to subside, which is done on either side of the river channels, forming the Sandheads, the finer particles of mud are driven back or up the rivers, and deposited upon the ten thousand islands over which the tide sweeps ; but, as all the finer particles of sand and mud are not thus thrust back upon the Soonderbuns, some portion of the alluvium is carried out to sea for forty, fifty, and even for sixty miles, where silently and slowly it finds its way to the bottom of the ocean, forming the soft, impalpable purple mud so well known to pilots and others approaching the shores of India. At sixty miles from the Soonderbuns the ocean is free from any appearance of natant impurities, but nevertheless a certain amount of alluvial matter is subsiding to the bottom of the sea that number of miles from the land, which, probably, only commence to sink at forty miles from the Soonderbuns. Dr. Hooker alludes to the vast increase of the land on the eastern flank of the Delta by the deposition of soil driven up by the waves. He says the mainland of Noacolly is gradually extending seawards, and has advanced four miles within twenty-three years : this seems sufficiently accounted for by the recession of the Megna. The elevation of the surface of the land is caused by the overwhelming tides and south-west hurricanes in May and October : these extend thirty miles north and south of Chittagong, and carry the waters of the Megna and Fenny back over the land, in a series of tremendous waves, that cover islands of many hundred acres, and roll three miles on to the mainland. On these occasions the average earthly deposit of silt, separated by micaceous sand, is an eighth of an inch for every tide ; but in October 1848, these tides covered Sundeep island, deposited six inches on its level surface, and filled ditches several feet deep. These deposits become baked by a tropical sun, and resist to a considerable degree denudation by rain. Whether any further rise is caused by elevation from below is doubtful ; there is no direct evidence of it, though slight earthquakes annually occur ; and even when they have not been felt, the water of tanks has been seen to oscillate for three-quarters of an hour without intermission, from no discernible cause. The Sunderbuns have no defence whatever to seaward, not even an inch in height, every spring-tide and every cyclone wave dashes its waters over the land, deluging the country with waves, the impetuosity and volume of which are unknown and unheard of in Europe ; waves 30, 40 and even 60 feet in height have been known to rise in the Bay of Bengal, to dash over the highest trees and to deluge the whole country for miles inland. The Sunderbuns in their present state can never be inhabited ; they are too exposed to the fury of the tropical hurricanes that arise in the Bay of Bengal, and their unhealthiness is so great, from the stagnated air and corrupting vegetable deposits, that no human beings can ever hope to struggle against such fearful odds ; but should this tract ever share in the upheaval that is now going on near Arracan and on the Tenasserim Coast, rich would be the soil that would be brought under the plough, and great would be the population that would be found to occupy the sea-board tract. Until that time arrive, the Sunderbun tract can but remain waste, an inaccessible, and an impregnable defence to India towards the sea. The remains of temples, mosques and other buildings, both hindoo and mahomedan, prove that the country has not only been once populated, but had made great advancement in civilization. Maharajah Pratadyta, built a magnificent city in the 24-pergunnah portion of the Sunderbuns. He made tributary all the princes of

Bengal, Behar, Orissa and Assam, overthrew Akbar's army on the shores of the Mutlah and finally ended his days a captive in the Mogul capital. The storm wave of 1737, a wave forty feet above the water level, devastated the Sunderbuns and the ravages of Mugs and Portuguese buccaneers completed the desolation. Mr. Long has stated that, when in Paris in 1848, M. Jomard, of the Bibliotheque Royale, showed him a Portuguese map of India more than two centuries old, in which the Sunderbuns was marked off as cultivated land with five cities therein. This was confirmed by a map in DeBarros' "Da Asia," a standard Portuguese history of India. The libraries of Portugal would be worth searching for further information. He had, twenty years ago, examined Tarda, a town not far from Port Canning, which was the port of the Portuguese before Calcutta was founded; it was once an emporium of trade, and ships must have sailed up by the Mutlah, but no ruins now remain. He had seen, 40 miles south of Port Canning, a fine hindoo temple two centuries old. The cyclone of 1680, according to Mr. Long, carried away more than 60,000 people from the Sunderbuns.—*Calcutta Review No.* lxiii, *p.* 24, *March* 1859; *Hooker's Himalayan Journal.* See Migration of birds, Saugor islands, Sharks.

SUNDBYA, or Sandbya, SANS. In hindooism, is the recital of prayers accompanied by certain modra or gesticulations, and their performance by hindoos.

SUNDHUR, HIND. Pinus strobilus.

SUNDHUR or Soondoor, HIND. Red lead.

SUNDHYA, SANS., from sang, prep; and dhoi, to remember.

SUNDI, HIND. A kind of weevil.

SUNDLASA, HIND., a flat circular stone on which sandal wood is ground down.

SUNDOOQ, HIND., a chest, or trunk, a coffin. Sundooqcha, a box.

SUNDRA, TEL., BENG.? Acacia sundra.

SUNDRAS or Sundrus, resin of the Vateria indica, called by the various names of "East Indian copal," "Indian anime" and "Piney dammar;" in Hindi, according to the Makhzan-ul-adwiya, "Chanderus," and "Kahruba," among the common folk.—*Powell's Handbook, Vol.* i, *p.* 410.

SUNDRA TREE, Heritiera littsralis. See Sunderban.

SUNDRI, in musical instruments a 'fret.'

SUNDRI, BENG. Heritiera littoralis, *Ait*, *DC.*, *Roxb.*

SUNDROOS, ARAB. Sandarach.

SUNDULE KA PAT, DUK. Elate sylvestris, leaf.

SUNDUL SAFED, PERS. Sandal wood.

SUNDUL, HIND. A ceremony, an embrocation of sandal wood. Sundul bath, a ceremony. Sundul ka khor, or sandal wood core.

SUNDUR, MAHR. Prosopis spicigera.

SUNDUR, a small principality, in L. 15° 5'; 76° 34', 24 miles W. of Bellary; level of the nalah is 1,900 feet, *Cull.*

SUNEHRI RANG, HIND. Gold color.

SUN FLOWER, Helianthus annuus. Sun Flower oil, Oils of Helianthus annuus and H. perennis.

SUNG, HIND. Eugenia acris, *W. & A.*

SUNG or sang, PERS. A stone, see Sang.

SUNGA-BADI, an atheistical sect amongst the hindoos.

SUNGA, a dynasty that reigned 110 years, the first of whom Pushpamitra, (B. C. 178) put his master, the last of the Maurya, to death. See Magadha.

SUNGAL, HIND. Abies smithiana, also Taxus baccata. The Himalayan yew.

SUNGAM KUPPI, TAM. Clerodendron inerme, *Gærtn.*

SUNGARI, a river of Manchuria. The Daurian dwelling on the Upper Sungari, in the neighbourhood of Tsitsikar, are well made, especially the women, and dress like the Manchu in China. The secretaries of the Mandarins who are sent to this part, are privileged by a letter from the Khan to select any women or young girls whom they may fancy. Some of the men whose wives had been taken in this manner, still persist in considering it a special favour to have such fine gentlemen as brothers-in-law. Others, though discontented, are compelled to conceal their chagrin from fear of punishment and disgrace.

SUNGARIANS, see Kirghis.

SUNG-BUSRI, DUK. Zinc, spelter.

SUNG-DIRAN, an impure and weak nitro-muriatic acid, made by attar or druggists by mixing equal parts of alum, nitre and salt with a little water in an earthen pot (gurra,) and distilling; an acid fluid comes over that is applied to cure herpetic eruptions.—*Genl. Med. Top., p.* 152.

SUNGEI PAGO, see Johore, Tin.

SUNGGL, HIND. Fraxinus xanthylloides.

SUNGHITA, SANS., from sung, prep. and hitu, to collect.

SUNGI-BULU, see Tin.

SUNG-I-BUSRA, is an officinal article at Lahore. It is a compound earthy mass of a greyish color, occasionally varying (from the different composition or manipulation) sometimes it is to be met with in small pieces, at other times in a tabular form, as thick as a finger. Whether its name "basree" be from Bassora, or from vision, as formerly the lapis divinus was used, is not known. It is certain

that no zinc is in it. But in Ainslie's Mat. Indica, Vol. i, p. 573, Sung busrie is stated to be zinc. According to the analysis made by the Professor of Chemistry, Dr. Joseph Redtenbacher, in the Chemical Laboratory at the Thersianum in Vienna, the constituent parts of this compound are: clay, magnesia, silica, and oxyde of iron. It is probably prepared from Diorite, the analysis of which showed the same ingredients. Sung-e-Busree was tried in the cholera epidemy at Lahore, in 1835.—*Thirty-five years in the East, by Dr. Honig, p.* 351.

SUNGIE BULAK, also Sungie-liat, also Sungie tango. See Tin.

SUNG-I-MARMAR, PERS. Marble.

SUNG-I-MISRI, a red and white stone, imported viâ Pali, is used as an aphrodisiac: one tola for one auna.—*Genl. Med. Top, p.* 152.

SUNGKEERTANA, SANS., from sang, prep.; and keertana, to speak aloud.

SUNGKSHIPTA-SARU, SANS, from sangkshipta, abridged, and saru, essence.

SUNGLA, in the Kunawar Himalaya. The Barga Pass leads from it.

SUNGLA, see Barga Pass, Kunawer.

SUNG-NAI, or Sungraee, HIND.

Panolia acuticornis and P. eldii, *Gray.*
Cervus or Rusa frontalis, *McClelland.*
Cervus eldii, *Cal. Jour. Nat Hist.*
Rusa dimorpha, *Gray.*

Munipore and Malay peninsulas.

SUNGNUM, see Kunawer.

SUNGOO, Monetia tetracantha.

SUNGSKARA, also Sungskrita, SANS., from sang, prep.; and kree, to do.

SUNG SURMIYA, a concretion from the head of a fish comes from Delhi, used as an aphrodisiac. Sold at 8 annas a tola.—*Genl. Med. Top., p.* 152.

SUNGTRASH WANLU, TEL. The stonemason race.

SUNGTU, HIND. Xanthium strumarium.

SUNGU, TAM., the Chank shell.

SUNGUM, SANS., the fork or point of confluence of two or more rivers, always sacred to Mahadeva.—*Tod's Rajasthan, Vol.* i, *p.* 16.

SUNGURH PASS, see Khyber.

SUNG-YAN HILLS border on Fohkien in the district of Ping-yang, Wan-chan prefecture, and in close proximity to Peh-kwan harbour 27° 9' 10" N., 120° 32' 6" E. The locality has been visited by one foreigner only, to whom we are indebted for most of the following particulars. He started from Chih-kibight in Lannai harbour, to which Ningpo boats resort for trading purposes, to the northward of Peh-kwan. Three hours' hard walking over a succession of precipitous hills crossed by stone steps and pathways brought him to the mines. It is stated that no potash nor any other material is employed in the works. Granitic and porphyritic rocks abound in the vicinity, and some parts of the district produce iron and silver. According to the Wan-chan topography, the working of silver was discontinued in the reign of Wan-lih (1615) in consequence of imperial prohibition. This part of the coast has recently become the seat of extensive poppy cultivation.

SUNGYUMU, SANS., from sung, prep.; and yum, to cease.

SUNG ZEN, BURM. Citrus aurantium, *Linn.*

SUNG-YUN, the second Chinese pilgrim into India, belongs to the year A. D. 502, but his travels were confined to the Kabul valley and N. W. Panjab, they are of much less importance than those of Fa Hiau, more especially as his journal is particularly meagre in geographical notices.—*Cunningham's Ancient Geography of India, p.* 8.

SUNHAWA, see Tin.

SUNISHUNNA, SANS. Achyranthes polygonoides.

SUNJIE UJONG, a state, in the interior of Malacca.—*Beul. As. Soc. Jour., No.* 4 *of* 1856, *p.* 366.

SUNJEEVANI, SANS., from sang, prep. and jiv, life.

SUNJIRU, GUZ. Soapstone.

SUNJOGATA, daughter of Jye-chand, a Rahtor Rajput, the last hindoo king of Kanouj. Her father Jye-chand celebrated the last Rajshahi in India. He did this to soothe his vanity which had been mortified by his rival, Pirthi, a Chohan Rajput and the last raja of Delhi, assuming empire by performing the sacrifice of the Aswamedha. At the Rajshahi, Sunjogata was led forward to select her husband from the assembled princes; but she threw the Bar-mala, or marriage garland, over the neck of the gold effigy of the absent Pirthi-raj. Pirthi-raj hearing of this, he with the elite of his warriors, in A.D. 1175 carried her off from Kanouj, in open day. There was a desperate running fight for five days all the way to Delhi, losing the best of his warriors, but he kept his prize and gained immortal renown. For a year they lived happily together, but on the invasion of Mahomed Gori she urged him to battle. As he left she exclaimed, "I shall never more see him in Yoginipur (Delhi) but in the region of Swerga," and her prediction was verified, for he was taken captive and slain. She then mounted the funeral pyre, and this is the first authentic record of sutteeism.—*Cal. Rev.* See Chand Jye Keshu, Pirthivi.

SUNK, DUK., the Chank shell.

SUNKA and Banga, are rivers near Rungloo in Sumbulpoor also a nuddy near Bareilly, and near Kookroodie in Gangpoor.

SUNKAR, a river of Chittagong.

SUNKEERNA, Sans., from sang, prep.; and keerna, thrown about.

SUNKRANDANA, Sans., from sang, prep.; and krandana, to cry

SUNKESULU, Tel., or Sunkesur, Hind. Soonkasulu wood.

SUNKESWARAM, Tel. Poinciana elata, *Linn.*

SUNKH, Hind., the chank-shell, is frequently used by devotees; also as an accompaniment to the tumkee. Sometimes they play trios and quartettos on the shells alone.

SUNKISA. The ruins of Sunkisa (not called now Samkassa) can enter into no comparison with those of Canouj, even if we include the ancient k'hera of Suraee Uqut'h. It is stated as an extraordinary fact that the worship of the identical Naga mentioned by Fa Hain is still annually performed: but the truth is, that the mound where this worship takes place is nothing more than the common heap of bricks, or earth, which we see in every village, erected for worship during the Nag-Punchumee. Lieutenant Cunningham is probably correct in thinking that Sunkisa was detroyed in the wars between Prit'hi Raj and Jye-chund, but there seems reason to conclude that the town must have belonged to the latter when it was captured, for it is to the east of the Hallee-nuddee, and is familiarly known as one of the gates of Canouj. Sunkisa is generally recognized amongst the learned natives of these provinces, to be the site of the Sunkasya of the Ramayana.

SUNKJIRU, Hind., Guz. Soapstone.

SUNKO, see Tin.

SUNKUR, Gond. Acacia odoratissima.

SUNKUTUN, Hind. Symphytum officinale.

SUNMIANI, see Kelat; Sind.

SUNN, Beng., Hind.

Ghore sunn,	Beng.	Crotalaria juncea,	Lat.
Mœsta pat,	,,	Taag,	Mahr.
Brown hemp,	Eng.	Wucko nar,	Maleal.
Hemp; Sunn hemp,	,,	Sana,	Sans.
Concanie hemp,	,,	Kenna,	Singh.
Salsette ,,	,,	Janapa; Shanapa,	Tam.
Bombay ,,	,,	Vuokoo-nar,	,,
Sunn,	Guz., Hind.		

The Sunn fibre has become an article of extensive export and of growing importance in the great agricultural districts to the east of the Godavery. In Malabar, Canara, Dharwar, Mysore, in all the great grain countries to the south, and in Khandeish, the quantity grown has more than doubled during the last ten years. In the Konkans, its culture has remained stationary if indeed it has not decreased. Brahmans and the higher classes of cultivators consider it beneath them to cultivate sunn, indeed there is a common belief, that a cow in calf, if tied with a rope of sunn will miscarry. In Guzerat, it is often sown for a green manure being ploughed into the land just after the flower has appeared. Also in the collectorate of Broach, it is somewhat extensively cultivated on those broken lands and edges of ravines which decline from the level of the khannum or black soil to the Myhee river. In cleared patches of the different forests which skirt and lie at the foot of the ghauts, it is said to be regularly cultivated as a rotation crop. In Khandeish the Brinjari grow it in spaces which they clear near their temporary camps in the rainy seasons and in the hilly parts of Mysore, large camps of the same wandering tribe may be seen with their small huts or lightly-stretched tents of cloth pitched near the slope of a great river, while their cattle are browsing among the neighbouring heights, and whole families are busied either in attending to the cultivation of sunn or in working up such material as they have collected from the crop into twine and cloth. For the former purpose the hemp has to be prepared by a tedious and laborious process of beating on a flat stone or wooden block, successive blows being dealt by the men, each of whom is armed with a heavy club. By this means the woody fibre is pretty effectually got rid of and the article is then handed over to the women, boys and girls of the company to be by them spun into twine on the rude spindle or piru which they always carry with them. It is no uncommon thing to see one of their stout wiry and bronzed visages—for such they always appear in the line of march—stalking along with a child on her back, her eye fixed on the movements of the cattle and both her hands employed in mechanically twisting the fibre of the twine on this spindle. In districts below the ghauts the cultivation of sunn is limited to that grown by the wilder mountain tribes, and the mussulman and hindoo fishermen for their nets. The practice of sowing the sunn plant for the purpose of a green manure, proves that the natives appreciate the effect of manures decomposing in the soil: the use of liquid manure specially carted for the purpose of distribution was common in some parts of the country. Dr. Wight gave the following as the results of his experiments of the strength of fibres:—

Coir	224	lbs.
Pooley Mungee, (*Hibiscus cannabinus*)	290	,,
Marool, (*Sanseviera zeylanica*)	316	,,
Cotton, (*Gossypium herbaceum*)	346	,,
Cutthalay nar, (*Agave americana*)	362	,,
Janapa, (*Crotalaria juncea*), Sunn, hindee	407	,,
Yercum, (*Calotropis gigantea*)	552	,,

The prices of the fibre in the interior of Bengal are stated at from Rs. 1-8 to Rs. 2-8

per maund of 84 lbs. : in the interior of the Madras territories at 2*s.* a maund. In 1844, when Petersburgh hemp was selling in England at £ 38 per ton, Indian brown hemp brought £ 20 ; sunn from £ 16 to £ 18 and jute £ 10 to £ 12. In December 1854 Bombay hemp was quoted at £ 35, to £ 48, sunn £ 27 to £ 33, jute £ 21 to £ 25 when Petersburgh hemp was selling at £ 58 to £ 63. Crotalaria juncea furnishes the vast proportion of the so called hemps exported from India. It is cultivated near cities of Oude by hundreds of beegahs ; but in the vicinity of villages only in small quantities, principally for the purpose of making fishing nets. Its cultivation could be extended all over Oude, but principally where light soil exists. It is largely grown all over India for the manufacture of rope, string and ghunny bags, the exports from the Madras Presidency was:—

	Sunn, Hemp. Cwt.	Sunn, Twine. Cwt.	Ghunny Bags. No.
1850-51	2,095	1,372	58,950

It is, equal to Petersburgh Hemp, for many purposes, and when well prepared will bear comparison with flax. A small quantity of Madras hemp, 2 cwt., 3 qrs. and 3 lb, was cleaned by Mr. Dixon, at a cost of 6*s.* 1½*d.* This hemp was valued, as imported at £ 24 per ton, and produced

	Cwt.	qr.	lb.
Clean long fibre, valued at £ 45 per ton	1	1	7½
Clean tow. £ 30 per ton. ..	1	1	9
Waste, ...	0	0	14½
	2	3	3

This hemp when prepared by a Patent Liquid, became soft, white and so fine when heckled as to bear the closest comparision with flax at £ 80 per ton. It is better than any Russian hemp for fine spinning. The fibres of the C. juncea, probably form the chief part of the product known as Madras hemp, with which a small portion of the fibres of C. tenuifolia and C. retusa may be mixed. The Sunn plant, grows readily and yields on an average 700 lbs. per acre, varying from 3 cwt. to 10 cwt.

Wuckoo nar, or Wucknoo or Travancore flax, is a variety of the Sunn hemp, Crotalaria juncea, occasioned by climate and culture. It is exported to England in a state as if it had been combed or heckled, prepared for spinning. The fibres are brownish in colour, about three to four feet in length, clean and shining, and resembling some of the coarser kinds of flax. It is believed it would fetch £ 35 a ton as a substitute for flax. In the Northern Circars it is sown in October and November, about 120 lbs. of seed being allowed for the acre, which is covered in with the common hindoo harrow. In February and March, soon after the flowers drop and before the seed is ripe, it is plucked up by the roots half dried in the sun ; then tied up in bundles and committed to the water where it is steeped. Cows feed upon it, yield abundance of milk ; the plant only bears two or three cuttings. The common process of cleaning, in India, is similar to what was formerly employed in Britain in cleaning flax ; the stems which are about five feet long, are tied in bundles, and steeped in water, weighted with stones. A few days thereafter, they are beaten, which detaches the integument and coarse cellular tissue, after which, they are well washed in repeated waters, and the individual fibres picked out, free of the vegetable, mucous, and other impurities. It is then to be well beaten on water, to free it from impurities, wrung and hung over bamboo frames to dry.

Crotalaria juncea of Cuttack, under its local synonymes, Chuniput and Chumese, is grown in sufficient quantities to supply its wants, and probably more. It requires comparatively but little tillage, and not much after tending. The plants, when site and soil agree, attain to a height of 8 to 9 feet. The fibre is separated by threshing and beating, after the plant, which, at the time of cutting, is tied into convenient bundles for the purpose, has been kept immersed in water several days. The hemp is bought in the bazaar about 7 lbs. per shilling, and rope made of it at 5 lbs. weight for a shilling. The country paper is made from this article.

Crotalaria juncea of Lahore, is extensively cultivated for its fibre, especially near rivers. Sunn prepared for the native market can be obtained at Lahore for 14*l.* per ton.

The Sunn of Saharunpore is the Hibiscus cannabinus.—*Cat. Ex.*, 1862 ; *Mad. Ex. J. R.* See Ambaree, China grass, Hemp, Jute or Taag.

SUNNA, or Sunnat, Ar. Traditions of Mahomed, usage, law of custom. The traditions consist of predictions and prophecies, which Sprenger considers were invented to oppose christians : also, of stories, genii, idols and soothsayers invented for the heathen Arabs ; and, for the Persians, announcements as to Chosroes and the East. The traditions began to be gathered about forty years after Mahomed's death, Abu Horeira (A. H. 58) himself a companion of Mahomed collected from the lips of eye-witnesses or of those who had heard, no fewer than 3,500 traditions regarding Mahomed. The fathers of tradition are called Sheikh.—*Burton's Pilgrimage to Mecca, Vol.* ii, *p.* 109.

SUNNA MUKKI, Cassia officinalis, *Gært.*, *Royle.*

SUNNAM, Lep. Alurus fulgens, *F. Cuv.*, *Bly.*, *Hard.*

SUNNAM, Tel. Quicklime.

SUNNA NEREDU, Tel. Eugenia jambolana.

SUNNI, Hind., a cap or butt on the pole of a cart, holding the yoke beam.

SUNNI, a sect of mahomedans who regard the Soonat, or account of the actions and traditions of Mahomed as of equal value to the Koran. The sunni mahomedan sectarians also follow his four successors, Umar, Abu Bakr, Usman and Ali. The mahomedan religionists are, however, of two great sects, the sunni and shiah, the former being in India, Turkestan, Turkey and Arabia while the shiah are most numerous in Persia. The sunni hold amongst other points, the succession to the khalifat to have followed in the line of Mahomed, Abu Bakr, Oomar, Usman and Ali; the shiah sect, on the other hand, maintaining Ali to have and by right succeeded his cousin and father-in-law Mahomed. There are other points on which their sectarian differences turn but small numbers of the shiah religionists, in several parts of Asia as in the west of India, believe in incarnations of Ali, and of these the Ismaili body may be instanced. The mahomedans of India, of these two great religious sects worship apart; but amongst both sects are to be found, mixed together, the people of the various national or ancestral tribes, Syed, Shaikh, Persian, Indian, Moghul, Pathan, into which the mahomedans are found arranged, and as in some christian countries the sons will be found as sunni and the daughters shiah. The sunni are occasionally styled Char-yari, as recognizing Abu Bakr, Oomar, Usman and Ali to have been the first four khalifs. The shiah are styled the Teen-yari, amongst the sunni in the south of India the Maharrum is a period of extravagant amusement, in which many non-Aryan and many hindoo races join. The sunni, by far the majority, at this period grossly outrage the grief of the shiah sect and scandalize the learned and devout.—*Wils. Gloss.* See Aimak, Brahui, Kajar, Kashmir, Kazzilbash.

SUNNOO, see Kush or Cush.

SUNNU, Hind. Amygdalus persica, Fraxinus floribunda.

SUNNUB, Tam. Crotalaria juncea, *Linn.*

SUN-PEL KURA, Tel. Portulaca quadrifida, *Linn.*

SUN-PUTTA, Cash. Tobacco.

SUNRI, a generic title, includes the Kalwar, which is also made to include Gurar, a Baniya and not a Sunri. It is curious that the Sunri, though necessarily impure from their occupation, frequently style themselves Sudras, especially those who have adopted agriculture as a pursuit.—*Cal. Rev., No.* 110.

SUN ROSE, Helianthemum.

SUNSING, see Tin.

SUNTAN, Hind. Circumcision.

SUNTANG, see Kyans.

SUNTHI, Sans., Can. Ginger.

SUNUD, a grant, a title-deed, &c.

SUNURU, Tel. Ochna squarrosa.

SUNURISWARA, the capital of Langala, probably only the name of a temple.

SUNWAR, a Bhot ? tribe in the north-west of Nepal.

SUNYABAD, see Hindoo.

SUNYASEE, Sans., from sang, prep., and nyasa, to renounce, a hindoo devotee. Some of the sunyasee besmear their faces with ashes. The Jews, as an act of mourning, used to cover themselves with ashes; and the sunyasee do it as an act of mortification. Persons, who seek concealment, often assume, for a time, the appearance of sunyasees.

SUP, Hind. A winnow.

SUPALU, Hind. Delphinium brunonianum.

SUPAM, Sans. Pulse.

SUPARA SHAVAKA, Sans. Thespesia populnea, *Lam.*

SUPARI, Guz., Hind. Betel-nut. Nut of Areca catechu.

SUPARI-AM or Supri-am, or Safri-am, Hind. Psidium pyriferum.

SUPERSTITIONS. Amongst hindoos, the left side is the lucky side in a woman, the right in a man. The purport of the palpitations of the eyes, or throbbing of the eye balls, seems to have been similarly understood by the Greeks. The powder of white mustard is applied to the top of the head and forehead and other parts of a new born child as a protection against evil spirits. A mixture of the same with oil and rice is scattered about to every quarter upon the commencement of a sacrifice to keep off ghosts and fiends. The hindoos stain a new cloth with turmeric to keep off demons and disease. Amongst the avenging scourges sent direct from the gods, the Singhalese regard both the ravages of the leopard, and the visitation of the small-pox. The latter they call "maha ledda," the great sickness; and they look upon it as a special manifestation of devi. They say, the displeasure of the gods;" and the attraction of the cheetahs to the bed of the sufferer they attribute to the same indignant agency. A few years ago, the capua or demon priest of a "dewale,' at Oggalbodda, a village near Caltura, when suffering under small-pox was devoured by a cheetah, and his fate was regarded by those of an opposite faith as a special judgment

from heaven. Such is the awe inspired by this belief in connection with the small-pox, that a person afflicted with it is always approached as one in immediate communication with the deity; his attendants address him as "my lord," and "your lordship," and exhaust on him the whole series of honorific epithets in which their language abounds for approaching personages of the most exalted rank. At evening and morning, a lamp is lighted before him and invoked with prayers to protect his family from the dire calamity which has befallen himself. And after his recovery, his former associates refrain from communication with him until a ceremony shall have been performed by the capua, called awasara-pandema, or "the offering of lights for permission," the object of which is to entreat permission of the deity to regard him as freed from the divine displeasure, with liberty to his friends to renew their intercourse as before.—*Hind. Theat.*, *Vol.* ii, *pp.* 15, 113; *Tennent's Sketches of the Nat. Hist.*, *p.* 28.

SUPEARI, DUK. Areca catechu.

SUPERB LILY, Gloriosa superba.

SUPEDA, HIND. Populus ciliata.

SUPHURA KUMRA, BENG. Cucurbita maxima, *Duch.*, *W. & A.* Cucurbita melopepo, Vegetable marrow.

SUPLAD, HIND. Baliospermum indicum.

SUPRA of Trans-Indus, Malva parvifolia, *Linn.*

SUPTA, or Sapta, SANS. Seven; hence

SUPTARSHEE, SANS., from sapta, seven, and rishi, a sage.

SUPTA-SIND'HU, or Hapta Hindu, the Panjab, seven rivers.

SUPTASHWA, SANS., from sapta, seven, and ashwa, a horse.

SUPTASWARA, SANS., from sapta, seven, and swara, sound.

SUR, built on the ruins of Tyre, has a population of about 5,000.

SUR, DUK. Sus scrofa, *Linn.* Sus indicus, *Schinz.*, the hog.

SUR, a Sind grass, perhaps Arundo kurka: its flower stalks are beaten into firm fibres called Moonyah, from which string or twine is fabricated.

SUR, RUS. Cheese.

SUR, a 'tone' in music. A melody, a tune.

SURA, of Sutlej, Hyosciamus niger, *Linn.*

SURA, also Tadi, SANS. Toddy.

SURA, a tyrannical giant, slain by Subhramanya. See Asura, Kurma.

SURA, HIND. Hioscyamus niger.

SURA, chieftain of the Yadava, father of Vasudeva and Kunti.

SURA, SANS. Arrack.

SURA. Benign spirits governed by Indra, harboured about the North Pole, who with the Asuri churned the ocean, and extracted the Amrita or water of immortality, pending which a furious war broke out among them in which Vishnu took a part, as well as Surya and Chandra, who were the occasion that Rahu's head was severed from its trunk by the irresistible operation of Vishnu's chacra; all which allegories figure an eclipse of the sun, which occurred near the moon's ascending node. See Devata and Asura.

SURA, ARAB. A chapter of the Koran of Mahomed. The scattered Sura were collected by Zeid, and these Europeans call the Koran. Mahomedans call it the Word of God, Kalam Ullah also Koran-i-Sharif, the holy Koran.

SURABHI, a cow obtained as one of the fourteen products from churning the ocean. See Cow, Hindoo, Kurma, Lakshmi, Sacrifice.

SURABHI MANU, TEL. A tree growing in the Nagari Hills. Literally full of milk.

SUR AGHZAI, HIND. Gymnosporia spinosa, Red thorn, in Pashtu, Celastrus parviflora.

SURAHI, HIND. A long-necked water goglet.

SURAI, HIND., of Kumaon, Cupressus torulosa, twisted cypress.

SURAJ-UD-DOWLAH. Calcutta was attacked by the nawab Suraj-ud-Dowlah on the 18th June 1756, and captured on the 5th August.

In 1756, Suraj-ud-Dowlah became subadar of Bengal. He had previously manifested aversion to the English. The governor of Calcutta having refused to deliver up one of the principal officers of finance under the nabob's late uncle, the governor of Dacca, whom the nabob had resolved to plunder, Suraj-ud-Dowlah attacked Calcutta. One hundred and forty-six British fell into his hands and were thrust into a guard-room, since called 'the Black Hole,' where all save twenty-three perished in the night. On 22nd January 1752 Calcutta was re-taken by a force which had been despatched from Madras under Clive and Admiral Watson, and on the 4th of February the nabob's army was surprised and defeated by Clive. Overtures were then made by the nabob, and on the 9th February 1752 a treaty was concluded, by which the nabob agreed not to molest the Company in the enjoyment of their privileges, to permit all goods belonging to the Company to pass freely by land or water without paying any duties or fees, to restore the factories and plundered property, to permit the Company to fortify Calcutta and to establish a mint. Three days after a contract with the nabob, offensive and defensive was signed. War

having broken out between France and England, Clive attacked the settlement of Chandernagore, but Suraj-ud-Dowlah furnished the French with arms and money, and was preparing to make common cause against the British. At this juncture a confederacy was formed among Suraj-ud-Dowlah's chief officers to depose him. The British joined this confederacy and concluded a treaty with Meer Jaffir Ali Khan, and at the battle of Plassey, which was fought on the 23rd June 1757, the power of Suraj-ud-Dowlah was completely broken and Jaffir Ali was installed by Clive as subadar of Bengal.

SURAJ MUKHI, HIND. Helianthus annuus.

SURAKHAORAH, HIND., PUSHTU. Red ochre.

SURAKKA, HIND. Atriplex hortensis.

SURAL, HIND. Pueraria tuberosa.

SURA-LOCA, the abode of heroes, the Valhalla of the Rajput mythology, literally, the sun-place.

SURALATIGE, TEL. Ventilago maderaspatana, *Gœrt.*

SURA MIN SEPPUTTE, TAM. Shark's fins.

SURANA, SANS. Tacca pinnatifida.

SURAN, HIND. Amorphophallus campanulatus.

SURAN, see Jell.

SURANGRU, HIND. Acacia stipulata.

SURANJAN, also Suranjan-talk, ARAB., HIND., PERS. Colchicum autumnale, *Linn.*

SURA PADI, TEL. Leea hirta, *Banks.*

SURA-PECH, HIND. Fishbone.

SURA PONNA, TEL. Barringtonia speciosa, *R. W.*, also Calysaccion longifolia, *R. W.*

SURAPURA, in Kashmir, the modern Sapur.

SURARI, HIND. Heteropogon contortus.

SURASARUNI, HIND. Melanthesa rhamnoides, *Retz.*

SURASENI: with Mathura, as a centre and a radius of eighty miles, describe a circle: all within it is Vrij, which was the seat of whatever was refined in hindooism, and whose language, the Vrij-basha, was the purest dialect of India. Vrij is tantamount to the land of the Suraseni, derived from Sursen, the ancestor of Krishna, whose capital, Surpuri, is about fifty miles south of Mathura on the Yamuna (Jumna). The remains of this day are called Surpuri. The province of the Suraseni, or Saraseni, is defined by Menu, and particuly mentioned by the historians of Alexander. In the civil war of his kinsmen, the Kuru and Pandu, when he sided with the latter, and shared their exile, he had thrown aside his Apollonic character of Murali, where, by the sounds of his pipe (murali) he captivated the shepherdesses as he attended the kine in the pastoral Surasen, and had assumed that of Chacradhari, or wielder of the discus, the most ancient weapon of this Indo-Getic race.

SURASHTRA, a province in West India, now Surath, or Gujerat, the same as Balabhi.

SURASWATI, the sakti or wife of Brahma, and the goddess of learning.

SURAT, L. 21° 6′, L. 72° 57′, in Kandeish, a large place on the left bank of the Tapti. Level of the railway 80 feet, *Ham.* The city of Surat is agreeably situated on the river Tapti, near its mouth a wide and pleasant stream, cooled by the fresh breezes of the Indian ocean. It was here where the East India Company formed their first mercantile establishment. Its population is upwards of a hundred thousand. It has a pinjra pol, or hospital for animals. A great fire occurred at this place, 24th April 1837. It was ceded on the 13th May 1800.—*Postan's Western India, Vol.* i, *p.* 297. See Kissa-i-sanjan, Korambar, Mahratta governments, Parvati, Saurashtra, Sevaji.

SURAT DOVE and Asiatic pigeon are the Turtur suratensis et humilis.

SURATI PETTE TIGE, or Surala tige, TEL. Ventilago maderaspatana, *Gœrt.*

SURB, PERS. Lead.

SURBA-JAYA, BENG. Canna indica, *Linn.* Indian-shot.

SURBURAH, HIND., stewards at an entertainment.

SURBUTEE and Surbund, HIND., see Cotton manufactures.

SURCH, HIND., of Sutlej, the fruit of Hippophae salicifolia, buckthorn.

SURCHI, HIND. Oxalis corniculata.

SURDE, or Surdy Islands, is in about lat. 5° 56′ N., on the north side of the Persian gulf.

SURDHARI, (music)=ghor.

SURE-BAY-TUN, tane-bay-sur. HIND. Mohurrum fuqeer.

SUREN of Java, the tuna tree of Bengal, of which the wood is very light, stronger and more durable than all other kinds of similar weight produced on the island: as the grain is not fine, it is not employed in making furniture, but it is useful for chests, trunks, carriages, &c.; its colour is red, and its odour somewhat resembling that of the cedar. Its weight is probably inferior to that of the larch.

SURGA, in the Himalaya, a light wooden bridge with long straight timber.

SURGANCH, HIND. Rubus lasiocarpus.

SURGEON'S AGARIC, Amadou.

SUR-GUROH, HIND., a leader of a troop of fuqeers.

SURGUTSCH, RUS. Sealing wax.

SURI, a town 109 miles from Calcutta in Birbhoom. See Khutri.

SURI, HIND. The husks or skins of pulse, mash, &c., which come off when it is split into dal.

SURIA-KHAR, GUZ., HIND.? Saltpetre.

SURIA-KHAR-KA-TEL, HIND. Nitric acid.

SURIALA, PANJ. Heteropogon contortus, *R. & S.*

SURIAM, LEP. Lutra leptonyx, *Horsf.*, *Bly.* Clawless otter.

SURIA MUKHI, Helianthus annuus, *Linn.*, *Roxb.* Sun-face.

SURIGAO ISLANDS, form a compact chain stretching from the north-east part of Mindanao, in a northerly direction.

SURI KANDA, TEL. Arum orixensis, *Roxb.* Typhonium orixense, *Schott.*

SURIN, HIND. Arum curvatum.

SURINGA, of Bombay? Calysaccion longifolia, *Roxb.*, *Wight.*

SURINJAN, HIND. Colchicum illyricum.

SURINJAN SHIRIN, PERS. See Hermodactyl.

SURINJAN TALKH, PERS. See Colchicum.

SURISHA, BENG. Bengal mustard, Sinapis dichotoma.

SURIT-KAYA, TEL. Mucuna capitata· *W. & A.* 786. Carpopogon cap, *R.* iii, 284, Dolichos suruta, *Heyne*, 55. The same name is applied to M. nivea.

SURIYA, SINGH. Thespesia populnea.

SURJ, BENG., HIND. Shorea robusta.

SURJA VANSA RAJA, see Orissa.

SURJAN of MULTAN. A tool used in enamelling.

SUR JO KANI, SINDI. A reed, one of the Graminaceæ. See Sur.

SURJOO, a river near Sekrora in Oudh, near Gunglee Hath and Uetan in Almorah, also a river at Mhow.

SURJU, BENG. Shal tree, Shorea robusta.

SURKACHUP, HIND. Ribes grossularia.

SUR-KARNA, HIND., to tune an instrument.

SURKA VASUKA, HIND. Justicia picta.

SURKHA, HIND. A quality of charras or hemp plant resin.

SURKHI, HIND. Pounded brick or pottery, used when ground fine to mix with building mortar: pottery and bricks when broken, furnish a material for road-making, or ground into powder form the 'surkhi' used to mix with lime for building purposes.

SURKH KHAMBAR, see Kaffir.

SURKH RUD, see Jellalabad.

SUR KI CHARBI, HIND. Hog's lárd.

SURKH RANG, HIND. Red or crimson colour.

SURLA TIGE, TEL. Ventilago maderaspatana.

SURLI, TEL. Dalbergia scandens. Syn. of Brachypterum scandens, *R. Benth.*

SURMA, HIND. Antimony ore, often confounded with lead ore.

SURMA. The valley of the Surma river is separated from that of Munipur by a meridional range of moderate elevation, which is continued to the southward, and separates Tippera, Chittagong and Arracan from the kingdom of Ava. Blue Mountain, which lies nearly due west of Chittagong, is said to attain the considerable elevation of 8,000 feet, and a peak on the same range forty miles to the south-west, in lat. 22, is elevated according to Wilcox's map, 3,100 feet. Sitakund, thirty miles north of Chittagong, has an elevation of 1,140 feet. The provinces of Tippera and Chittagong are throughout hilly. The rain-fall during the monsoon is about the same as in Bengal, at least on the sea-coast and in its immediate vicinity, averaging 86 inches annually at Chittagong; on the higher ranges in the interior it is probably much more considerable.

SURMADAN, HIND., a small toilet box, for holding antimony powder, used as a cosmetic.

SURMA-I-KANDAHARI. Galena from Kandahar,

Surma phari. lit. hill antimony.

Surma safed, is Iceland spar. Antimony occurs in various parts of the Panjab as a black ore of antimony. In composition it is a ter-sulphide, and called "surma." Mahomedans have a notion that the finest kind of surma comes from Arabia in the hills of Sinai, &c. The tradition is, that when Moses was in the mount, he asked that the glory of the Almighty might be shown him; he was answered that his mortal sight could not bear the glory, but through a chink of the rock a ray of the light was allowed to fall on him, and the rock on which the ray fell became melted into antimony.

SURMA-ISFAHANI, HIND. Glistening hæmatite, a kind of iron ore, erroneously called antimony of Ispahan by natives, ditto, used by men for staining the eyelids. Galena is sold for it in the bazaars, women use kohl.

SURMA-SAFED, Iceland spar, found in rocks in Kabul, is extracted and broken into crystalline fragments, more or less opaque, It is employed by the natives as an astringent in ophthalmia, gonorrhœa, and other fluxes, in doses, internally, of 70 grains, and also externally as a local application. It is called Surma safed, or white antimony, from being thought to be similar to black antimony, the common tersulphide of

that metal. Price 3*d.* per lb.—*Local Committee, Cuttack.*

SURMAI, Rang, HIND. Deep blue-black, indigo.

SURME-KA-KALM, HIND. Blacklead pencils.

SURMI, HIND. Inferior antimony ore; also sulphide of zinc.

SURNA CHETTU, or Sarva chettu, TEL. Casuarina muricata.

SURNUREA is an abbreviation of Surjooparea, or people living in Sunar, *i. e.*, the other side of the Surjoo, or Gogra. The traditions of the peninsula relate that Parasurama stood on the promontory of Dili, compelled the ocean to retire and shot his arrow over the site of Kerala or Malabar and presented the new territory to the colonists whom he invited from the north and thus, to the present day the brahmins of Malabar and Canara are mostly of the five northern nations.—*Elliot.*

SURNA, HIND., a pipe or clarionet.

SURO, JAV. Betel leaf.

SUROD, HIND., a kind of guitar or seetar, having catgut or silk strings.

SUROTUN, a festival.

SURPA, MAHR. Memecylon ramiflorum, *Lam.*

SURPA-CHITRA, SANS. See Kalan.

SURPANKA, BENG. Tephrosia purpurea.

SURPAYCH, or Sur-pech. HIND. A head ornament.

SURPAGNA, SANS., from sarpa, a serpent, and han, to destroy.

SURPHUNKHA, BENG., HIND. Tephrosia purpurea, Calophyllum inophyllum.

SURPOSH, HIND., dish covers.

SURPUN-KA-PHUL, HIND. Flowers of Calophyllum inophyllum.

SURPUN KA TEL, HIND. Oil of Calophyllum inophyllum, *Linn.*

SURRENDHOOL, a wood of Nepaul. See Bechia cori.

SURS, or Suru, HIND. Euphorbia royleana.

SURU, see India.

SURSA, a river in the Hindoor rajah's territory, in the Umballa circle.

SURSAVA NUNA, TEL. Oil of Sinapis alba. Mustard oil. See Oil.

SURSI or Sarraska, TEL., GUZ., HIND. Rape oil.

SURSI, or Surrus, GUZ., HIND. Rape seed.

SURSINJLI, HIND. Cratægus oxyacantha.

SURSON, HIND., a variety of mustard seed.

SURSUTTEE, a river running in the Umballah district of the N. W. Provinces near Umballah and in Ajmir near Sidowrah in Umballah.

SURU. The Suru glacier terminates abruptly in a vaulted cavern, from which the Sind or Wurdwun river takes its rise.—*Adams.*

SURUJ, HIND. The Sun. See Kol. Surya. Sun.

SURUKH-KANEL, HIND. Nerium coccineum.

SURUL, HIND. Pinus longifolia.

SURUM—— ? Arum esculentum.

SURUS or sarras, DUK. Cupressus glauca, also Cupressus sempervirens, Evergreen Cypress.

SURV or Shajr-ul-Hyat, the Tree of Life, HIND., PERS. Cupressus sempervirens.

SURVEYS IN INDIA. Mr. Clement Markham produced a valuable memoir on a very interesting feature of Indian administration, namely, "Indian Surveys." In bringing together "a complete record" of the work done by officers of the old Indian Navy, of the Indian Engineers, Staff Corps, and Civil Service, the author has made good use of a vast body of precious materials, which attest the diligence and the scientific skill of those to whom the Indian government has been indebted for the large results presented in Mr. Markham's goodly volume. In this "Memoir" the progress of Indian surveying is carefully traced, from the first researches made by officers of the Bombay Marines in the beginning of the 17th century, down to the great trigonometrical surveys of Everest, Waugh, and Walker. Due space is accorded to the achievements of Colonel Thuillier, who pressed forward the revenue and topographical surveys of the last twenty years. The progress of geological research under Lambton and his able successors is full and clearly described; nor does the author fail to do justice to the labours of English archæologists in India, since the first formation of the Asiatic Society under Sir William Jones followed up by the patient researches of Colonel Mackenzie, James Prinsep, Sir Walter Elliot, General Cunningham, Major Kittoe, and Mr. James Fergusson. Due notice is also taken of those who, like the Messrs. Schlagintweit, have distinguished themselves in the field of Indian meteorology. There is an interesting chapter on Indian astronomers, and physical geography is handled at some length. In a period of 30 years with but very few parties at the commencement and only increasing very gradually 160,000 square miles of country, an area considerably larger than the whole of the British islands, was completed and map-

ped by one branch of the department alone at a cost of not more than 32 shillings and 8 pence per mile; whilst the revenue surveys likewise yielded excellent topographical maps on a similar scale of 364,000 square miles of country between the years 1846 and 1866 or during Colonel Thuillier's incumbency and superintendence of the operations at a mean average cost of 50 shillings and 8 pence per square mile. The combined results from the large area of 524,000 square miles or upwards of four times that of Great Britain executed at a total cost of Rs. 1,25,00,000 (one hundred and twenty-five lakhs), yielding a mean average rate of 47 shillings and 3 pence.—*Ann. Ind. Adm, Vol.* xii, *p.* 81; *Home News.*

SURVA-BHOOTA-KSHAYA, SANS. From sarva, all, bhoota, souls, and kshee, a decay.

SURVVA-DAKSHINA, SANS. From survvu, all, and dakshina, a fee at dismission.

SURVVA-MANGULA, SANS. From sarva, all, and mangala, good.

SURWUL, also Surwulla, HIND. Andropogon aciculatus.

SURYA, the sun worshipped by the hindoos, in the Rig Veda, 1,115, 1 is Surya atma jagatas tashthusas' cha, the sun is the soul of all that moves and rests. Surya, or the Sun, called also Savitra, Mitra, Aryaman and other names, was a vedic god, who continues to be worshipped down to the present day, by hindoos and Zorastrians. The solar race of Kshetryas who appear in the Ramayana, derive their origin from the sun: but, in the higher spirit, the sun is regarded as divine, as pervading all things, as the soul of the world and supporter of the universe. In a verse of the Rig Veda (iii, 62 v. 10) this idea is supposed to be indicated. It is O'm! Bhurbhuva suvaha, O'm! Tatsa vit'hru varennyam. B'hargo devassya dhimahi dhiyo yona ha pracho dayath: O'm! earth, air, heaven. O'm! let us meditate on the supreme splendour of the divine sun. May he illuminate our minds. And, at the present day, the enlightened brahmins regard this verse as an invocation to the several deities who are implored by the worshipper to aid his intellect in the apprehension and adoration of God. In connection with the sun as a hindoo deity, are the 12 Aditya, sons of Aditi, the universe. In the later Vedic age, they were identified with 12 signs of the zodiac, or the sun in its twelve successive signs.

Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the soma plant, but in the Mahabharata is the mythical progenitor of the great lunar race of Bharata. The Aswini, apparently a personification of light and moisture, as sons of the sun, also as the sun's rays, are noticed as the physicians of the gods. They are described as young and handsome and riding on horses. Vayu or the air, and the maruts or winds are personified and invoked. The maruts are depicted as roaring amongst the forests: compared to youthful warriors bearing lances on their shoulders; delighting in the soma juice like Indra, and like him, the bestowers of benefits on their worshippers. Ushas or the dawn, the early morning, the first pale flush of light, is compared to a mother awakening her children, to a lovely maiden awakening a sleeping world: to a young married maiden, "like a youthful bride before her husband, thou uncoverest thy bosom with a smile." As a goddess, she is styled the (Rig Veda, i, 123, v. 2) mighty, the giver of light; from on high she beholds all things; ever youthful, ever reviving, she comes forth to the invocation. Indra, according to Bunsen, (iii, 587, 8, iv. 459), is the prototype of Zeus, and was a personification of Ether, Soma was offered to him in sacrifice.

Ramesa, chief of the Surya, or sun-born race, was king of the city designated from his mother, Cushali, of which Ayodhia was the capital. His sons were Lava and Cush, who originated the two races. Was then Cushali the mother of Ramesa, a native of Ethiopia, or Cusha-dwipa, 'the land of Cush?' Rama and Krishna are both painted blue (nila), holding the lotus, emblematic of the Nile. Their names are often identified. Ram-Krishna, the bird-headed divinity, is painted as the messenger of each, and the historians of both were contemporaries. That both were real princes there is no doubt, though Krishna assumed to be an incarnation of Vishnu, as Rama was of the sun. Of Rama's family was Trisankha, mother of the great apostle of Buddha, whose symbol was the serpent.

Sun-worship still prevails everywhere throughout Orissa,

The sun-temple at Kanarak, nineteen miles N. W. of Jaganat'h or Juggernat'h, looks down upon the sea. Sculptures in high relief, but of an indecent character, cover the exterior walls and bear witness to an age when hindoo artists worked from nature. The nymphs are beautifully shaped women in luscious attitudes. Each architrave has as usual the Nava-Graha, or nine brahminical planets very finely sculptured in alto-relievo. Five of them are well proportioned men with mild and pleasing countenances, crowned with high-pointed caps, and seated cross-legged on the lotus engaged in religious meditation. The form of the planet which presides over Thursday, (Vrihaspati or Jupiter) is distin-

guished from the other by a flowing majestic beard. Friday or Venus, is a youthful woman, with a plump well rounded figure. Ketu, the descending node, is a Triton, whose body ends in the tail of a fish or dragon; and Rahu or the ascending node, a monster, all head and shoulders, with a grinning grotesque countenance, frizzly hair, dressed like a full-blown wig, and one immense canine tooth projecting from the upper jaw. In one hand, he holds a hatchet, and in the other a fragment of the moon. At Jajpur, also in Orissa, is a figure on the wall of a temple, of the sun-god, with his seven horse chariot and a colony of sun-worshippers continues to keep alive the sacred fire in a neighbouring grove. Throughout India, the stricter vaishnava sectarians, refrain from animal food on the first day of the week, which bears the name of Sunday. Rabi-var or Ravi-var, as in Great Britain, South of Orissa, sun-worshippers, are a class of brahmins; the highlanders on the N. W. of Orissa will not break their fast till they catch a clear view of the sun, and sun-worship still continues amongst wild races of the central plateau of India.

Surya, the Sun, in hindoo mythology, is a god. This deity was the son of Kasyapa and, Aditi, and, from his mother, is called Aditya. He is pictured of a deep golden complexion, with his head encircled by golden rays of glory. He has sometimes four, and at others two, arms; holding a lotus in one of his hands, and sometimes the chakra or wheel in another; standing or sitting on a lotus pedestal, or seated in his splendid car with one wheel, drawn by a seven-headed horse of an emerald colour, or the seven coursers green of the sun. Surya is the personification of that luminary, the orb of light and heat. The mythology of the east confirms the opinion that the triple divinity of the hindoos was originally no more than a personification of the sun, whom they call Tritanu, or three-bodied, in his triple capacity of producing forms by his genial heat, preserving them by his light, or destroying them by the concentrated force of his igneous matter: this, with the wilder conceit of a female power united with the godhead, and ruling nature by his authority, will account for nearly the whole system of Egyptian, Indian and Grecian polytheism, distinguished from the sublime theology of the philosophers, whose understandings were too strong to admit the popular belief, but whose influence was too weak to reform it. Sir William Jones in a hymn has endeavoured to convey the hindoo views of the Sun's position amongst their other gods.

Lord of the lotus, father, friend and king,
Surya, thy powers I sing:
Thy substance, Indra, with his heavenly bands,
Nor sings, nor understands;
Nor e'en the Vedas thee to man explain
Thy mystic orb triform, tho' Brahma tun'd the strain.
"First o'er blue hills appear,
With many an agate hoof,
And pasterns fring'd, seven coursers green;
Nor boasts yon arched woof,
That girds the show'ry sphere,
Such heav'n-spun threads of colour'd light serene,
As tinge the reins which Arun guides—
Glowing with immortal grace,
Young Arun, loveliest of Vinatian race;
Though younger he, whom Madhava bestrides,
When high on eagle-plumes he rides.
But, Oh! what pencil of a living star
Could paint that gorgeous car,
In which, as in an ark, supremely bright
The lord of boundless light,
Ascending calm o'er the empyrean sails,
And with ten thousand beams his awful beauty veils!"

The mystic orb triform alludes to the omnipotent and incomprehensible power represented by the triple divinity of the hindoos. The flower of the lotus is said to expand its leaves on the rising of the sun and to close them when it sets. The Aswini kumara, the twins of the hindoo zodiac, are called the children of Surya, from Aswini, a form of Parvati in the shape of a mare, into whose nostrils Surya breathed, and thus impregnated her with sun-beams and gave birth to the Aswini. Surya is, by some writers, called the regent of the south-west. He presides over Aditwar, or Sunday from Adit, the first, and War, day. Surya has various names. In the Gaetri he is called Savitri, as the symbol of the splendour of the supreme ruler, or the creator of the universe. Prabha, or brightness, is the consort or sacti of Surya. She is also Chaya, or shade, which form she assumed in consequence of not being able to endure the intensity of the splendour of her lord. The Sauria sect of hindoos derive their name from the radiance of their deity, "soor, bright." He is, in his mortal form, the progenitor of the two great Khetri tribes, the Suryabansa and Chandrabansa, the descendants of which are termed the children of the sun and moon. In the centre of pictures, Surya is represented standing on a lotus pedestal, and holding in each hand a richly sculptured lotus sceptre. His mughut or cap, ear-rings, dress and ornaments are equally rich. Before him stands, also on a pedestal, a handsomely formed female, Prabha or brightness, his consort or sacti. At her feet, and in the front of the pedestal, is the legless Arun, holding "the heaven-spun reins" in one hand, and a whip in the other, guiding the seven coursers of the sun which are represented on the socle. On each side of Surya are two attendants, those nearest carrying chowries, another a sword, and the fourth a cup. At their feet are smaller figures with bows, from which they appear to have just discharged

their arrows. In the back ground are the figures, animals and foliage, usually seen in hindoo sculptures, first idolators of the visible sun, and by the hindoos by their three principal deities, Brahma, Vishnu and Siva, personifications of his attributes, creation, preservation, and destruction. Surya is believed to have descended frequently from his car in a human shape, and have left a race on earth, who are equally renowned in the Indian stories with the Heliades of Greece. It is very singular that his two sons, called Aswina, or Aswini-kumara in the dual, should be considered as twin-brothers, and painted like Castor and Pollux, but they have each the character of Esculapius among the gods, and are believed to have been born of a nymph, who, in the form of a mare, was impregnated with sun-beams. Surya, or the sun, is exclusively worshipped by a sect, hence called Suras, or Sauras, who acknowledge no other deity; but this sect is not so numerous as those of the Saiva and the Vaishnava, of which latter, indeed, they may perhaps be, in strictness termed a branch. As well as a solar, the hindoos have a lunar, zodiac, divided into twenty-eight mansions, called Nakshatra, and believed to have been so divided or invented by Daksha, a mythological son of Brahma: hence their poetical astronomy feign these Nakshatra to be the offspring of daughters of Daksha, and, as diurnally receiving the moon in his ethereal journey, to be the wives of Chandra. Of these wives, Chandra is fabled to have the greatest affection for Rohini, the fourth daughter of Daksha, who, on the complaint of the majority of this pointed partiality, cursed Chandra with a consumption that continued fifteen days, but on his due repentance, his strength and power were eventually restored: the meaning of this story which is detailed in the Siva-Purana, is obvious, viz., an allusion to the waning moon. Chandra, like the western Lunus, is somewhat proverbial for inconstancy, and tales are related of his adulterous communication of his influences to the radiant spouses of others of the heavenly host. Amongst hindoos the sun is adored under a variety of names, as Surya, Mitra, Bhascar, Viava, Vishnu, Carna, or Kana, likewise an Egyptian epithet for the sun.—*Cole's Myth. Hind., p.* 129; *Moor, p.* 291; *Tod's Rajasthan, Vol.* i, *pp.* 602, 603. See Aditi, Burabur caves, Chandra Graha, Hindoo, Inscriptions, Rajputs, Kol, Rama, Saraswati, Savitri, Sun.

SURYA-GAS, SINGH. Thespesia populnea *Lam.*

SURYA KANTI CHETTU, TEL. Ionideum suffutricosum, *Ging.*

SURYA KHAND, a hot spring at Bhadrunath.

SURYA MANDALA, is the supreme heaven of the Rajput.

SURYA RATNALU, TEL. Quamoclit pennatum, *Ph.?*

SURYA SIDDHANTA. The first (though not the oldest) of the authentic and inspired Sastras, held in great veneration by all manner of hindoo astronomers, although they acknowledge that its elements, without the assistance and use of the tikas, or commentaries, no longer furnish means for representing the true positions of the planets. It is pretended that this book was revealed 1,000 years before the begining of the Tretayug (A. 302 7101, Ante-christum). European commentators, however, have all agreed to reduce considerably this enormous antiquity, though they still differ vastly in their opinion touching its true epoch; some supposing it to have been written 2,050 years before Christ (*i. e.*, 98 years after the flood), others in the 1268th year of the christian era. Mr. Bentley, however, seems to have proved, after a very profound research that let the antiquity of the Surya siddhanta be what it may, it only came into general use in A. D. 538.—*Kala Sankalita, pp.* 7, 69, 90, 129, 200, 239, 246, 325, *and tables* xvii, xlviii *and* xlix. See Varaha; Mihira.

SURYA SAVARNI, one of the 14 Patriarchs who preside successively over the 14 Manwantaras of the Calpa.

SURYA-VANSA, or Solar dynasty. This, as collated from the lists of Sir William Jones, Professor Wilson, Colonel Tod and Hamilton, commenced with Marichi.

Kasyapa Muni, married Aditi, Daksha's daughter.

Vavaswana, or Surya, the sun.

Sradadeva, or Vaivaswata (the sun) king of Ayodhya.

Ikshwaku in the Treta Yuga, B. C. 3500 Jones, 2200 Tod.

From Ikshwaku sprung the two Solar dynasties of Ayodhya (Oude) and Maithala (Tirhut.) In the Oude dynasty we find Harischandra, king of India, Bhagiratha, who brought down the Ganges. In that of Tirhut, Swadhaja, the father of Sita, who married Rama, the last of the line of Oude in the Dwapar Yuga or Brazen age.

The third Solar line of Vesala, was also descended from Sradha Deva, Vaivaswata (the sun) king of Ayodhya, and father of Ikshwaku, in this line occurred Trinavindhu, father of Brabira, who married Visvarawa Muni, and Besabiraja or Visala who founded Vaisali (Allahabad.)—*Thomas' Prinsep.*

SURYA-VANSA, SINGH. A Ceylon caste. The principal castes in Ceylon are four, viz.,

the Surya Vanse or royal race. This has two divisions, viz.: Goe Wanse, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the government servants. Nille Makareya, or shepherds, is the second division of the Surya.

SURYA VASISTHA, see Varaha.

SUS, the hog genus of mammals, of the family Suidæ.

Khanzir,	AR., PERS.	Dukar,	MAHR.
Baraha,	BENG., SANS.	Babi utan: Babi alas: Babi,	MALAY.
Indian wild boar,	ENG.	Ghrishvi,	SANS.
Hog,	,,	Varaha,	,,
Choiros,	GR.	Walura,	SINGH.
Hazir,	HEB.	Koka,	TEL.
Jangli Sur; Sur,	HIND		
Sus scrofa: Porcus,	LAT.		

The wild hog abounds in many parts of India and the males attain to a very large size: it is generally believed that there is no specific difference between the wild hog of Europe and India. The adult males dwell apart from the herd. The wild boar is constantly hunted by Europeans on horseback, with the spear; Natives of India hunt the boar with dogs. All the wild hogs in the Archipelago are small animals, compared with the wild boar of Europe or even with that of continental India.

The Sus verrucosus, so called from the fleshy excrescence on the sides of the cheeks, has a grotesque and a formidable appearance, but is in reality a timid animal. The number of them in Java is immense, and in passing along the highway, in particular districts, scores of them are to be seen.

Mr. Blyth distinguished from the hog common in India, a specimen sent to him from Ceylon, the skull of which approaches in form, to that of a species from Borneo, the Sus barbatus of S. Muller.

The genus Babirussa, of F. Cuvier, takes its name from two Malay words, Babi, hog, and Rusa, a deer. It is the Sus babyrussa of Linnæus and the B. alfurus of Lesson, and occurs in the islands of Buru or Bourou one of the Moluccas, and in Celebes and Ternate.

The Porcula salvania, Hodgson, the Pigmy Hog of the Saul Forests of N. India, is the Sano banel and Chota sur of the natives of India. Confines itself to the deep recesses of primeval forest. The adult males abide constantly with the herd, and are its habitual and resolute defenders.

The boar is the male of the hog or swine. Of these in Asia are seven species, viz., Sus scrofa, Linn, var S. Indicus; Bengalensis; Andamensis, Malayensis; Zeylanensis; Babyrussa and Papuensis. When the wild boar of India, the Sus Indicus, has the run of cultivated lands, it eats daintily. But when stinted for food, it will revel on a dead camel, and in Cutch, when pressed by want, it prowls around the villages in search of refuse.

The wild boar of India is shot and hunted with dogs by natives, but the British sportsmen, in India, hunt it with the horse and spear; and, undoubtedly, of all the wild creatures in India, the wild boar exacts from its pursuers the greatest care. The Sus indica of Pallas, the Sus scrofa of other naturalists, the common wild boar, is supposed to be the parent of one of the two groups into which pigs are arranged. The Sus scrofa group or breed is known as the Chinese breed and extends into Europe, N. Africa and Hindustan, but in the latter country, the boar of the N. W. provinces is not higher than 36 inches, though that of Bengal attains 44 inches. The parents of the group is unknown.

Sus indica is not known in a wild state, but its domesticated forms come near to S. vittatus of Java. The Roman or Neapolitan pig, the domesticated breeds of China, Cochin-China, Siam, the Andalusian, Hungarian, the swine of S. E. Europe and Turkey, and the Swiss, are all of the Sus indica group, which, it is said by a Chinese author, can be traced back for 4,900 years. The Japan masked pig is the Sus pliciceps of Gray, and has a deeply plicated or furrowed skin. According to Dr. Kelaart, there are two species or varieties in Ceylon: the Newera Elia boar, and the low country S. zeylonensis. Of the Papuan hog, Macgillivray says two or three small pigs, of the same description as that hitherto seen (Sus Papuensis), were procured; and he obtained two fine live opossums, of a rare and singular kind (Cuscus maculatus), for an axe a-piece. They appeared to be quiet gentle animals, until much irritated, when they bit hard. He fed them at first on ripe cocoanuts, of which they were very fond; but latterly they became accustomed to pea-soup.—*Sykes' Cat. Deck. Mam., p.* 11; *Crawfurd, Dict., p.* 152; *Tennent's Sketches of the Natural History of Ceylon, p.* 59; *Catalogue of Mammalia in the India House Museum*; *Forest Ranger*; *Darwin*; *Macgillivray's Voyage, Vol.* i, *p.* 285-6. See Babirussa, Boar, Mammalia, Sus.

SUS CRISTATUS, *Wagner.* Syn. of Sus scrofa, *Linn.* S. indicus, *Schinz.*

SUSA, the modern Shush, is some farsangs S. S. W. from the town of Dizful, on the banks of the river Dizful. It contains the tomb of the prophet Daniel, and beneath, the apartment containing the tomb is a vault into which (Daniel vi, 16,) Daniel was cast by order of Darius. Its western wall is close to the left bank of the river Shapur or Shoner, probably the Eulæus of profane writers and the Ulai (Dan. viii, 2,) of Scripture.

SUS, Heb. Horse.

SUSA, see Viswamitra.

SUSA, Beng. Common cucumber, Cucumis sativus.

SUSA, of Buffon, Platanista gangetica.

SUSAN, see Luristan.

SUSHA, Beng. Cucumis sativus, *Linn*

SUSHENAS, Sans. Carissa carandas, *Linn.*

SUSIA, a striped coloured fabric much used for making 'paijamas or loose trousers.

Sudi susi, do-kanni 'susi char,' 'panj' and 'sat-kanni' varieties of susi, according to the number of stripes.

Sufiyana, a kind of susi.

Chaukannia, a cotton striped fabric, a broad susi. The term kanni seems intended for khani, literally houses, or checquered.

SUSIANA. Khuzistan represents the Susiana of Strabo, as well as the Cissia of Herodotus. Towards the eastern frontiers are the ruins of Rhajoun and Kurdistan in the centre, those of Agines (probably represented by Ahwaz) towards the west. That the geography of the province was well known before the time of Herodotus may be inferred from a passage in his works, where it is said, that Cissia is watered by the river Choaspes on which is the city of Susa, and the palace of the great king. It is added that its waters alone were thought worthy of being drank by the monarch. Presuming that Alexander, after setting out from Sirs, made a detour, in order that he might have but one river to cross; four short marches might be required to bring the army, with its supplies, across the Karun; and then both the distance between the Kerkhah and Karun, and the description of the course of the latter, will afford ground to believe that this is the same as the Pasitigris of Quintus Curtius and Arrian as well as the Eulæus of Pliny and Ptolomy. The route from Bussorah to the ruins of Ahwaz, in Khuzistan, the ancient Susiana is easy.—*Mignon's Travels, p.* 334. See Arabistan or Khuzistan, Babel, Luristan.

SUSMANI. The gypsies in Persia are called Susmani, or Susmaniha (in the plural). Many gypsies are established near the castle of Wittgenstein in Sassmanhausen. Possibly it derived from them its name, meaning the abode of the Sussmani? See Gypsies, Zingarri.

SUSPENSION BRIDGES in Tibet, are of two kinds. Vigne saw one at Dodah, composed of a strong cable stretched across the river, and firmly fixed to the rocks at either end. On this, slides a wooden seat-like frame-work, to which are attached the ropes that pull it backwards and forwards. The other kind consists of a very thick cable of twisted birch? twigs, as a rough foot-rope, and four feet above it, on either side are two smaller hand ropes by which the passenger steadies himself as he walks on.—*Vigne, p.* 199. See Jhula.

SUSRAVAS, see Hindoo.

SUSS, Hind. Missiessya hypoleuca.

SUS SCROFA, Porcus, Lat. Hog.

SUSSHOLZ, Ger. Liquorice root.

SUSS-KLEE, or suss-kle, Guz. Hedysarum alhagi, *Linn.*

SUSSU, Hind. Viburnum cotinifolium.

SUSSU; Ayar susu, Malay. Milk.

SUSTI, a primitive household deity, a goddess of the hindoo households, largely worshipped by the households of Hindustan.

SUSUH, Jav. Edible bird-nests.

SUSU NAGA, according to the Mahawanso, a son of a chief of Assam. During the reign of his son and successor Kala Sangkha, about a century of Sakya Muni's death, the second convocation of buddhist priests was held.

SUSUP, the Malay name of a tree having a bright scarlet flower, found on the island of Pulo chiku koh.

SUS VERRUCOSUS, see Hog.

SUS VITTATUS, *Schl.* Syn. of Sus indicus, *Schinz.*, also Syn. of Sus scrofa, *Linn.* the common hog.

SUTA, a famous Rishi.

SUTA, Sans. A class of bards who used to recite the Mahabarata.

SUTA, Guz., Hind. Yarn.

SUTA MULLI, Sans. Asparagus racemosus, *Willde.*

SUTAR or carpenter, one of the five hindoo artizans; the others are,

Sonar or goldsmith.

Lohar or blacksmith,

Sungtrash or stone-mason.

Coppersmith. See Viswakarma.

SUTEEKA, Sans., from sa, substituted for saha, with, and teeka, a commentary.

SUTEI, Hind. Francœuria crispa.

SUTEI-GUL, Trans-Indus. Matricaria chamomila, *Linn.*

SUTHERLAND, Colonel, a Madras military officer distinguished as a political Resident at Gwalior; a man of great benevolence and the avowed friend of native states.

SUTHERLANDIA GRANDIFLORA. One of the Leguminosæ, a pretty shrub with scarlet flowers, native of the Cape, and is readily increased by seed in good garden soil.—*Riddell.*

SUTH-MULI, Beng. Asparagus racemosus, *Willd.*

SUTHOORA, (prop. Sut'hwara).

SUTHREH SHAHI, see Hindoo, Sikh.

SUTI, see Daksha, Parvati, Swastika, Vira badra.

SUTLAR, (well gear.)

SUTLEJ, a tributary to the Indus. Its remote sources are Lakes Manasarowara and Rahwan Hrad, lat. 30° 8′, long. 81° 53′, 15,200 feet above the sea. Runs N. W., 180 miles; S. W. through Bussahir; W. to junction with Beas; S. W. to Punjnud. Length 550 miles, to junction with Beas; 300 miles further to Punjnud; total, 850 miles, receives Spiti, 120; Buspa, 52; Beas, 290 miles. About 29,000 sq. miles, or, including Ghara and Beas, about 65,000 square miles drained. At Roopur, 30 feet deep, and more than 500 yards wide. Navigable as far as Filoor in all seasons, for vessels of 10 or 12 tons burthen, Bilaspur, a town on the banks of the Sutlej, swept away a flood. The Sutlej people are amiable and gentle, free of low cunning, having the appearance of a mixed race between the Tartar and the common hill men. They are fair, well made and strong, but are filthy and indigent. The women have a toga fastened round the waist. The Batti of Bhattiana, west of the Sutlej, is a tribe of fine handsome people, whose origin is obscure. The Bagri tribe inhabiting the district of Bagar, between the S. W. borders of Hariana and the Sutlej, are said to have been Rajputs but also supposed to be Jat. There is a robber race of this nation settled in Malwa. The Sutlej river is very furious and has a rocky bed: but on the whole the difficulties of floating timber are not insuperable: rafts cannot be constructed above Bilaspur. The river, at the commencement of the rains, is an impetuous torrent, foaming along its narrow, stony bed, confined within rocky banks, generally bare and precipitous. It preserves the same character from Kotgurh upwards, the valley in Bussahir being very narrow, the river is often not visible from the road, but the noise is always heard, as it rushes over the massy boulders. Occasional recesses occur at the bends of the river, where much timber is stranded, and in the course of 120 miles there are several broad tranquil reaches, where banks of white sand and mud may be seen. The average fall has been computed by various observers (Gerard, Thomson, and Madden) at 50 feet per mile from Wangtu to Bilaspur, and 60 feet per mile from Kanam to Wangtu. The Sutlej, or Sutluk, is the Hesudrus of antiquity, and the most eastern of the five rivers. To its Sanscrit names, Sitloda, Satadru, or Sutrudra, the other names can be retraced, the Hesudrus of Pliny, the Saranges of Arrian, the Shetooder and Seteluj of the Ayeen Akberi. In the plains, the Sutlej runs through a line of country six miles broad, and from twenty to one hundred feet lower than the general surrounding level. This tract is called Khadir, as the high adjoining lands are called Bangur.—*Campbell, p.* 97; *Wilson's Gloss*; *Powell's Hand-book, Vol.* i, *p.* 530; *Clegh. Punjab Rep., p.* 33; *History of the Punjab, Vol.* i, *p.* 29. See Arians, Hindu, India, Indus, Jun, Kandahar, Kohistan, Kunawer, Pir Panjal range, Rivers, Sikh, Yak.

SUT-KURMU, SANS., from sut, good, and kurmun, to work.

SUTNEE, a river near Nagound in Oonchera.

SUTNI, loose woollen trousers, worn by Lahuli men.

SUT-PRUTIPUKSHU, or Sat'prati-paksha, SANS., from sut, right, and prutipukshu, an enemy.

SUTRAS, aphorisms. Sutra, means strong, and the works so named contain in the most concise style, doctrines in grammar, metre, law, or philosophy.

This body of religious &c., literature of India forms a connecting link between the Vedic and the later Sanscrit. They contain a concise elliptical and technical expression of all the knowledge of theology, philosophy and language which had been attained by the brahmins up to the buddhist period. It ranged from B. C. 600 to 200. The Grihya sutra, relate the ceremonies to be performed by the married householder for his family. The Samaya charika sutras, or Dharma sutras regulate the affairs of every-day-life. It is chiefly to them that we have to look for the originals of the later metrical books, such as Manu, Yajna valkya and the rest. Aphorisms or Sutras, were the usual mode of instruction followed in the hindoo liturgical books—the Vedas,—whose sacred character hindoos still acknowledge. They were adopted in the fourth period of the hindoo progress, about B. C., 1,000, and in the Sutras the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system. The aphorisms of the Nyaya Philosophy, of the Mimansa and Yoga were reprinted in Sanscrit and English by professor James Ballantyne of the Benares College. The Jain faith is supposed to be amongst the most recent of all the religious systems in India. Hema Chandra, one of their greatest writers, flourished in the end of the 12th century, and the compiler of the Jain Puranas of the Dekhan, is said to have written at the end of the 9th century. The Kalpa Sutra was not composed earlier than the 12th or 13th century. The Jaina faith never extended itself into Bengal or Hindustan for two princes of Benares professed buddhism up to the eleventh century. In western Marwar and in all the territory subject to the

Chalukya princes of Guzerat, the Jain faith became that of the ruling dynasty, about 1174, and Jain relics and followers are still abundant in Marwar, Guzerat and the upper part of the Malabar Coast. The Jain faith was introduced on the Coromandel Coast, in the 8th or 9th century, in the reign of Amoghversha, king of Tonda Mundalum. This, the 8th or 9th century, seems to have been the earliest period of the existence of this religion, there, which was not but an offshoot of the buddhist faith. The Sutras, which constitute the earliest works in which the various systems were drawn out on a settled plan, are short treatises in the Sanscrit language, of very compact form. So complete are they, and so concisely expressed, that it seems evident that the subject they treat of must have been thoroughly examined and discussed previous to their time, and all their branches and divisions properly developed. These Sutras have been the great standards of instruction in later times, and have formed the basis both of commentaries in which their tenets are expounded, and of other treatises in which native scholars have arranged their doctrines, according to their own judgment, with new illustrations and perhaps greater breadth of plan. Their brief aphorisms and concise style were intended to assist the memory, although they necessarily render the meaning obscure.

The six categories or objects of knowledge are substance, quality, action, genus, difference, and intimate relation. The Bhasha Parichheda starts with a similar statement, adding, however, with many authorities, a seventh category, non-existence, or negation.

(*a*) Earth (prithivi) occupies the first place among the substances.

(*b*) Water (ap) has fourteen qualities: touch; number, quantity, individuality; conjunction, disjunction, &c.

(*c*.) Light (tejas) and heat are the same. Light has eleven qualities; the first eight ascribed to water, together with colour, fluidity, and viscidity.

(*d*.) Air (vayu) has the same qualities as light, excepting colour and fluidity.

(*e*.) Ether (akasa) has for its distinguishing quality, sound. Its organ is the ear. It has many titles.

(*f*.) Time (kala) has the qualities of number, quantity.

(*g*.) Space (dig) is one and eternal, ubiquitous and infinite.

(*h*, *i*.) The soul is ubiquitous and infinite; it has the qualities of number, quantity.

13. Quality (guna) forms the second category in Kanada's list.

(1.) Colour (rupa) is perceived by the eye; it manifests substances, qualities, and classes: it is the cause of the perceptions of the eye.

(2.) Savour (rasa) is apprehended by the tongue: it is of various kinds, as sweet, bitter, pungent, astringent, acid, and saline.

(3.) Odour (gandha) is perceived by the nose, and is of only two kinds, good and bad. It is the special quality of earth, and of earth alone.

(4.) Feel or tangibility (sparsa), by which is meant temperature, is apprehended by the skin. It exists in four substances, earth, water, light, and air.

A book of Sutras, said to have been compiled, is reckoned the most direct and important authority on the Vedanta system. It is called by the various names of Brahma Sutra, Saririk Sutra, and Uttara Mimansa. It is complete in itself, delivers the system in a clear, compact form, and, like the Sutras of other systems, is divided into sections, which may be readi y committed to memory. Like them, also, it requires the elucidation of a commentary. The philosophical chapters and tracts are called Upanishads, and, though belonging to different parts of the Brahmanas, have been selected from them, so as to occupy a kind of independent position. More than a hundred of them are known, and the greater part are numbered among the treatises of the Atharbba Veda. The authors of the most ancient and authoritative are not known; they are all Sruti, *i. e.*, inspired, and are believed to be communications from the great Brahma himself. One special set of the Brahmanas are termed Aranyaka, because they were to be read in the forests by those ascetics and devotees who quietly withdrew from household life to meditate in retirement upon the supreme. These works were composed later than the Brahmana in general: they contain a great number of Upanishads, and, in after days, were declared by their brahmin commentators to be "the essence of the Veda." Eleven of these Upanishad are considered by the brahmin world to expound Vedantic doctrines, and their authority is appealed to as of the highest kind.' The eleven Upanishads of the Vedantic school are the following: the Aitareya, Brihad Aranyaka, and Vajasaneyi: the Taittiriya, the Chhandogya, and Talavakar: the Mundaka, Katha, Prasna, and Mandukya; and lastly, the Swetaswatara. The Aitareya Upanishad is taken from the Brahmanas of the Rig Veda, and forms four chapters in book 2 of the Aitareya Aranyaka. It has been translated by Colebrooke in his Essay on the Vedas, and contains a curious description of the process of creation. The Brihad Aranyaka is a very voluminous Upani-

shad, the last book of the Satapatha Brahmana; the brahmana of the Vajasaneyi school, which, under the teaching of Yajnawalkya, formed the White Yajur Veda. The Upanishad contains an immense amount of interesting matter, including several dialogues between Yajnawalkya and his rivals and scholars. The Chhandogya is a very important and extensive Upanishad of the Sama Veda, full of theological disquisitions and dialogues. Several of the others named are exceedingly brief. They are all, however, so valuable that it will not be inappropriate to describe the character and contents of two or three of the most popular.

The Taittiriya Upanishad is found among the Brahmanas of the Black Yajur Veda, and stands high in the estimation of Vedantic scholars.

The Mundaka Upanishad professes to be a discourse, containing a series of instructions delivered by Angiras to Sounaka in answer to his inquiry: "Tell me, oh illustrious sage, what is that science, by the knowledge of which this universe is understood."

The Katha Upanishad is divided into six sections (valli). It describes a dialogue between Yama and Nachiketa, the son of Vajasravasa. Nachiketa had been devoted by his father to Yama, and arrived at the house of that deity during his absence.

The Swetaswatara Upanishad consists of a number of oracular sayings concerning the Supreme, the Universe, and Brahm, delivered by Swetaswatara to his disciples.

The works of authority which follow next in order, and which exhibit the system in its latest stages, are the various commentaries which have been written upon the inspired works.

The term Vedanta, says the Vedanta sar, applies to the arguments of the Upanishads, also to the Saririk Sutras, and other shastras auxiliary thereto. It is also defined as the system by which may be obtained the knowledge of Brahma. That knowledge is the chief end of man; the knowledge by which he will be delivered from all evils, especially the great evil of repeated birth. The sources of such knowledge are distinctly defined. The schools of hindoo philosophy generally recognize three ways of obtaining knowledge; the perceptions of the senses; the deductions of reason; and tradition or revelation. By the Vedantic authorities six methods are enumerated; and the logical system adopted is that of Jaymini. The principal authority however is the authority of the Veda; of truth derived originally from the deity himself and handed down from one generation of teachers to another. Hence it is named praman, agama, or sruti.

In the Upanishads we have many examples of teachers communicating divine knowledge to their numerous students. In the Chhandogya, Gautama teaches Satyakama, and he teaches Upakosal. Yajnawalkya taught the White Yajur and its two Upanishads. Angiras taught the Mundaka to the son of Sunaka.

The Upanishads being treatises which have for their end the teaching of the knowledge of Brahm, are of course crowded with passages descriptive of his existence, attributes and deeds.

The Bhagavat gita, in its tenth and eleventh lectures, contains some noble passages on the majesty and splendour of the Supreme.

The existence of Brahma is a point which the Vedantic authorities take not the slightest trouble to prove: even although the Sankhya had already made its heretical assertion that no evidence can be offered of such existence.

According to some views of the Hindoo mythology, Brahma is not always invested with attributes. In the intervals between the Great Ages, or Kalpas, he is said to be altogether nirguna "without qualities," and to recline upon the leaves of the banyan-tree in a state of profound repose (batpatrasayi). The Sutras declare that the latter is the true description of him; not the former, nor the two together. It is only in relation to the creation that these "qualities" of various kinds are attributed to him. Really "he is unaffected by the modifications of the world: as the clear crystal, seemingly coloured by the red blossom of the hibiscus, is not the less really pellucid." He changes not: all change is expressly denied him by the texts in the Vedas.

The universe, on the Vedanta theory, is not a real universe, it is only an apparent one. Yet the relation of Brahma to that unreal world, is fully and frequently mentioned in the Vedantic authorities. He is declared to be its creator. "When there was neither day nor night, He was, who is without darkness and is pure goodness alone." But when the time arrived He made all. "One God produced the heavens and the earth." He is the Almighty Creator of the world and the all-wise author of the Shastras." "His will alone is a sufficient cause of the universe; and he has made it for sport." The Sutras say, that he first conceived the desire to create, and employed special words in the process. "From Vedic words, the universe beginning with the gods, has sprung." "Uttering the word "bhur" he created the earth." The Aitareya Upanishad

(ii, 4.) enters fully into the subject of the creation, and describes the formation of the great objects of the universe with minute detail; especially the structure of man. The Brihad Aranyaka also describes the formation of the animated creation, and the mode in which the male and female of each kind were produced. Brahma is the sustainer also of the creation which he has produced. The Upanishads give numerous illustrations. "All things in the world proceeded from the Supreme, and in him they move. Through fear of him fire flames: through fear of him Indra, Vayu and Death keep in motion." Colebrooke's Essay on the Vedas gives it in full. There are three classes of passages contained in the various Vedantic authorities, which teach the perfect identity between Brahma and the universe; that is, the doctrine of Pantheism: numerous expressions and passages most strongly imply it: it is openly and forcibly asserted in distinct terms; and numerous illustrations are employed to explain it.

(1.) The Upanishads, the Sutras and Gita, frequently speak of Brahma as pervading the universe, and apply to him numerous epithets expressive of that idea. And in order to put the fact in a clearer light, the assertion is made, not only concerning the universe in general, but also its individuated parts. The term sarvabhutantaratma, "the internal spirit of all things," frequently occurs in the Mundaka and Katha Upanishads.

(2.) The doctrine is directly taught in passages like the following: "Brahma is the substance of the universe: for so the propositions (in the Vedas) and their illustrations require." (Sutras i, 4, 23.)

"Nothing exists but he." (iii, 2, 29.) "I am the sacrifice: I am the worship: I am the drug: I am the incantation: I am the fire: I am the incense." (Gita, ix.) "Fire is that original cause: the sun is that; so is air: so is the moon: such is that pure Brahma: and these waters; and Prajapati.... It is he who is in the womb: he who is born: and he who will be produced."

According to many authorities, the universe is divided into three worlds (Triloka)—viz., heaven, earth and hades. By others a division into only two is sanctioned, of which one includes the earth. In this division the worlds are classified as the upper and lower. In the upper worlds are included, first, Bhur-lok, the earth: then, Bhuvar-lok, the residence of the Munis, the region between the earth and sun: Swar-lok is the heaven of Indra: next comes Maha-lok, the abode of Bhrigu and other saints: Jana-lok, the residence of the sons of Brahma: Tapa-lok, the residence of the "Vairagis:" and lastly, Satya-lok or Brahma-lok, the dwelling-place of Brahma himself. Thence to the regents of the day: thence to the abode of the gods; thence, through the region of air, to the moon; thence to the realm of lightning. Above this is the realm of Varuna: and finally follows the region of Indra. In the Upanishads but few references are made to this subject, yet the same classification seems to have prevailed in their day. Allusions are made to the "seven retributive worlds of happiness:" and Brahma Loka is several times named: as also Pitri Loka. With a view to aid the priests in their severe toil of learning by heart all the formula necessary for their official duties, the directions conveyed in the brahmans of the Vedas were reduced to a system termed Kalpa Sutras; and so easy did the process become that many were induced to neglect the Brahmana and study the Sutras alone. The objects of philosophy were treated in the same way. Most probably the system now termed the Sankhya was the first that left the beaten track of the old Brahmanas; and by its novel theories; so contrary to the current brahmin notions, became the occasion of stimulating to new enquiries, and rendering the arguments respecting them more satisfactory and sound. While exceedingly free in its speculations, and on many important points differing from ordinary Vedic doctrine, it partly saved its position by not directly questioning the authority of the Vedas, or of the brahmin priesthood. As a matter of doctrine and argument, the Vedanta system seems to have been formed in direct reply to it. The other systems were likewise propounded; and at one time the Sankhya, Yoga and Vaiseshika were denounced as heretical. Brahminism, however, was very lenient where mere speculation was concerned.

Buddhism was the natural, popular reaction from the grinding tyranny of the brahmans. Its founder, Sakya Singh, a Kshatriya prince, had studied deeply brahminical lore: and at length prepared a system of his own, which, to much of Kopila's Sankhya doctrine, added a simpler theory of relief from the ills of transmigration than the Vedic system taught. On the courses of transmigration, past as well as future, he dwelt very fully: and laid it down that all classes, without those years of weary study, could carry on the works of virtue, which should infallibly end in final annihilation. Apparently pitying, with a large-hearted benevolence, the ignorance of the lower orders, he encouraged them to attend his teaching; preached his discourses in plain language, with repetitions and explana-

tions that made his doctrine more clear and more impressive. After severe contests, the tide of opposition was rolled back: brahminism, once more triumphant, was considerably popularized, and the Puranic system was rapidly developed. The various schools of hindoo philosophy which were formed under the circumstances we have now described are distinguished from each other by names expressive of their origin or of the opinions which they advocate. As we have seen, the doctrines of some are taken from the Vedas, or are at least consistent with the tenor of brahmin-teaching, and the maintenance of brahminical authority. The speculations of others directly and indirectly tend to destroy that authority. The former are declared to be orthodox; the latter, heretical. The schools which are reckoned peculiarly orthodox are six in number, and are well known by the names of the Sankhya and Yoga; the Nyaya and Vaiseshika; the Purbba and Uttara mimansa. Those systems, termed Darsanas, always occupy a conspicuous place in any enumeration of the sacred shastras. Jaymini and Veda Vyasa, the authors of the two Mimansas, are reputed to have taken an important share in the compilation and arrangement of the Vedas. The six systems are not totally different from each other. Owing to the great similarity in doctrine and purpose existing between some of them, and the contrast which therein they present to others, the systems form themselves into three groups or pairs; and their followers into three great schools. The Vedanta and Purbba mimansa constitute one pair, as correlative to each other and working to the same end. The Purbba mimansa expounds the "earlier" portion of the Vedas, and describes the ritual, ceremonies and acts of devotion by which religious merit may be acquired. The Uttara mimansa or Vedanta, expounding the "later" books, the Upanishads, developes the higher mode of meditation on the nature and attributes of the Supreme Brahma, by which absorption into his essence can be more speedily and effectually attained. The Sankhya in its structure and tenets differs widely from the Vedant: but is closely followed by the Yoga of Patanjali. The Nyaya and Vaiseshika are also alike in doctrine; the former being occupied chiefly with the principles of investigation; the latter with the physical inquiries which form the main purpose of its treatises. The hindoo system termed Sankhya was apparently the earliest formed among those which introduced the really philosophic age. Its author is said to have been the great sage, Kopila. While largely using Vedic notions and materials, he quitted Vedic theories; and in important particulars reaches conclusions, the very opposite of what the Vedas teach. This term is derived from the Sanscrit word sankhya, which denotes "number," also "judgment," "discrimination." The doctrines of the system are pre-eminently sought and defended by "Reason," in opposition to mere authority, of which the brahmins at that period were very fond. "They exercise judgment," says the Bharat, "and are therefore termed" Sankhyas. The oldest authority of the system is the work entitled Sankhya Pravachan Sutras. It is attributed to Kopila, and is evidently a work of great value. The most valuable authority of all is the Sankhya-Karika, a collection of memorial verses by Iswar-Krishna, in which the system is embodied. This most admirable work is based upon the Sutras of Kopila; it takes up all their doctrines and arranges them in perfect order. The work is very brief, and contains only seventy-two slokas.

Of two translations the more valuable, from its completeness, is that of the Sankhya Karika, by Professor H. H. Wilson. Kopila's philosophy was entirely new. The Upanishads had been gradually developing in a clearer form the pantheist doctrine that the supreme Brahma was not only the author of the universe, but that he is the universe, including human souls. Kopila taught that in the universe there are two primary agencies, nature or matter (Prakriti) and souls; but there is no supreme. Souls have existed in multitudes from eternity; by their side stands this Prakriti. For eternal ages the two remained separate: at length they became united, and the universe in all its forms was developed from their union. The products of that union are twenty-three in number; so that twenty-five principles explain everything; of which soul and nature are the chief. He proceeds to explain how by the union first is produced the individual man in his germ and its full development; and then how the world and universe around are aggregated. The great evil of human existence is this union between soul and nature; it causes all the pains of life; and the endless transmigration which the soul makes from one gross body to another. The soul which knows the Sankhya system can secure the separation, and transmigration will at once cease. To all this the Yoga system adds, that besides the two primal agencies, there exists a Supreme Lord, and that intense devotion to him will secure the same desired end. A brief outline of the systems will show how these doctrines are laid down and defended. The Sankhya Karika embraces eight distinct topics.

The object of the Sankhya, as well as of the

other branches of hindoo philosophy, is the removal of human pain by the final and complete liberation of the individual soul.

The Nyaya, properly so called, considers specially, though not exclusively, the true mode of enquiring after truth.

The Vaiseshika, on the other hand, takes up for its consideration, chiefly physical enquiries, and surveys, classifies and endeavours to account for, the various objects existing in the universe.

The Nyaya system is attributed to Gautama, and is described in a collection of Sutras written by him. They are divided into five books; the first of which sketches out the subject-matter of the whole. Gautama sets out, like the founders of the other systems, with the enquiry, What is the way to attain perfect beatitude (nisreyasa), and then asserts that deliverance is only to be secured by a knowledge of the truth.

Gautama next describes the instruments (praman) by which these right notions are to be acquired. He mentions four: perception (pratyaksha), inference (anumana): comparison (upamana); and testimony (sabda). Dr. Ballantyne translates them: (1) the deliverance of sense, the knowledge acquired by a contact of the sensorium with its object: (2) the recognition of a sign; this "inference" is of three kinds; a priori inference; a posteriori; and from analogy: (3) the recognition of likeness, that by which similarity is detected between different objects: (4) worthy precepts or authority. By means of these instrumentalities correct knowledge may be obtained of things as they really are.

Casuality occupies an important place, especially in the Sutras of Kanada.

With these instruments and on these principles, the various objects of knowledge (prameya) are to be examined.

Having cleared the way for enquiry, by defining the instruments of knowledge, and exhibiting in all its phases the mode of discussion both with friends and foes, as well as the different classes to whom it is applied,' the Nyaya takes up in order the various objects of knowledge (prameya) which are to be proved and known. These are twelve in number: "soul, body, sense, sense-object, knowledge, the mind, activity, fault, transmigration, fruit, pain and beatitude," are the subjects fitted to supply "right notions," and thus secure the entire removal of all human pain.

(*a.*) Of these, soul (atman) is stated justly as first in importance.

(*b.*) The second object of proof is body (sarira). Body is an ultimate compound.

(*c.*) The third object are the organs of sensation (indriya). "The organs of sense originating from the elements are smell, taste, sight, touch and hearing."

(*d.*) The fourth object of knowledge in Gautum's list are the objects of sense (artha).

(*e.*) The fifth of Gautama's twelve objects is understanding (buddhi). Understanding, apprehension and knowledge have all the same meaning.

The remaining six of the twelve objects will not require more than a passing notice. The seventh, activity (pravitti). The eighth, fault (dosha), is that erroneous desire in men which produces the activity just mentioned. The ninth is transmigration. The tenth, retribution or fruit (phala). The eleventh is pain (dukha), which includes pleasure also as its opposite. The last is the beatitude (apavarga), promised to the followers of the system. It denotes deliverance from all the "pain," and the absolute prevention of all evil in the future.—*Mullen's Hindu Philosophy, pp.* 36-50, 74-8, 82-94, 107-11, 116-8, 122, 124-5, 127-30: *Max. Muller.* See Arians, Pali, Panini, Sanscrit.

SUTRANJI, properly Shatranji, GUZ., HIND. Carpets.

SUTS, HIND., of Kanawar, Hippophae rhamnoides, also Hippophae salicifolia, buckthorn.

SUTSHER, a dark-coloured wood, close-grained, strong and heavy, grows from Sooree to Hasdiha in the Santhal jungles, but scarce. Furniture and posts are made from this wood. —*Cal. Engineers' Jour., July* 1860.

SUTTAN, loose trousers of 'susi,' worn by Jat women and others.

SUTTANI, or Sattani, TEL. Two Sudra sects of Telingana. One of them burn their dead. The other bury their dead in a sitting posture up to the head, then burst the head by throwing cocoanuts on it, and heap it over with earth.

SUTTEE, SANS., (from sati, a virtuous wife) from sut, pure, a widow allowing herself to be burnt with the corpse of her husband; a practice abolished in British India on the 4th December 1829. Suttee still continues to prevail in Bali to an extent that India never knew, and the slaves of a great man are also consumed on his funeral pile. The widows are often despatched by a kris. A suttee took place on the death of the maharana of Oodipore, but the authorities at the place urged upon the government the necessity that exists for inflicting punishment upon the transgressors, of such a nature as to deter for the future similar outrages on decency and humanity. It was suggested that government should mulct the native state in which suttee occurs to the extent of a year's revenue. No suttee can possibly take place without the

concurrence of the rulers of the states, and as it is now in their power to prohibit any such disgraceful exhibitions they should be made to suffer as abettors of the offence. Sahamarana or the burning of the widows with the dead bodies of their husbands was not a Vedic usage. Dr. Wilson says "we have additional and incontestible proof that the Rig-Veda does not authorise the practice of the burning of the widows." The widow of the deceased had however to attend with married women the funeral of her husband. She was placed with his dead body on the funeral pile, and after the performance of certain ceremonies she was brought down and was thus addressed by the priest :—

> " Rise up O woman, to the world of life,
> Thou sleepest beside a corpse, come down;
> Thou hast been long enough a faithful spouse,
> To him who made thee mother to his sons."

The married females attending had then to anoint their eyes with collyrium, when they were thus addressed :—

> " The women now draw nigh with oil and butter,
> Not widows they, proud of noble husbands;
> First to the altar, let the mother come,
> In fair attire and with no grief or tears."

There is a passage in the Taitrya Arnukna of the Yajur Veda containing the following address to the widow by the younger brother, disciple or servant of the deceased :—" Rise up woman, thou liest by the side of the lifeless, come to the world of the living, away from thy husband, and become the wife of him who holds thy hand and is willing to marry thee." This is a clear proof of the widows marrying during the Vedic period. And that the widow was brought down and not allowed to be burnt is also confirmed by her collecting the bones of her late husband after a certain time. Manu recommends widows to emaciate their bodies, live on flowers, roots and fruits, not even pronounce the name of another man, avoid every sensual pleasure, and cheerfully observe those rules of virtue followed by women devoted to only one husband. The first mention of the burning of widows we find in Angira, one of the sage legislators who was a contemporary of Manu. He says :—" The woman who burns herself after the death of her husband, gains, like Arundhati, heavenly glory. She purifies the sins of the murderers of the brahmans, the ungrateful, and the slayers of friends. For sadhi women there is nothing so meritorious as cremation after the death of their husbands." The next mention is in the Katyana Sutra, and the age of Katyana is about the fifth century B. C. The Ramayana makes no mention of the practice. In the Mahabharat we find that one of the wives of Pandu burnt herself with his dead body, and that when Krishna died, several of his wives consigned themselves to the flame with his remains. But after the great war in Kurukshetra none of the numerous royal ladies burnt herself. The account of the funeral rite of Dranacharya leaves some doubt as to whether his wife was burnt or not. The passage is as follows :—" Behold the scholars of Dranacharya, after chanting the Sama Veda, performing his funeral rites, making his wife foremost and placing her on the right side of the pyre, are bending their steps towards the Dhagirathi." The practice of the cremation of the widow, though not in existence when Rama lived, nor in much use when Yudhishthira reigned, did not die away. In A. D. 66, Plutarch in his morals says,—" And among the Indians, such chaste wives as are true lovers of their husbands, strive and contend with one another for the fire, and all the rest sing forth for the happiness of her, who having the victory is burnt with her deceased husband." The brahmans, in support of the rite of Suttee, gave a quotation of a verse from a chapter of the Rig-Veda. This, Colebrooke translated as follows: " Om ! let these women, not to be widowed, good wives, adorned with collyrium, holding clarified butter, consign themselves to the fire! Immortal, not childless, not husbandless, well adorned with gems, let them pass into the fire whose original element is water." Professor Wilson has pointed out, however, that they falsified the text by altering the words Yonim agre into Yonim agneh. The words of the verse in question are addressed not to the widow, but to the other women who, besides the widow are present at the funeral : and its correct translations is : " May those women who are not widows but have good husbands draw near with oil and butter. Those who are mothers, may go up first to the altar, without tears, without sorrow, but decked with fine jewels." A second marriage in a hindoo woman of most of the races in India who are following brahmanism, is considered an unlawful act. Manu, v. 160, 161, says a virtuous wife ascends to heaven, though she have no child, if after the decease of her lord she devotes herself to pious austerity; but a widow who, from a wish to bear children, slights her deceased husband by marrying again, brings disgrace on herself here below, and shall be excluded from the seat of her lord.

Sutti, however, seems a Scythic rite. Raja Dhean Singh acted a strange and unaccountable part on the occasion of Ranjit Singh's death. He declared he would be burned with his late master, and was with difficulty persuaded, after some hours' entreaty, to forego this resolve, the prince and

sirdars throwing their turbands at his feet, and declaring that, without him, the affairs of the state would be deranged. He gave way to their importunity only on condition that he should be permitted to visit Benares. Although the practice of suttee forms no part of the institutions of the Sikhs, and is rare amongst them, upon this occasion, the four ranees of Runjeet, Koondun, daughter of rajah Sumsar Chund; Hinderee, daughter of Meean Puddum Singh, of Noorpur; Rajkoonwur, daughter of Sirdar Jey Singh, of Chynpur, and Baant Ali, determined, in spite of the entreaties and remonstrances of Khuruk Singh and his ministers, who guaranteed their rank and property, to burn. The corpse of the late maharajah having been washed with Ganges water, and placed on a bier of sandalwood, decorated with gold flowers, was carried, the day after his death, to the place of cremation, before the gates of the palace Hazaree Bagh, followed by the four ranees in their richest dresses, loaded with jewels of immense value, walking in a measured step, attended by brahmins and Sodees (Sikh priests,) singing the holy hymns of Nanuk, in the same form, and with the same ceremonies, which were beheld in these very parts (on the banks of the Ravi) by the army of Alexander the Great more than 2,000 years before, and which are described by the Greek and Roman writers with a minute fidelity, which would suit a modern suttee. The funeral pile was made of sandalwood, and when the procession reached it, an affecting scene took place. Rani Koondun, the principal widow, took the hand of Dhean Singh, and placing it on the breast of the corpse, made him swear never to betray or desert Khuruk Singh, or his son Nou Nehal Singh, or forget the interests of the Khalsa; and Khuruk Singh, in like manner, swore not to betray or desert Dhean Singh. Besides the fatal curse of a suttee, the torments incurred by the slaughter of a thousand cows were imprecated on the head of him who violated his oath. Rani Koondun then mounted the pyre, sat down beside the body of her late husband, which was in a sitting posture, and placed his head in her lap. The other ranees, two of them only sixteen years of age, and of extraordinary beauty, with five, some say seven, Cashmerian slave-girls (one of them the lovely Lotus, who had attracted the admiration of the mission in 1838), followed the example, seating themselves around the corpse, with every token of satisfaction in their countenance. At the hour fixed by the brahmins, in the presence of all the troops at the capital and an immense crowd of spectators, including several English officers, the pile was lighted, one account states by Khuruk Singh, another, by the rani Koondun, and without a shriek or groan being heard, the living and the dead were reduced to ashes. It is said the rajah Dhean Singh made four several attempts to jump upon the burning mass, but was withheld by the people about him. A witness of this appalling spectacle relates that a small cloud appeared in the sky over the pile, and that he saw (perhaps thought he saw) a few drops fall upon the smouldering embers, as if the very elements wept at the closing scene of this dismal tragedy. The ashes were conveyed in a palanquin of gold, in grand procession, accompanied by Khuruk Singh (in a plain white muslin dress), Dhean Singh, and Kooshal Singh, to the Ganges, and committed to that holy river.

The suttee seems to be the remnant of a scythic practice which is still followed by races of Tartar origin. The emperor Chun-Tche died at midnight, and at dawn of day, all the Bonzes and their adherents were chased from the palace. Towards noon the deceased was placed in his coffin, and was wept by an immense multitude who had witnessed the ceremony. As soon as the ceremony of taking the oath of allegiance to young Kiang-hi was concluded, that of the funeral of Chun-Tche was commenced in the style of magnificence surpassing anything of the kind that had hitherto been witnessed. To the solemn and sumptuous pomp of the Chinese rites, were added the extraordinary and barbarous customs of the Tartars. Tragic scenes took place, in which many of the attendants of the late emperor put themselves to death, that they might proceed to the other world, and continue their accustomed services to their master. It is stated in the annals of China, that the empress mother, perceiving a young prince who had been the intimate friend and favourite of Chun-Tche, expressed to him, with strong emotion, her grief and astonishment at finding him alive. "Is it possible," said she, "that you are still alive? My son loved you, is doubtless now waiting for you; hasten then to join him, and prove to him that your affection was sincere and generous! Run and bid adieu to your parents, and then have the courage to die! Your friend, my son, is stretching out his arms towards you. According to the historian, these words, uttered in a tone at once affectionate and severe, caused great distress to the young man. He loved Chun-Tche, but he loved life also, and could not think of death without a terrible shudder. He was surrounded by his afflicted family, who were urging him to escape by flight from so frightful a sacrifice,

when the empress mother sent to him a present of a box ornamented with jewels, and containing a bowstring for him to strangle himself. The unfortunate young man still hesitated, for he was at the happiest time of life, and could not resolve to die of his own accord, as the barbarous prejudices of his nation required, but the two officers who had brought him the fatal present had orders from the empress mother to help him out of this perplexity, and give a little assistance to his courage should he be unable to put himself to death, and they helped him accordingly. The coffin of the deceased emperor was transported to the burial-place of the new dynasty, at twenty-four leagues north of Pekin, and never probably was there such a procession as that which accompanied the remains of Chun-Tche to Mantchuria. The immense multitude made the whole country resound with the voice of weeping and lamentation, for this prince, of whom in his latter days the people had seemed exceedingly tired, was now clamorously, and perhaps sincerely, regretted. "For my own part," wrote father Schall to his friends in Europe, "I owe an especial mourning to the memory of the emperor. For the seventeen years of his reign he never ceased to bestow on me many marks of kindness and regard; at my request he did much for the welfare of his empire, and would doubtless have done much more if a premature death had not thus carried off, at the age of twenty-four, this certainly intelligent and highly-gifted young man."

The burning of the hindoo widows under the mahomedan emperors became latterly on the increase. When Man Singh died, in the reign of Jahangir, sixty of his 1,500 wives were reported to have burnt themselves. In 1818, 839 suttees were returned as having occurred in the Bengal provinces. Sikh women do not usually burn with the corpses of their husbands. The Adi Granth, a sacred book of the Sikhs, says, "They are not suttees who perish in the flames oh! Nanuk." An exception occurred in 1805, in the town of Booreeah. That affection and duty have not always place in this kind of felo de se, which would explain and extenuate such a deed, and convert the offspring of superstition into a noble act of self-devotion, is obvious from the fact that it is not only the favoured wife, but a whole host of females that sometimes are offered up to die on the pyre of their deceased lord. Frightful scenes occurred on the demise of the hill rajas of Kulu, Nahun, Juswoul, and other places. On the demise of the hill rajas of Belaspore and Nahun, in 1824 and 1827, there was no suttee, and the practice has since then disappeared in the hill states under the protection of British government. The Adi Granth says, "they are not suttees who perish in the flames, O! Nanuk! suttees are those who live of a broken heart." But, again, "the loving wife perishes with the body of her husband. But were her thoughts bent upon God, her sorrows would be alleviated." Mr. Elphinstone says, "The practice of suttee is by no means universal in India. It never occurs to the south of the river Kistna." But Marco Polo stated the practice of Southern India just as Odoric does, whilst in 1580, Gasparo Balbi, an accurate and unimaginative traveller, describes with seeming truth a suttee which he witnessed at Negapatam; and speaks of the custom as common. In the middle of the seventeenth century, P. Vincenzo, the Procurator-General of the Carmelites, says it was especially common in Canara; whilst he was told on the death of the naik of Madura 11,000 women had offered themselves to the flames! These 11,000 suttees may have been as mythical as the 11,000 virgins of Cologne, but they prove the practice. And in the beginning of the last century it continued to be extremely prevalent in that region. P. Martin in a letter from Marawar (or Ramnad, opposite to Ceylon), dated in 1713, mentions three cases then recent, in which respectively forty-five, seventeen and twelve women had performed suttee on the death of the husbands, princes of that state. The widow of the raja of Trichinopoly, being left pregnant, burnt herself after delivery. Suttees still occur in spite of British prohibition, and not very unfrequently both in British territory and in the native states. Ramusio quotes Propertius on suttee. A few lines will show how familiar this still enduring Indian practice was to the Romans nineteen hundred years ago.

> ... ...Uxorum fusis stat pia turba comis;
> Et certamen habit lædi, quæ viva sequatur
> Conjugium; pudor est non licuisse mori.
> Ardent victrices, et flammæ pectora præbent,
> Imponuntque suis ora perusta viris.—Pa. 80.

Towards the close of the 18th century, Suttee was most frequent in the Bengal presidency, and most so in the Bengal province. It was comparatively rare in the Madras presidency and Orissa, Ganjam, Rajahmundry and Vizagapatam were the parts in which it most occurred. The custom was very prevalent under Mahratta rule, but under the British, became very rare in Bombay. About the beginning of the 19th century, it used to occur at Poona, in ordinary and quiet periods, annually, about twelve times, on an average of as many years. Major Moor was a whole year at Poona, and

knew of its occurrence only six times; but it was a tumultuous and revolutionary period, and people were of course put out of their usual and ordinary routine of thought and deed. It was generally performed at the junction of the Moota and Moola rivers, about a quarter of a mile from the skirt of the city, at which junction (thence called Sangam) the British residency was situated. By a Legislative Act of Lord William Bentinck's administration, in 1828, suttee was made a criminal offence in all who abetted it. It was common at Benares to set up, by the side of the river, stone monuments to the memory of widows who have been burnt with the bodies of deceased husbands. Persons coming from bathing bow to these stones, and sprinkle water on them, repeating the words Sutee, sutee, *i. e.*, chaste. A writer in the 'Madras Times,' writing in 1862 remarked that it will take some time for the British government effectually to suppress the frequent occurrence of suttee which are still of constant occurrence in the native States throughout India. It will not be forgotten that, on the occasion of the death of the maharani of Odeypore, a suttee took place in which the life of a slave girl was wantonly destroyed. Letters from Central India after that date, conveyed the intelligence that another case of a somewhat similar description had since taken place at the cremation of the remains of the thakooor of Rewa in Seralee. The persons implicated were placed in confinement, and were to be punished agreeably to the penalties ordered to be inflicted by the government for such offences. A writer, who dates his letter Hurdwar, 27th Feb. 1820, says I have this moment returned from witnessing the burning to death of a fellow-creature. The smoke and flames are still ascending to heaven. The first intimation I had of the melancholy circumstance was from noticing a number of people looking towards the island opposite the fire. On rising, I saw a volume of smoke, and for the moment imagined it was a fire, but on enquiring, was told with the most heart-sickening indifference, that it proceeded from a suttee. I hastened to the spot, and the hindoos there carried me all the way through the water to hasten my visit, and render my interference timely; but the fire had been too long kindled; the huge trunks of trees of which the pile was composed, became one live coal, and left no doubt of the utter extinction of life in the unfortunate victim. I stood there for a few minutes; but the crowd, the noise of drums, &c., hindered my enquiring about the relatives and others who had set fire to the pile. I afterwards learned that the poor woman was not the lawful wife of the deceased. He had been thrice married, but the woman in question was not of his caste, but a hill woman, either of Budreenat'h or Kedarnat'h, and a well known concubine. All the brahmins of Hurdwar know this to have been the case, and neither they nor the relations of the deceased deny it. The man himself was well known at Hurdwar, being one of the 2,000 families of Pundas or officiating brahmins. He left a daughter by a wife, and considerable landed property as well as ready money: in all about 18,000 rupees. On the morning of his decease he distributed 200 rupees in cash among the brahmins; and it was reported there, that his relatives apprehending the woman would inherit all his estates, promoted her death.

About the year 1860, the 'Delhi Gazette,' mentioned that an atrocious case of attempted suttee which ended in the unfortunate woman's being murdered on her refusal to consummate the sacrifice, occurred in Central India. The woman had been persuaded to consent to the sacrifice, and proceeded, after the usual ceremonies, to the pyre, accompanied by her friends and relatives. When she was on the top of the pile, and the flames began to ascend, her resolution gave way; and screaming with terror, she lept to the ground, and tried to run away. The attendants, however, tried to cut her down; and she was struck with sticks, and wounded in two places, with swords. She managed, however, to escape from these fiends in human shape, and ran down to the river's edge, where she concealed herself under some bushes. Here she was found, and thrown into the river (the Parwati) where she was drowned. Many of those concerned in this infamous outrage were apprehended, and tried at Goonah, in the neighbourhood of which station, the occurrence took place. Horrible as this is, and inclined, as every good hindoo must be, to execrate the ruffians who took part in this outrage, and to wish them speedy and terrible punishment, a nearly similar crime was perpetrated in 1858, in the Furruckabad district, without a single one of the criminals being convicted or punished.

A correspondent supplied 'All the Year Round' with the following narrative of a tragedy enacted before his own eyes in the neighbourhood of Foo-Chow-Foo:—"The first notification I had, says he, of what was about to take place was the parading of a handsome wedding chair about the suburb of the provincial capital in which our foreign settlement is situated. The chair was accompanied by all the pomps and gaieties of a wedding—music, gay streamers and so forth.

There was, however, one thing most unusual in this procession. The occupant of the chair was exposed to public gaze, instead of being, as in weddings is invariably the case, closely screened. On making enquiry among our Chinese servants as to what this extraordinary departure from established customs might portend, I was informed that the lady was no bride, but a disconsolate widow, recently bereaved, who, finding herself unprovided for and unprotected, and having, moreover, neither father nor mother, son nor daughter, father-in-law nor mother-in-law, was determined on following her husband to the unknown world, where she might serve and wait upon him as became his dutiful and loving wife. Having accordingly made known her intention to her friends, and having fixed the day for her departure, she was now taking leave of all she knew, and parading the streets as a pattern to her sex. The object of her death being to rejoin her husband, the ceremony was a sort of wedding. She was arrayed and adorned as a bride, and seated in a wedding chair. I ascertained the time and place appointed for the closing ceremony, and on the morning of the 16th January, proceeded, accompanied by two friends, to a spot some four miles distant from Nantae, the seat of the foreign settlement and southern suburb of Foo-Chow-Foo. Everybody we passed appeared as well acquainted with the object of our journey as we ourselves were. As we approached the scene of action we found ourselves in a stream of people, chiefly women and girls, the greater part of whom were small-footed, and were hobbling along, leaning one against another for support, or assisting their tottering footsteps by means of the shoulders of dutiful sons or brothers. We arrived only just in time to see the chair of the victim carried on the ground, and herself ascend the scaffold which had been prepared for her. The chair was the bridal chair in which she had been carried about the streets; and the scaffold consisted of two stages, one raised a few feet from the ground, and the other a few feet higher. The whole was covered with a dark cloth canopy, supported by a framework of bamboos, within which was set a gallows of one very thick cross-piece of bamboo, fastened at either end to a strong upright pole. From this bamboo, under the canopy, and exactly in the middle of the scaffold, hung the fatal rope, covered with a red silk napkin; beneath it was set a chair to enable the devotee to reach the noose. On the lower platform was a table of choice meats and vegetables, at which she was to take her last meal in the land of the living. The table was surrounded by the woman's friends, dressed in holiday costumes, and wearing the red cap of Chinese officials. In former times it was the custom for two district magistrates to be in attendance on all these occasions; but since the higher authorities were hoaxed some years ago by a lady whose courage failed her at the last moment, they have refused to be present at such exhibitions, and now despatch an inferior officer to superintend the arrangements. The scaffold was raised in the midst of a large expanse of fields, at the time lying fallow, and was surrounded by a crowd numbering some thousands. Benches from which a better view could be had were so much in demand that we were obliged to pay a dollar (*4s. 9d.*) before we could obtain one for myself and another for my companion; I use the singular number because we had lost the third member of our party in the crowd. The chief actress in this extraordinary scene appeared at first to be far less excited than any one in the vast concourse assembled. She was dressed in red bridal robes, richly embroidered with coloured silk, and her head was adorned with a handsome gilt coronet. Her decidedly plain face betrayed not the slightest emotion, and she sat down at the table with as much apparent good-will as if it had been her bridal rather than her funeral feast. While she was eating we made some inquiries among the crowd, and ascertained, in addition to the fact of her being childless, that she was 25 years of age, and that her only surviving relations were a brother in poor circumstances and his infant child, her nephew. We were further informed that she had resided in a village which was pointed out to us at a little distance from the spot. After the lapse of about half an hour, the poor woman having apparently satisfied her appetite, rose from her seat, and still standing on the lower platform, addressed the surrounding crowd in a set speech, thanking them for their attendance, and explaining why she acted as she did. When she had finished speaking, she took from a bowl on the table several handfuls of uncooked rice, which she scattered among the crowd, and eager was the scramble to get a few grains as her virtuous blessing. This done she fondled her baby nephew, and bade an affectionate farewell to her brother, who stood by her on the scaffold; then, stepping upon the upper stage of the platform, she bowed gracefully to the surrounding multitude, and addressed to them a few last words. It struck me at this moment that she might be under the influence of opium, for her laughing countenance and rapid gestures were too highly excited to be natural, except under the influence of some such stimulants. It is right to add that the gaiety was clearly not assumed. She was helped to

mount the high chair placed under the rope; but the rope proving to be still beyond her reach, her brother stepped forward and held her up in his arms, while she with her own hands passed the fatal noose over her head and adjusted the cruel slip knot to the back of her neck. The red silk napkin was then placed over her face, and a handkerchief fastened to her right hand. At a signal given by herself her brother stepped back and left her suspended in mid air. She then, shaking her joined hands before her breast, "chin-chinned" the crowd; her own weight causing her to turn round and round, so that persons on all sides received her parting salutations. The spectators had, up to the fatal moment, been laughing and chattering as if assembled at a village fair; but now there was perfect stillness, as every ear was strained and every eye intent. In two or three minutes the action of the hands, at first decided and regular, grew weaker and weaker, and finally ceased altogether; then followed a convulsive shudder of the tiny feet (not above three inches in length) and all was over. The body was allowed to remain suspended for about a quarter of an hour, when it was cut down and placed in a common covered palanquin, which was in waiting, the bridal chair having been removed. The rope which had been the instrument of death was now cut into small pieces and distributed among the friends on the scaffold, all struggling violently to obtain a portion. The chair and the corpse were carried to a small temple about a hundred yards from the spot, followed by a terrific rush of people anxious to obtain another glimpse of the lifeless clay. My friend, who was somewhat sceptical of the reality of the transaction, forced his way into the temple, and witnessed the removal of the corpse from the chair. He returned, painfully satisfied that no deception had been practised, the poor girl's swollen and blackened face bearing unmistakeable testimony to the manner of her death.

Anugamana, in brahmanism is the performance of suttee by a woman alone, whose husband has died in a distant country: a sandal, or any article of his clothes may then represent him.

Arundhate, the wife of the Rishi Vaisistha, a resident of Swerga, is the spirit whom the devoted suttee woman invokes, before mounting the pile.—*History of the Punjab, Vols.* i, *pp.* 170-72, ii, *pp.* 169-70; *Huc's Christianity, Vol.* ii, *pp.* 401, 404-5; *Cunningham's History of the Sikhs, p.* 364; *Elphinstone's History of India, p.* 190; *M. Polo, Vol.* iii, *p.* 20; *Viaggio di Gasparo Balbi, p.* 83; *P. Vincenzo, p.* 322; *Lettres Edifiantes, ed. Lyon,* 1819, *Vol.* vii, *p.* 73-5; *in Yule Cathay, Vol.* i, *p.* 80. See Sati, Adee Grunt'h, Soohee, Ummer Das.

SUTTRA, lit. mark of defence.

SUTU, in Little Tibet, the flour or farina of roasted barley,

SUTUK, a hindoo ceremonial after childbirth and after death.

SUTUM, also Parada, SANS. Mercury.

SUTWASA, a rite observed amongst mahomedans when a woman has attained the seventh month of her pregnancy.—*Herk.*

SUT-WU-GOONA, SANS., from satwa, good, and goona, quality.

SUTYU-JIT, SANS., from satya, true, and jee, to conquer.

SUTYU-NARAYANA, SANS., from satya, true, and Narayana.

SUTYU-YOOGA, SANS., from satya, true, and yooga, a definite time.

SUVA, GUZ. Anethum sowa, *Roxb.*

SUVA KOLLI, URYA. Zizyphus jujuba.

SUVANA AMEL PODI, MAL. Ophioxylon serpentinum.

SUVANDE, SINGH. A wood used in Ceylon, for common house-building purposes. It grows in the western province of that island. A cubic foot weighs 56 lbs., and the wood is said to last 30 years.—*Mr. Mendis.*

SUVANDI KOTTE, also Karang kotte, TAM. Ixora parviflora.

SUVARNAM, TEL. Mesua ferrea, *Linn.*, *DC.*, also Cathartocarpus fistula, *Linn.*; also Mesua roxburghii, *W. Roxb.*; also Sida cordifolia, *Linn.*

SUVARUNKA also Suvernaka, SANS. fruit of Cassia fistula, Cathartocarpus fistula.

SUVEREK, see Mesopotamia.

SUVURNA, SANS., from su, one, and varna, kind.

SUVYABHICHARA, SANS., from saha, with, and vyabhichara, wrong practice.

SUWAHILI, see Aden, Beer-el-somal, Somal, Somali, Suahili.

SUWAL, HIND. Potamogeton tuberosum.

SUWARI —— ? Cassowary.

SUWARROW NUTS, or Saouari nuts. a species of butter nuts the produce of a large tree (Caryocar raciferum,) which grows in Guiana.

SUWAT, an affluent of the Kabul river. See India.

SVAMI, or swami god, lord, applied to any of the gods, and also to priests, and to the true God too.

SVANA BURBAARA, SANS. Syn. of Cleome viscosa.

SVARGA, the paradise of Indra, the Indian elysium, the world of the gods and also of mortals possessed of some merit.

SVASTI, see Inscriptions.

SVETA RAJAMASHA, Dolichos tranquebaricus.

SWADHA, see Sacta or Sakta.

SWADHAJA, see Surya-vansa.

SWADOO KUNTUKA, SANS. Flacourtia sapida, *Roxb.*, *W. & A.*

SWADU NARINGA, SANS. Citrus aurantium, Orange.

SWAHA, SANS. Presentment of oblations.

SWAHA, in hindoo mythology, is usually understood to be the goddess of fire, the consort or Sacti of Agni. See Agni, Inscriptions, Saraswati.

SWAINETZ, RUS. Lead.

SWAINSONIA GALEGÆFOLIA, a pretty shrub with purple, red and white flowers grown from seed in good garden soil. —*Eng. Cyc.*

SWAL, HIND. Potamogeton tuberosum.

SWALA, JAPAN, JAV. Biche de Mar, Holothuria.

SWALLOW, a bird of the family Hirundinidæ, sub-family Hirundininæ,

Hirundo rustica, *L.*, Europe, India.
„ domicola, *Jerdon*, Neilgherries, Bangalore.
„ filifera, *Stephens*, all India, Kashmir.
„ daurica, *Linn.*, „ „
„ fluvicola, *Jerdon*, Central India.
„ hyperythra, *Layard*, Ceylon.

The Daurian or red-rumped swallow, Hirundo daurica, is plentifully distributed over the lower regions in summer, but migrates to the plains of India during the cold months. The chimney swallow of Europe, the Hirundo rustica in allusion to its migratory habits, has been thus addressed:

Welcome, welcome, feather'd stranger,
How the sun bids nature smile;
Safe arrived, and free from danger,
Welcome to our blooming isle;
Still twitter on my lonely roof,
And hail me at the dawn of day,
Each morn the recollected proof
Of time that ever fleets away.

"Fond of sunshine, fond of shade,
Fond of skies serene and clear;
E'en transient storms thy joy invade,
In fairest seasons of the years.
What makes thee seek a milder clime?
What bids thee shun the wintry gale?
How know'st thou thy departing time?
Hail! wondrous bird! hail, swallow, hail!

Sure something more to thee is given,
Than myriads of the feather'd race,
Some gift divine, some spark from heaven,
That guides thy flight from place to place.
Still freely come, still freely go,
And blessings crown thy vigorous wing;
May thy rude flight meet no rude foe,
Delightful messenger of spring!"

The wire-tailed swallow the Hirundo filifera is plentiful in the Dekhan during the summer months. It is on wing soon after day-break and may be observed skimming over the ground all day long, hunting its winged prey. In the calm and delightful evenings peculiar to Poona they may be seen in hundreds, perched on stones and tufts of grass upon the plains and the river-banks, and just as night is closing in they rise and seek a roost on the tallest spires and mosques. It is seldom that the males have their delicate tail appendages perfect, and often they are entirely wanting. —*Adams.*

SWAMDHEKMA, loyalty, or fidelity to him whose salt the Rajputs eat, their immediate lord, even against their king.—*Tod's Rajasthan, Vol.* ii, *p.* 25. See Inscriptions, Junagurh.

SWAMI RAJA, also swami rudra dama, and swami rudra sah, see Inscriptions.

SWAMP DEER, ENG. Rucervus duvancelli, *Jerdon.*

SWAN. A large golden figure of the sacred bird, is in front of the throne of the king of Burmah and is called in Burmese Henza. The word is of Sanscrit origin, Hanza, a goose. The Henza is regarded as the king of birds. It is perhaps a mythicised swan. 'Storks' and 'cranes,' differ in their appearance, habits, anatomy, modes of breeding, and everything, except that both happen to be long-legged birds. The Hurgila or 'Adjutant,' Leptoptilus argala, is called 'the gigantic crane.' The ordinary Indian cranes, Grus antigone, Gr. cinerea, Gr. virgo and Gr. leucogeranos, occur rarely in the North-West Provinces. The words Crane Geranos and Grus, and the Hindustani names of the three common Indian species, Saras, Karranch and Kakarra, all have reference to the loud trumpeting of these birds, which have a curious internal conformation resembling that of the trumpeter swans; whereas the storks are voiceless birds, having actually no vocal muscles, and can make no sound but by clattering their mandibles together, which they do pretty loudly. The ridge or keel of the breast-bone, common to all birds that fly, is in the cranes, belonging to the restricted genus grus, and in the trumpeter swans, expanded so as to form a cavity, which the wind-pipe is prolonged to enter and re-proceed from, after describing a vertical convolution therein. Mr. Yarrells' figure of this curious structure, as it exists in the Hooper swan, Cygnus musicus, is, in a general way, illustrative of it, as observed in the buccinator, the trachea even performs a second vertical convolution, while in the wild swan of North America (C. americana) and in the nearly affined Bewick's swan (C. bewickii) it is prolonged to form a horizontal loop in the body of the sternum, posterior to the vertical convolution within the keel, that is, in general, for several of Bewick's swans do not differ in this respect from the Hooper

swan, although to all appearance of full age and development. In a newly hatched Hooper swan examined, not even an indication of the peculiar structure described could be detected: nor does it occur in the two species of crowned crane (Balearica) nor in the mute swans (Cygnus olor, C. immutabilis, C. atratus, C. nigricollis), nor probably in the C. coscoroba of South America; but the crowned cranes exhibit one curious anomaly in the organ of voice, which is that the long tendinous muscles, the office of which is to contract the windpipe, and which are known as the sterno-tracheales, from their ordinary mode of attachment, are not fixed, as usual, at their lower extremities to the sides of the breast-bone, but to the middle of the first pair of ribs! The sterno-tracheal muscles are wanting to the 'adjutant' and most other storks, are in a very few other birds, such as the condors (Sarcorhamphus) of the vulture family; indeed the vultures generally are among the most silent of the feathered creation, emitting no sound beyond a feeble cackling and snorting in their eagerness over their prey. In Australia the term 'crane' is applied to the egrets or white paddy-birds, as they are called in India; while in the Malay countries the so-called paddy bird, is a finch; and the real crane of Australia is known as the 'native companion.' Among the grallatores or waders, some cranes and storks, four-fifths of the ducks and the great majority of the scolopacidæ breed in the north and come to India in the cold season. There are four species of cranes in India, all of them principally or solely winter visitants. Of the species more or less diffused over India while in their winter quarters, two belong to the division termed Antigone, one to restricted grus, and one to Anthropoides of Blyth:

1. Antigone torquata; Grus antigone of Linnæus; Grus torquata, *Viellot*; the Saras, a noble bird, is the largest of the whole tribe. During the breeding season it has a pure white collar below the crimson papillose naked portion of the neck, whence the name torquatus. It is mostly seen in pairs; a few of which breed in India in extensive jhils, but the great majority cross the Himalaya for that purpose.

2. A. leucogeranos; Grus leucogeranos of Pallas, is the beautiful large white crane of Northern Asia, with black wing-primaries, and crimson naked face. A few stray pairs have been observed from time to time south of the Himalaya, in the upper provinces of Hindustan; and Burnes figured it from the vicinity of Cabul. Instances of its occurrence within the confines of India are worthy of special record. 'Mountaineer' once or twice indicated this fine bird in his narratives of Trans-Himalayan peregrinations. The other cranes have shorter and slate-coloured legs, and less (or in one instance not any) naked skin about the face.

3. Grus cinerea, *L.*; C. vulgaris, *Pallas*. The Kulung or Karrunch, or European crane: common to Asia and North Africa, visits India in great flocks, which wholly disappear in the breeding season.

4. Grus (or Anthropoides) virgo, *L.* The Kakarra, or 'Demoiselle,' common to Asia and North Africa; is only known in India during the cold weather; but it reaches further southward. It is the smallest of the cranes, and certainly one of the most elegant of this particularly graceful group; the only one with the head fully feathered, and it is adorned with beautiful white neck-tufts, and with lengthened and drooping tertiaries, and a bright crimson eye. Highly gregarious, the flocks are sometimes immense. All of the cranes are easily tamed and soon become reconciled to captivity; and they are very ornamental birds to keep. They have a curious and peculiar habit of skipping about at times, attitudinizing or dancing, and now and then emiting their loud cries. In the wild state they do much damage to the crops from their numbers; and repair during the heat of the day to sand-flats in rivers, or to other extensive waters, returning to feed morning and afternoon, at regular hours. They fly in V-like flocks, like wild geese. The young, commonly two in number, follow the mother soon after exclusion, unlike those of the stork and heron tribe, with which the cranes have little in common.—*Yule's Embassy*, *p.* 85. See Birds, Hanza, Henza.

SWANA, Hind. Daphne oleoides.

SWAN-PAN, a Chinese reckoning.

SWAN RIVER MAHOGANY, the Jarrah wood, or Eucalyptus marginata, is a tall and stately tree, the stem being frequently seventy feet in height before branching. It is the most enduring of woods, and if cut when the sap is down it defies decay. It is applicable for almost all purposes, being highly effective in ornamental wood work; for although somewhat inferior to Spanish mahogany in beauty of grain, still in more important matters it is most valuable for its natural properties. Time, weather, the white-ant, and that destructive sea worm, the teredo navalis, have no effect. For timbers of all kinds, for houses, warehouses, wharves, jetties, or bridges, it has no equal. At the Melbourne Exhibition in 1866, timbers of this wood were exhibited in perfect preservation, which had for thirty-five years been used as piles for a bridge over the river

Swan, near the sea, where the water is sometimes salt and sometimes fresh, and teeming at times with the above destructive worm.

SWARKA, see Jains.

SWARNA, Sans. Gold.

SWAROCHISHA, one of the 14 Patriarchs who preside over the 14 Manwantaras of the Calpa, noticed in the Calendar. See Brahmadicas, Menu.

SWARTZ, an eminent christian missionary and linguist. A monument has been erected for him in St. Mary's Church, Madras, Sacred to the memory of the Reverend Frederick Christian Swartz, whose life was one continued effort to imitate the example of his Blessed Master, employed as a Protestant Missionary from the government of Denmark, and in the same character by the Society in England for the propagation of christian knowledge. He, during a period of fifty years, " went about doing good," manifesting in respect to himself the most entire abstraction from temporal views, but embracing every opportunity of promoting both the temporal and eternal welfare of others, in him religion appeared not with a gloomy aspect, or forbidding adieu, but with a graceful form and placid dignity. Among the many fruits of his indefatigable labours was the erection of the church at Tanjore. The savings from a small salary were for many years devoted to the pious work, and the remainder of the expense supplied by individuals at his solicitations. The christian seminaries at Ramnadpuram and in the Tinnevelly province were established by him. Beloved and honoured by Europeans, he was, if possible, held in still deeper reverence by the natives of this country of every degree and in every section, and their unbounded confidence, in his integrity and in truth, upon many occasions rendered highly beneficial to the public service. The poor and the injured, looked up to him as an unfailing friend and advocate. The great and powerful, concurred in yielding him the highest homage ever paid in this part of the globe to Europeans. The late Hyder Ali Cawn, in the midst of a bloody and vindictive war with the Carnatic, wrote to his officers to prevent the Venerable Father Swartz to pass unmolested, to show him respect and kindness, for he is a holy man and means no wrong to any government. The late Tuljajee, rajah of Tanjore, when on his death-bed, desired to entrust to his protecting care, his adopted son Serfojee, the present rajah, with administration of all affairs of his country. On a spot of ground granted to him by the same prince, 2 miles east of Tanjore, he built an house for his residence and made it an orphan-asylum ; here the last 20 years of his life were spent in the education and religious instructions of children, particularly those of indigent parents, whom he gratuitously maintained and instructed, and here, on the 13th of February 1798, surrounded by his infant flock, and in the presence of several of his disconsolate brethren, entreating them to continue to make religion the first object of their effort, and imploring with his last breath for the divine blessing to attend them, he closed his truly christian career in his 72nd year.

SWASTIKA, a Tibetan sect, who received their name from their peculiar symbol the Swastika, or mystic cross, which was typical of their belief in Swasti. This term is a compound of Su, " well," and asti, " it is ;" meaning " it is well," or, as Wilson expresses it, " so be it ;" and implying complete resignation under all circumstances. According to the Chinese, they are the Tao-sse of the Chinese ; and the founder of the doctrine is said to have flourished between 604 and 523 B. C. The Swasti of Sanscrit is the Suti of Pali, and the mystic cross, or Swastika, is only a monogrammatic symbol formed by the combination of the two syllables sutti=suti. The Swastika sect were Rationalists, who held that contentment or peace of mind were the only objects worthy of attainment in this life. And as these have ever been the prevailing characteristics of mankind in the east, the atheistical principles of the Swastikas were received by the bulk of the people with very great favour. They assumed the name of Tirthakara, (see Fo-kwe-ki, 22, 23, and Cosma's Tibetan Grammar, pp. 181, 192. The old name of Tirthakar, is still preserved among the Mogal as Ter,) or "pure-doers ;" but by the buddhists of Tibet they are said to have been indecent in their dress, and grossly atheistical in their principles. Their Tibetan name Musteg, or " Finitimists," is significant of their doctrine of finite existence ; but they are more generally known as the Pon, or Pon-po. This sect, prevailed throughout Tibet until the seventh century, but is now confined to the furthest parts of the most eastern province of Tibet. The name of Pon is evidently only the Sanscrit punya, " pure,"—a synonyme of Tirthakara. Between the Swastikas, who promised nothing after this life, and the brahmans, who offered an almost endless series of mortal existences, people of strong minds and deep thoughts must have been sadly perplexed. The Greeks adopted the Indian symbol of Swastika, as the pottery from the Kamiras and the prototype of Crete show.

SWAT consists of a long valley, running

downwards generally in a southwesterly direction, but turning half round from east to west as it nears the British frontier, from which it is separated by a lofty range. It is difficult of access to a force moving from British territory. The Lundye or Swat river flows right through and fertilizes the valley, and then debouching through a gore in the hills, enters the Peshawur valley and joins the Cabul river near Charsudda. The Swat valley contains 300 villages and upwards; and its inhabitants may number 1,00,000 souls, of whom 20,000 might be fighting men. As soldiers, the Swati rank below several of the most martial tribes. Politically, the Swati consist of various clans, united under a loose federal government, at the head of which is an elective chief, styled padshah or king. In 1855, the king was a Syud, named Abkar, from the fanatic colony of Sitana. The high priest is called the "Akoond" (equivalent to the term doctor or reader) and is held in great veneration. Up to 1856 the king and the priest were sometimes said to be well-disposed persons, but they had never restrained their people from mischief. Swat is now under Pathan rule, with a subject race of Arian aborigines. North of Swat in the valleys of the Ghilghit river running into the Indus from the west, is an Arian people speaking a language of their own which is cognate to the tongue of the tribes east of the Indus in and about the country called Chilas. The Dard seem to be amongst those tribes, some of them are independent and scarcely known but most of the country and also Ghilghit, is now subject to the maharajah of Cashmir. The Ghilghit people are the farthest Arians of the country whence the Indus flows. Swat, or Subhavastu, is identified with Udyana, the Uchangna of the Chinese, and Udyana of Sanscrit. The Swat people are also sometimes called Deggaun and appear to be of Indian origin. They formerly possessed a kingdom extending from the western branch of the Hydaspes, to near Jellalabad. They were gradually confined to narrower limits by the Affghan tribes; and Swat and Boonair, their last seats, were reduced by the Eusofzye in the end of the fifteenth century. They are still very numerous in those countries. The course of the Swat river is imperfectly laid down in our latest maps, though so near our frontier, being almost a terra incognita; an intelligent native of Kandahar, who states that the lower ranges are destitute of trees but covered with grass. The higher hills on either side are clothed with forests, consisting chiefly of the edible pine and wild olive. The plane also flourishes in cultivated tracts. At the extreme head of the valley near Sardzaey, where is a pass leading into Kashkar, there are immense numbers of trees both along the river banks, and on the mountains on either side to their very summits.—*Cleghorn's Punjab Report, p.* 210; *The Bhilsa Topes, by Brevet Major Alexander Cunningham, p.* 19; *Calcutta Review, No.* 100, *p.* 44; *Campbell, pp.* 146-7; *Jour. As. Soc. of Beng.* 1862, *p.* 227, *by Capt. Raverty.*

SWATTI, a pre-hindoo people, driven out of Swat by the Euzufzye, but seemingly of the blood which supplied the earlier Indians. —*Campbell, p.* 96.

SWAYAM, see Swayamvara.

SWAYAMBHU, see Inscriptions.

SWAYUM-BHOOVU, SANS., from swayung, itself, and bhoo, existence.

SWAYAMBHUNATH, see Buddha, Brahmadicas, Menu, Prithivi, Topes.

SWAYAMBHU SAMBHU, see Inscriptions.

SWAYAMBHUVA, see Satarupa.

SWAYAMVARA. One of the favourite incidents in the ancient heroic poems of the hindoos is the rite called Swayamvara or the choice of a husband by a princess from an assembly of suitors met from all parts to take their chance in the lottery. Success is not represented as depending on their own efforts, as in many of the fairy tales, where the knight wins the lady by his own prowess in a tournament; the heroes here submit themselves in silent rivalry to the princess' inspection as she walks along their line, and selects from the throng the favoured suitor by presenting him with a garland, or a cup of water or some such token of regard. This hardly corresponds with the practice as we find it described in hindoo literature, since Arrian represents the lady as acting a merely passive part, whereas, if we may judge by the poems and by the very name Swayamvara (from 'Swayam,' 'herself,' and vara, 'choosing'), she had a much more active share in the transaction. We find an allusion in a later part of the Institutes of Menu, which proves the prevalence of the custom, as it is said (ix, 90, 91), "three years let a damsel wait, though she be marriageable; but after that time, let her chose for herself (vindeta) a bridegroom of equal rank, if, not being given in marriage, she choose her bridegroom (adhigachhed yadi swayam,) neither she nor the youth chosen commit any offence." The scholiast explains it of the so-called Swayamvara, "adhikagunavaratable samanajatigunam varam swayam vrinita." It seems to have been common in the hindoo society of former times for princesses and women of rank to select a husband

for themselves. The candidates for the hand of the lady were invited to her father's house, and after previous festivities for some days, were collected in a hall, round which the damsel passed and selected her future lord, by throwing a garland round his neck, the marriage rite was then celebrated as usual. The custom is the subject of much pleasing poetic description in the Mahabharat, the Naishadha, and other works. A translation of the Swayamvara of Draupadi from the former is published in the Calcutta Quarterly Magazine for September 1825. In the Hero and the Nymph by Kalidasa, (Hind. Th., Vol. i, p. 226). Pailava, describes a scene, in which Urvasi played Lakshmi; Menaka, was Varuni. The latter says:

Lakhshmi, the mighty powers that rule the spheres
Are all assembled: at the head appears
The blooming Kesava. Confess, to whom
Inclines your heart?

Damayanti was the tried and exemplary wife of Nala. She prayed for her union with him, having enquired after, and seen him in her apartments. Her becoming Swayambara again was simply to make Nala, from whom she had been separated, know where she was, that he might come there and be united to her. Of the Kshatriya women some married according to the Brahma mode, and some became Swayambara. Aja married Indhumati who was Swayambara. His son Dasaratha had the daughter of Kosala offered to him, and he married her; but his second wife Kaikeyi whom he won, was a Swayambara. Janaka, king of Mithila, made his daughter Sita Swayambara. She prayed that she should be the wife of Rama who bent the huge bow and was the successful competitor. The high character of Sita as a model wife and a holy woman is well-known. When she met the venerable wife of Atri and was highly complimented, she said that, although she was devoted to Rama, and she tried her utmost to follow him, she doubted whether her soul mirrored the purity of his. When she solicited permission to accompany her husband into banishment, she said—

"A wife must share her husband's fate,
My duty is to follow thee
Wherever thou goest. Apart from thee,
I would not dwell in heaven itself.
Thou art my king, my guide,
My only refuge, my divinity."

After the death of Ravana, when she appeared before Rama, and when he cast reflections on her chastity, she dashed away her tears, brought on by the interview, and rising from the dust at his feet, addressed Lakshmana as follows:— "Son of Sumitra! In thine eyes I see pity and trust of me. Build me a funeral pyre. Brother; since I am tainted in Rama's sight, 'tis time I should die." When Draupadi became a Swayambara, it was proclaimed that whoever would bend an enormous bow and by it shoot five arrows simultaneously through a revolving ring into a target beyond, would win her. When she was brought to the Sabha, Dhristadumna informed her of the names of those who had been assembled. After the failure of several princes Karna rose, when Draupadi publicly said,—"I will not marry a carpenter's son." Arjuna rose, tried, succeeded, and won the bride. When she was taken to Kunti the latter inadvertently said to her sons,—"What you have acquired should be your common property." What emanated from a mother must be done. The propriety of the marriage of one woman to five men was discussed at the Drupada raja's palace where Kunti was present, and took a part in the discussion. Vyas supported Kunti, and sanctioned the proposed marriage. It appeared that during the Vedic times, the daughter of a rishi was married to Prachata and his nine brothers, and another woman of the Gautama line was the wife of a hundred rishis. But these were exceptions, they are not alluded to in the Rig-Veda, and were quoted to legalise the marriage of Draupadi with the five Pandava. Draupadi is described as an educated lady, and according to her own account she used to receive instruction from a brahmin teacher, while on the lap of her father. The Bana Purva records her two conversations; one with Yudhishthira, on forgiveness and the Providence of God, in which she shows great powers of observation; and the other with Satyabhama, wife of Krishna, who came to her while she was living in the forest with her husbands. The subject was, on the best way of making the husband attached to the wife. Draupadi said that she conducted herself humbly, serenely and devotedly to her husband; she daily cleaned the house, utensils, cooked and offered meals at the appointed time. While at Indraprastha, she took care of Kunti, saw numerous brahmins and maid-servants fed and clothed; she also looked after the servants, cowherds and shepherds. She took care of the treasury, and gave orders on all matters connected therewith. She performed all her duties with every regard to truth, but unmindful of her personal comfort. She added, the faithful wife cannot attain happiness unless she practises self-denial. Do what I have told you, and before strangers remain quiet, but true to your convictions, avoiding excitement and thoughtlessness, and make those your friends who are virtuous and devoted to their hus-

bands. When Jayodrata seized and carried her away, he was pursued by the Pandava; she had then the generosity to advise him to lay down arms and implore forgiveness.

Kunti was brought up by Kunti Bhoja; while at her father's, she took a delight in entertaining guests. She became a Swayambara, and Pandu received her garland. When Draupadi was married to her sons she addressed her as follows :—"Daughter! be thou full of esteem and love to thy husbands, as Indrani was to Indra, Swaha to Bibhasara, Rohini to Chandra, Damayanti to Nala, Bhadra to Baiswanara, Arundhati to Vasishtha and Lakshmi to Narayan. Be thou the mother of heroes. Employ thyself with thy husband in religious service, and thy prosperity will be unlimited. Oh daughter, employ thy time in looking after the guests, visitors, the virtuous, children and the elders. By thee the rajah's of the principal cities of Kura Jangala, &c., will be installed." Kunti's next address to Draupadi was when she was about to proceed with her husbands, beggared by the game at dice, to pass twelve years in exile and one year in disguise.—*Hindoo Theatre*; *Calcutta Review*, *No.* 109, *pp.* 39, 40; *Calcutta Quarterly Magazine*, *Sept.* 1825.

SWURNAKARA, Sans., from swarna, gold, and kree, to make.

SWURYOGA, Sans., from swar, heaven, and yoga, a sacrifice.

SWEET-MARJORAM, Eng. Marjorana hortensis, *Mœnch*.

SWEET and bitter Sorinjan. See Colchicum.

SWEET BAY. Laurus nobilis.

SWEET BRIAR. Rosa rubiginosa.

SWEET CALAMUS. Sweet flag.

SWEET CASSAVA. Cassava manioc.

SWEET FENNEL. Fennel seed.

SWEET FLAG.

Kist-ul-durrera, Wuj,	Ar.	Calamo aramatico,	It.
Shwet Buch,	Beng.	Kawa-sob,	Jap.
Bagy,	Can.	Calamus aromaticus,	Lat.
Tachxudogbo,	Coch.-Chin.	Vuj,	Pers
Buch,	Duk.	Dringo,	Port.
Sweet calamus,	Eng.	Vacha, Godavuz,	Sans.
Acorus odorant,	Fr.	Venkund, Haimavate,	,,
Kalmis Wurtzel,	Ger.	Golomi,	,,
Kalamos aromatikas,	,,	Wadda-kaha,	Singh.
Kussub-bewa, Godavuz,	Hind.	Vassambu,	Tam.
Venkund, Wuj Igir,	,,	Vusa,	Tel.

Sweet Calamus, the aromatic which was of equal celebrity with Spikenard, mentioned by the same authors, and procured from the same country, is described by Dioscorides under the name of Κάλαμος ἀρωματικος. It is supposed by Sprengel and some authors that the Acorus calamus of botanists is intended, which is possessed of slight aromatic properties, is common in European ditches, and is likewise found in India in mountainous situations.

Sweet-cane, or Calamus, being described by Dioscorides immediately after Σχῖνος, which is generally acknowledged to be A. schænanthus, appears to Dr. Royle to belong to the same genus, and indeed to be the above far-famed species, Calamus aromaticus is thought also to be the sweet-cane and the rich aromatic reed from 'a far country' of Scripture. He states that there is no plant which more closely coincides in description with everything that is required than the tall grass which yields the fragrant grass-oil of Central India, and which he named Andropogon calamus aromaticus.—*Illust. Himal. Botany, p.* 425.

SWEET INGA, Inga dulcis.

SWEET LIME, Citrus limonum.

SWEET OIL OF TURPENTINE, see Gums and Resins.

SWEET PEA, Lathyrus odoratus.

SWEET POTATO, or Spanish potato, Batatas edulis. See Convolvulus batatas, Sukur kund.

SWEET PUNARNAVI, Sans. Trianthema decandra.

SWEET RUSH, Eng. Andropogon schænanthus, *Linn.*

SWEET SULTAN, Centaurea, *sp.*

SWEET WILLIAM, Dianthus, *sp.*

SWERGA, according to hindoo mythology, the paradise of Indra. The Apsara, in hindoo mythology, are nymphs of Swerga, the celestial court of Indra, celestial dancers, celebrated for their beauty. Amongst them is Rembha, the popular Venus of the hindoos and some others are described to be of inconceivable loveliness. They answer to the Pari of the ancient Persians, and the damsels called in the Koran, Hur-ul-ayun, the antelope-eyed Huri. These hindoo nymphs were produced at the churning of the ocean, as related in the Ramayana. Sir William Jones thus describes them in Swerga:

> "Now while each ardent Cinnara persuades
> The soft-ey'd Apsara to break the dance,
> And leads her loth, yet with love-beaming glance,
> To banks of marjoram and champac shades,
> Celestial genii tow'rd their king advance,
> So call'd by men, in heav'n Gandharvas named."

According to Kshatriya belief, warriors slain in battle are transported to Indra's heaven by these Apsarasa or nymphs of Swerga. Thus in Manu, vii, 89, it is said, 'Those rulers of the earth who, desirous of defending each other, exert their utmost strength in the battle, without ever averting their faces, ascend after death directly to heaven.' And in Book ii, 19, of the Nala, Indra says, 'Why are no warriors slain now-

a-days, that I see none arriving in heaven to honour as my guests?'—*Coleman's Hindoo Myth.*; *Sir William Jones' Hymn to Indra, Vol.* xiii, *pp.* 270-73; *Tr. of Hind., Vol.* i, *p.* 302; *Williams' Story of Nala, p.* 140. See Indra, Kurma, Maha-deva, Meru, Sati.

SWERGADWARA, see Krishna.

SWERTIA RACEMOSA, *Wall.* Syn. of Agathotes chirayta, *G. Don.*

SWERTIA CHEYRATA, *Buch's MSS.* Syn. of Agathotes chirayta, *G. Don.*

SWETA-BARYALA, BENG., HIND. Sida rhomboidea.

SWETA JAMBU, SANS. Calyptranthes caryophyllifolia.

SWETA KUNCH, BENG. Citrus precatorius

SWETAMBARA, a sect of the Jains.

SWETA PASHANAM, SANS. White oxide of arsenic.

SWETA-SHALA, DUK ? Dalbergia latifolia.

SWIETENIA CHLOROXYLON, *Roxb.*, ii. 400.

Chloroxylon swietenia, *DC.*

Satin wood,	ENG.	Kodowah porsh,	TAM.
Dhoura,	HIND.	Billuga, Billu Karra,	TEL.
Burute, Buruch,	SINGH.		
Gaha, Mal-burute,	„		

This cabinet wood is well known for its glossy yellow shades. The tree grows in the peninsula at Gokak, on sand stone hills: and on the Alleh-Bella Hills, also in the southern, eastern and northern districts of Ceylon; and is recognised to be of two kinds, there, the ordinary satin wood which is used for oil presses, waggon wheels, bullock carts, bridges, cog wheels, buildings, and furnitures, and the flowered satin-lustered samples of the same wood, which is used for picture frames, furniture, backs of hair brushes, and cabinet work, and next to calamander, is the most valuable of the Ceylon woods. It is hard, weighs 55 lbs. or 57 lbs. to the cubic foot and is supposed to last about 80 years. It occurs in the northern circars. Very fine satin wood grew at Cotaputty in the Tengricottah taluq of Salem, but Dr. Cleghorn supposes that a good deal of the oldest and best was destroyed by the Railway contractors. It is used in the Madras presidency, for the naves of gun carriage wheels and is the best suited of all the Madras woods, for fuses. In beauty and lustre, the flowered samples rival the bird's eye maple of America. Tredgold mentions that in England, the best variety of the wood is the West Indian, imported from St. Domingo, in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 in diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 inches square; the wood is close, not so hard as box-wood, but somewhat like it in colour or rather more orange; some pieces are very beautifully mottled and curled. It was much in vogue a few years back for internal decoration and furniture, but is now principally used for brushes, and somewhat for turning, the finest kinds are cut into veneers, which are then expensive, the Nassau wood is generally used for brushes. Satin-wood of handsome figure was formerly imported in large quantities from the Island of Dominica. The wood has an agreeable scent, and is sometimes called yellow saunders. The price in the Madras presidency, is nearly the same as that of teak and black wood. A satin wood, a beautiful wood for ornamental furniture, was sent from Penang. —*Roxb. Flor. Ind., Vol.* ii, *p.* 400; *Tredgold*; *Dr. Cleghorn's Conservator's Report, p.* 15, *for* 1860; *M. E. J. R.*; *L. E. J. R.*

SWIMMERS, an order of water-birds, as under:

ORDER VIII.—Natatores, or Swimmers.

A. Tribe, Longipennes.

Fam. Laridæ.

Sub-Fam. Larinæ, 2 gen. 5 sp. viz. 1 Catarracta; 4 Larus.

Sub-Fam. Sterninæ, *Div.* 1 *Skimmers*, 1 gen. 1 sp. viz. 1 Rhynchops albicollis;

Div. 2 *Marsh Terns*, 5 gen. 10 sp. 1 Sylochelidon; 1 Gelochelidon, 2 Hydrochelidon; 1 Thalasseus; 1 Seena; 3 Sterna; 1 Sternulia;

Div. 4 *Oceanic Terns*, 2 gen 4 sp. 2 Onychoprion; 2 Anous.

Fam. Procellaridæ; 6 gen. 12 sp. viz. 4 Diomedea; 4 Procellaria; 1 Prion; 1 Pelicanoides; 1 Puffinus; 1 Thalassidroma.

B. Tribe, Totipalmati.

Fam. Pelicanidæ, 5 gen. 12 sp. viz. 2 Phæton, 2 Sula, 3 Pelecanus, 4 Graculus, 1 Plotus.

C. Tribe, Lamellirostres.

Fam. Anatidæ; Gooses.

Sub-Fam. Phænicopterinæ, 1 gen. 1 sp. viz., Phœnicopterus roseus.

Sub-Fam. Anserinæ. *Div.* 1 *Swans*, 1 gen. 2 sp. 2 Cygnus, olor, atrata. *Div.* 2 *Geese*, 2 gen. 4 sp. 3 Anser, 1 Bernicla. *Div.* 3, *Perching Geese*, 2 Dendrocygna; 2 Sarcidiornis; 1 Nettapus. *Div.* 4, *Shieldrakes*, 1 Casarca rutila, 1 Tadorna vulpanser.

Sub-Fam. Anatinæ, 1 gen. 6 sub-gen. 10 sp. viz., 1 Spatula, 3 Anas; Dafila; Chaulelasmus; 1 Mareca; 3 Querquerdula.

Sub-Fam. Fuligulinæ, 1 gen. 1 sub-gen. 5 sp. viz., 4 Fuligula, 1 Branta.

Sub-Fam. Merginæ, 1 gen. 1 sp. viz., 1 Mergus castor.

Fam. Podicipidæ, 1 gen. 2 sp. viz., 2 Podiceps cristatus, Philippensis.

SWIETENIA FEBRIFUGA, *Roxb.* Syn. of Soymeda febrifuga, *Jus.*

SWIETENIA MAHOGANY, Mahogany. The mahogany tree has been introduced into British India.

SWIFT, a genus of birds, one of them the Cypselus affinis is common, and builds in societies among ruined places and domes, its nest is made of clay, intermingled with feathers

and grass. In haunts and habits it much resembles the European black swift, which, it would appear, has not hitherto been found in Hindoostan.

SWIMS, or Fishmaws.

SWINE, the hog family. The Jews and Egyptians were alike in refusing to eat the flesh of swine; except that the Egyptians who reared those unclean animals to sacrifice to Isis and Osiris, indulged themselves in eating pork once a month, on the day of the full moon.

SWORD. A metal alloy known as "sakela," is used in the Panjab for the manufacture of swords, &c., consisting of cast-iron, asbat and kheri iron, and foulad or steel welded together. Occasionally, in Jammu, a small quantity of silver and sometimes tin, is beaten into and welded with the finest sword blades for the sake of texture and polish. The sword cutlers of Ispahan formerly enjoyed great celebrity, and numbers of swords are still manufactured there. The best blades are all made of Indian steel, imported in the form of small round cakes which cost about two tomans each. Old Persian swords will fetch very high prices, all over the east; for they cannot now-a-days fabricate blades equal to those of former ages. When the blade has been hammered out of the koor or cake of Indian steel, it is put in the furnace, and kept there all night, subjected to the action of a low fire. In the morning it is taken out, smoothed and filed into shape, and then heated red hot, and immersed for a few moments in a trough filled with castor oil. It is next polished, sharpened, and the hilt and scabbard fitted to it; and the last thing done, is to bring out the jowhar or damask pattern. For this purpose, the blade is perfectly cleansed from oil or grease; and a yellow kind of stone is ground to powder, mixed with hot water in a cup, which must be of china or glass, not metal, and the solution laid on over the blade with a piece of cotton, two or three times. This brings out the black jowhar perfectly. The scabbards of Persian swords are all made of thin laminæ of wood joined together and covered with black leather with a sort of pattern stamped on the outside. The devotion of the Rajput is still paid to his arms, as to his horse. He swears by the steel, and prostrates himself before his defensive buckler, his lance, his sword, or his dagger. The worship of the sword (asi) may divide with that of the horse (aswa) the honour of giving a name to the continent of Asia. It prevailed amongst the scythic Geta, and is described exactly by Herodotus. To Dacia and Thrace it was carried by Getic colonies from the Jaxartes, and fostered by these lovers of liberty when their hordes over-ran Europe. The worship of the sword in the Acropolis of Athens by the Getic Atila, with all the accompaniments of pomp and place, forms an admirable episode in the history of the decline and fall of Rome; and had Gibbon witnessed the worship of the double-edged sword (khanda) by the prince of Mewar and all his chivalry, he might even have embellished his animated account of the adoration of the scymitar, the symbol of Mars.

The Bikaner people work well in iron, and have shops at the capital and all the large towns for the manufacture of sword blades, matchlocks, daggers, iron lances, &c. The sword handles, which often are inlaid with variegated steel, or burnished, are in high request, and exported to various parts of India.

In Cutch, an inch bar of fine English or Swedish steel is forged into plates 7 inches long, 1 broad and $\frac{1}{6}$ thick: similar bars of fine spot iron are prepared in the same manner. These are smeared with a paste of borax dissolved in water, and laid in piles of twelve, nine of steel to three of iron, or three to one, alternately; each pile is wrapped round with rag thickly plastered with mud made of a loamy earth; then heated, welded, and drawn out to a bar one inch and one-eight broad and one-third of an inch thick, this is bent zigzag three or four times; is again welded and drawn out to half an inch thick; and during the heat, borax is frequently dropped on the metal while in the fire. Two of these bars are next welded into one and when about twelve or fourteen inches long it is bent into the form of a loop or staple. In the middle of this a piece of fine grained file is inserted of the same width and nearly as thick. All is then welded together and the blade is formed. To temper the blade, an earthen pot twelve inches wide and six deep is notched on the edges (the notches being opposite each other) with a file about a quarter of an inch deep and is then filled nearly up to the notches with water. Oil is then poured on the surface. The blade being heated equally to a light red is removed from the fire and the point entered into a notch on one edge is passed to the opposite one keeping the edge from a quarter to half an inch in the oil. It is drawn backwards and forwards rather slowly till the hissing ceases and the rest of the blade above the fluid has become black. A jug of water without oil is then poured along the blade from heel to point. In order to take out the warp produced by tempering, the blade when nearly cold is passed over the fire three or four times, then being brought to the anvil is set straight

by striking it regularly but moderately with a hammer; by this means a damascus curved blade may be brought nearly straight. Swords, in Asia, are made with a hilt so small as to render it impossible for a European hand to use them in the manner of cutting which is common with Europeans. In cutting, an oriental does not straighten his arm at the elbow, the handle is purposely made small and confined, in order that the swordsman may not be forced to straighten his arm, but draw the cut as he delivers it. Mr. Vigne, when at Teheran, had seen a sheep laid in two at one stroke, and Suliman Mirza, one of the numerous sons of the late Futteh Ali Shah, king of Persia, had been known to cut a donkey in half at one sweep of his sword. The sword is an object of veneration or worship among the Govind Sikhs, as it was amongst the Getes, the Scythian ancestors of the Jats, from whom the Sikhs are descended. —*Tod's Rajasthan, Vol.* ii, *p.* 204; *Royle's Arts, &c., of India, p.* 460 ; *Rohde, MSS.* ; *History of the Punjab, Vol.* i, *p.* 105. See Kharg, Sword.

SWURNU-JOOTHI, Beng. Yellow jasmine, Jasminum chrysanthemum.

SWUTI, Beng. Mountain panic grass, Panicum holcoides.

SYADREE, or the Western ghauts, called by the natives Syadree in its N. part; and Sukheit in its S. part, Malabar Coast. Length, about 800 miles; from about 21° 15′, 73° 45′, and 74° 40′, they terminate almost precipitously, forming the N. side of the gap of Palgatcheri. Average height, 4,000 feet. About 21°, 2,000 feet; Mahableshwur, 18°, 73° 40′, 4,700 feet; Poorundher, 4,472 feet; Singhur, 4,162 feet; Hurreechundurghur, 3,894 feet; about 15°, 1,000 feet, towards Coorg; Bonasson Hill, 7,000 feet; Tandianmole, 5,781 feet; Papagiri, 5,682 feet. Seaward face, though abrupt, is not precipitous, but consists of a series of terraces or steps. Chasms or breaks in the range give access to the highlands, and are denominated ghauts or passes, a name which has become generally applied to the range itself. The core is primary, inclosed by alternating strata of more recent origin. Scenery delightful and grand, displaying stupendous scarps, fearful chasms, numerous waterfalls, dense forests, and perennial verdure.

SYALITA—Dillenia speciosa.

SYAMA, see Dhermaraja or Yama.

SYAMA RAHASYA, see Tantras.

SYAMAK, (Panicum colonum) a kind of grain used generally among the poorer classes. The stalk forms good fodder for cattle.

SYAMALI, Tel. Helicteres isora, also Isora coryllifolia, *Linn.*

SYAN CHANE, see Yarkand.

SYANG, in lat. 0° 20′ N., long. 129° 54′ E., is a low flat island in the Gillolo passage. See Wu-tsau.

SYCAMORE TREE of Scripture, Morus nigra, *Linn.*

SYCAMORE FIG TREE.

Ficus sycamorus.

A large tree found in Egypt.

SYCEE-SILVER, silver in the form of ingots, of various weights. The purest quality has 97 to 99 pure silver.—*Simmond's Dict.*

SYCHET. Previously to the conquest of Assam, in 1824, the inhabitants of Jyntees were in the frequent habit of capturing British subjects in Sychet, to offer up as sacrifices at the shrine of Kalee. In 1832, two British subjects were passing along the high-road in Assam, when they were suddenly seized and carried up into the hills in the neighbourhood of Goba, in the Nowgong district. After having been decked out with new clothes and jewels, they were led away to be sacrificed, together with two other persons, also subjects of the British government. One of the individuals, however, succeeded in making his escape, and on his return to the plains, he gave information of what had occurred; and as no tidings were ever afterwards heard of the three other individuals, little doubt remained but that they were sacrificed. The chief had been frequently required to surrender the guilty individuals, but all to no purpose; and there being strong reason for believing that the chief had wilfully screened the perpetrators of this horrible crime, the Governor-General, Lord William Bentinck, in February 1835, confiscated all his territory situated in the plains. Dantipar consequently became annexed to the district of Nowgong; and these horrible atrocities were put a stop to.—*Butler's Travels of Assam, pp.* 246–47.

SYDIVA, see Pandu, Polyandry.

SYE, a river near Juanpoor passing Pertabghur in Oudh.

SYED, one of the four mahomedan tribes. The Syeds, the Saadat, or lords are descendants of Mahomed, through his daughter Fatimah and her husband Ali, and as a rule are quiet, humble-minded men not distinguished by other qualities from the Sheikhs; they are of Suni and also of Shiah persuasion, and are met with serving as soldiers, or in civil avocations or following some religious duties. Syeds range themselves as Hasani, Hoossaini and Alavi. A Syedani, is a Syed woman. Amongst the women of the Syeds of Madras most can read the Arabic Koran and the Hindustani books of Belief and Devotion, but they cannot write: in all Madras, there may be more

than one thousand of this class of women, some of them also able to read Hindustani story books and can write a little, while a few even know the Persian Gulistan, Bostan, Anwar-i-Sohaili, Abul Fazl, and other usual books in Persian, and can even write the Persian grammatically, but there are not more than ten or fifteen such women, in all Madras. Also about four or five hundred of them are good needlewomen and embroiderers. The Syed race of Barh in northern India, furnished many persons of note to the courts of Delhi from the reign of Akbar to that of Ferokser. They are still numerous in Mozuffernugger.—*Wilson's Glossary.*

SYED ABDOOL QADIR JILLANEE, or Peer-i-Dustageer.

SYED AHMUD KUBEER, the founder of the Rufaee class of fuqeers.

SYED, ALIWI, the descendants of Ali, of his other wives, not by Fatima.

SYED, Hussunee and Hoseinee, the descendants of Ali by Fatima.

SYED JULLAL-OOD-DEEN, Bokharee.

SYED OOL TAAM, the prince of food.

SYED SHAH ZOOHOOR, distinguished by his wisdom, piety, and austerity of life. He built a small monastery of earth at Allahabad, which still remains. He was celebrated for his miracles, by his prayers the most frightful chronic complaints were immediately removed, of which an instance is given in respect to the case of the governor of Allahabad, nawab Oomdat ool Moolk Ameer Khan. Zoohoor boasted of having lived three hundred years.

SYED ZEIN OOL ABIDIN, a saint venerated.

SYHADRI a range of mountains continuing down from the S. W. end of the Aravalli to the western ghauts of India. See Syadree.

SYKES, Colonel William, Bombay Army, he was Statistical Reporter for the Deccan from 1821 to 1834 ; from 1840, one of the Directors of the East India Company ; a distinguished Zoologist, Meteorologist, Geologist, Antiquary and Statist. He has written so much on each of so many subjects, that his papers are classed below :

Meteorology.—Mean temperature of India at various elevations, Rep. Brit. Assn. 1834, Vol. iii, p. 567. On the measurement of heights by the thermometer, Ibid, 1835, Vol. iii, p. 25 ; Lond. Geo. Trans. ; Bom. Geo. Trans, 1839 ; Jackson's What to Observe, &c. On the remarkable difference betwixt the fall of rain at Mahabaleshwar, and that at Bombay and at Poona ; Ibid, 1839, Vol. vi, p. 16. On the meteorology of the province of Coorg, in the Western Ghauts ; Ibid, 1842, Vol. xi,, p. 22. On the fall of rain on the coast of Travancore and Table-land of Uttree Mullee, Ibid, 1846. On the fall of rain on the Table-land of Uttree Mullee, Travancore, 1846, Ibid, 1848, p. 39. On a remarkable storm at Bombay, 6th April 1847, Ibid. On Indian hail storms, Ibid, 1850, 43. On the atmospheric tides in the Deccan. Phil. Trans. 1840. On the meteorological observations in India, Phil. Trans. 1850.

Zoology.—Geographical range of certain birds common to various parts of the world, chiefly to India, Rep. Brit. Ass. 1835, Vol. iii, 69. Fishes of the Deccan. Trans. Lond. Zoological Soc. 1838. Catalogue of the mammalia of the Deccan. Zool. Trans. 1831, republished, Bl. As. Trans. 1832, Vol. i. Birds of the Deccan. Zool. Trans. 1832 ; republished, Bl. As. Trans. 1834, Vol. iii. Quails and Hemipoda of India. Lond. Vol. i, 4to.

Statistics.—Wages of labourers in the Deccan. Rep. Brit. Ass. 1835, Vol. iii, 118. Special report on the statistics of the Deccan, its extent, and physical circumstances ; geology ; ghauts ; escarpments ; climate ; botany ; zoology ; antiquities ; population ; education ; irrigation ; mountains, &c., (See Deccan,) Rep. Brit. Ass. 1837, Vol. vi. On the mortality of Calcutta, Ibid, 1844, Vol. xiii, 88. On the Statistics of hospitals for the insane in Bengal. Ibid, 89. Statistics of civil justice in India for four years, from 1841 to1844, Ibid. 1846, 94. Of charitable dispensaries in, Ibid, 96. Statistics of the Agra Government, or N. W. Provinces. Ibid. 1847. Statistics of civil justice in Bengal, to which Government is a party. Ibid, 1848, 116. Contributions to the statistics of Sugar produced in India. Ibid, 1849, 108. Statistics of civil and criminal justice under the Bengal Government for the years 1844, 1847, 1849. Rep. Brit. As. 1836, vol. v. Statistics of the educational institutions of India. 1858. 8vo. On the fruits of the Deccan ; twenty-one kinds of ordinary wild fruits ; importance of communication for the introduction of plants of India. (Rudiments of Indian exhibition of 1853 ; Bombay economic museum, Sir A. Johnstone on, in Lond. As. Trans. Dr. Buist on, Bom. Geo. Trans. 1848). On the Dutch possessions of the East Indies, Rep. Brit. Ass. 1848, 112. Prices of cerealia and other edibles in England and India compared. Rep. Brit. Ass. 1847. Mortality in the Jails of the 24 pergunnas, Calcutta. Rep. Stat. Survey of India, 1841. Catalogue of Chinese Buddhist works. Lond. As. Trans. On the land tenures of the Deccan. Ibid, 1834, Vol. ii. 205—233 ; 1836, Vol. iii, 350—376. On the state of India before the Mahomedan invasion, founded on the travels of Fa Hian. Ibid, 1836, Vol. vi, 248. On the proprietary right of the soil vested in

the subject, not the sovereign, in India. Ibid, 1836, Vol. vi, 246. Same subject as land tenures of the Deccan. Mortality and chief diseases of troops under the Madras Government in 1851 compared with that in 1842, 1846 and 1849. Jl. of Lond. Stat. Soc. 1851. On expenditure of the Government of India on public works. Ibid, 1850.

Geology of a portion of the Deccan, Lond. Geol. Trans., Vol. iv, second series 4to. On a fossil fish from the table-land of the Deccan, Lond. Geol. Trans., 1851, Vol. vii.—*Buist's Cat.*

A large collection of plants of the Bombay presidency, chiefly from the neighbourhood of Poona, were presented by Colonel Sykes to the society. In 1832, a catalogue of birds, collected by Colonel Sykes in the Bombay presidency, was also published in the Proceedings of the Zoological Society of London. In this were enumerated 226 species, of which above 40 were described for the first time, many of them common and abundant birds. This catalogue was undoubtedly the most valuable enumeration of the birds of India published, and contains descriptions, with many highly interesting observations on the habits, food and structure of many of the species. Of those enumerated by Colonel Skyes there were about 9 or 10 which Dr. Jerdon, when writing in 1839, had not observed, most of which are probably peculiar to the more northern portion of the range of ghauts and neighbouring table-land.—*H. et T.*

SYKESIA KŒNIGII, *Arn.*, also S. thyrsiflora, *Arn.*, syn of Gærtnera kœnigii, *Wight Ic.*

SYKESIA WALKERI, *Arn.* Syn. of Gærtnera walkeri, *Wight's Illust.*

SYLABCHEE, or Chillumchee, HIND., PERS., a wash-hand basin.

SYLHET, possesses a few manufactures. The natives there excel in some kinds of ivory work. They manufacture a variety of articles, including ladies' bonnets. They also make shields of buffalo and rhinoceros' hides, which are celebrated throughout India for their durability and polish. The varnish is made of the juice of the Semecarpus anacardium or Indian marking-nut. One description of target called Afla-o-i, which is made here, is not varnished but is rendered by some peculiar process of preparing the leather, semitransparent. The other skins of the district are an article of traffic, and would bear a comparison with similar furs in Europe. Considerable quantities of them are prepared annually both here and in Mymensing. They were formerly sent to Tibet, but they are now chiefly exported to China. The other manufactures for which Sylhet is famed, are sword handles, morahs, articles of brass-work (made at Toroff,) and fine 'seetalpatee' mats, such as are commonly used in Bengal, for covering the seats of chairs, beds and couches. This place has, also, long been celebrated for the preparation of certain perfumes, as the attars of uggur or lign aloe, and Nag-kesoor, (Mesua ferrea); also several compounds of essential oils, of which that of Cassia is one of the principal ingredients, the tree (Aquilaria agallocha, Roxb.), which yields the lign aloe, grows in the Naga country between Sylhet and Assam, also in Cochin-China and Siam. Both the wood and the essence extracted from it at Sylhet, are purchased by Mogul merchants for exportation to Bussora, and other mahomedan countries, where they are held in high estimation and much used, the attar, as a perfume, and the wood, for fumigating apartments and cloths. Lign aloes is interesting from its antiquity as an export from India, being an article that was formerly much used as incense in Western Asia. It is mentioned under the name of agallochum in scripture. Amongst the articles of export, are a variety of parti-coloured cloths, generally known by the name of Sylhet cloths. Some of them are dyed of rich colours, and being of a strong durable texture, are well-adapted for table covers, to which purpose they are usually applied in the eastern part of Bengal.—*Dr. Taylor.* See Cossyah, Khassia, Khumia, Kuki, Polyandry, Sanatoria, Silhet, Tea.

SYLOCHELIDON CASPIA, also Sterna caspia: 'Caspian tern.' Warmer regions of the old world generally, Australia (S. strenuas, *Gould*): not rare in parts of India; but doubtful as occurring in Lower Bengal.

SYLVAN DEITY, Pan, see Vishnu.

SYLVIA ATRICAPILLA, (Curruca atricapilla: 'Blackcap warbler,') Europe, W. Asia, Arabia, (Schlegel), Japan, (Temminck), all Africa. One killed in Java, (Temminck.)

Sylvia cinerea, (Curruca cinerea: 'Common white-throat,' (Europe, Asia Minor, Arabia, (Schlegel), N. Africa: migratory.

Sylvia curruca, (Curruca sylviella: 'Lesser white-throat,') Europe, Asia, Africa: migratory. Common in India; and a nearly affined but larger species in S. India, S. affinis (Curruca cinerea, apud Jerdon.)

Sylvia orphea, (Curruca orphea: 'Orpheus warbler,') Europe, N. Africa, Arabia, (Schlegel) rare in Britain: migratory. The Indian race seems to differ only in having a somewhat longer bill: inhabiting both Upper Hindustan and S. India.

SYLVIA NIGRICAPILLA, see Ornithology.

SYLVIA PHILOMELA, see Bulbul.

SYLVIA SUTORIA, Tailor bird.

SYMPHOREMA. Of this genus of the verbenaceæ Wight, in Icones, gives involucratum, polyandrum.

SYMPHOREMA INVOLUCRATA. A species of St. Peter's wort, cultivated by seed or cuttings.—*Riddell.*

SYMPHYTUM OFFICINALE.

Συμφιτον Diosc., iv, p. 6 | Sunkootun, HIND

Roots large, externally black, and branching, about a foot long, the thickness of the finger, fleshy, brittle, succulent, and pulpy. Inodorous taste, sweetish and mucilaginous. The plant is highly mucilaginous, and rather astringent, it also contains sugar and albumen. The recent root is in popular use in France in cases of rupture and bruises. Indeed the plant derives its name from its supposed virtue in consolidating wounds.—*O'Shaughnessy, p.* 496.

SYMPLECTES, see Ploceinæ.

SYMPLOCOS (from συμπλοκή, a knitting together), a genus of plants belonging to the natural order Styraceæ. Wight, in Icones, gives Symplocos foliosa, Gardneriana, microphylla, monantha, nervosa, obtusa, pendula, pulchra, racemosa. Thunberg gives as plants of Japan.

Japonica, *DC.*	Lancifolia, *S. & Z.*
Prunifolia, *S. & Z.*	Leptostachys, *S. & Z.*
Myrtacea, *S. & Z.*	Theophrastæfolia, *S. & Z.*

In Burmah there are three undetermined species, viz., one named Kunneen, BURM., another Keun-la, BURM., and a third Kain-tha-pho-gee, BURM., the last named is a tree of Tavoy, where its timber is used in boat-building. Symplocos racemosa, known as lodh and S. tinctoria, a native of Carolina, are used for dyeing.

SYMPLOCOS, *species.*

Kam-tha-pho-gee, BURM.

A timber of Tavoy, used in boat-building.

SYMPLOCOS, *species.* A few of the people of Lampteng in Sikhim find employment in drying the leaves of a shrub, one of the genus Symplocos, for the Tibet market, which are used as a yellow dye.—*Hooker's Him. Jour., Vol.* ii, *p.* 41.

SYMPLOCOS PANICULATA.

Symplocos, ENG. | Lodh, PUNJ.

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 7,0C0 to 9,000 feet. Used in dyeing madder.—*Cleghorn's Punjab Report, p.* 67.

SYMPLOCOS PULCHA, on the Neilgherries, has hairy leaves and snow-white flowers.

SYMPLOCOS RACEMOSA, *Roxb.'s Fl. Ind., Vol.* iii, *p.* 539.

Lodh, BENG., HIND.	Loddugа, TEL.
Hoora, MAHR.	Erra loddugа, „
Savura, Lodhra, SANS.	

This small tree, from ten to twelve feet high, and with a trunk about 20 inches in circumference, is a native of Nepaul and Kumaon and of Burdwan and Midnapore in Bengal. It grows also in the Kotah jungles, but, in the Bombay presidency, it is found only in the jungles of the highest ghauts. Wood small, white or yellowish, hard and durable, suitable for turnery. It is strong and compact, and might be used for cabinet as well as for other purposes. The bark of the root is sold at 4 seers the rupee, and is used in Rajputanah, for dyeing red. It is also used in medicine, being considered heating and promotive of the secretions. It is used also in the mesalihs for animals. The bark furnishes one of the red powders, known as 'abir,' scattered by hindoos in the festival of the hoolee.—*Thompson; Roxb.'s Fl. Ind., Vol.* iii, *p.* 239; *Voigt.*

SYNAGOGUE, is the name given to the religious buildings of the Jews. Speaking of Jewish customs, Jesus says they love to pray standing in the synagogues, and in the corners of the streets! Both hindoos and mahomedans offer their devotions in the most public places; as, at the landing-places of rivers, in the public streets, and on the roofs of boats, without the least effort at concealment.

SYNDESMIS TAVOYANA, *Wallich.*

Ka-tha khyæ, BURM.	Mergui red wood, ENG.
Tavoy red wood, ENG.	

A very large tree of British Burmah. The wood makes handsome furniture, and is used for building, boxes, &c., and, in Tavoy, for similar purposes to what the gum kino wood is applied at Moulmein. It is, occasionally, a beautifully variegated wood, well adapted for furniture and ornamental purposes. It contains a dye, and is in great abundance in the islands on the coast and near Moulmein. When the wood is steeped in ferruginous mud, it turns jet-black and looks like ebony. The large cylindrical knobs, one or two inches in diameter, so often noticed in the ears of Karen women at Tavoy, are made of this wood after the colour has been changed. Mergui red-wood is a valuable dye wood for both black and red, but more especially for orange. From an article in the Journal of the Asiatic Society, it appears that a number of experiments, made at the request of Mr. G. Swinton, by Mr. Thomas Speir, upon the Mergui dye wood, prove that it affords, with the mordants commonly used by dyers, colours equally bright and of a more permanent nature than those of most other dye woods. The colours imparted to silk with different mordants were as follow :—

Muriate of tin. Three shades of orange, varying with the temperature of the bath, and the time of immersion.

Acetate of alumina. Two shades of flame colour.

Acetate of iron. Two shades of drab.

Ditto, with a weak decoction of galls. A fine black, two shades.

Mixed with manjit, a variety of red and pinks are obtained, but not perhaps equal in intensity to those of the manjit alone. The chief attraction of this wood as a dye, is the orange colour which it yields with the aid of muriate of tin and acetate of alumina, of a great variety of shade. These results show that the wood is deserving of further attention, and that it may become eventually an important article of commerce with our possessions on the Tenasserim Coast. It is not quite certain, however, what tree produces the Mergui redwood. The flowers which accompanied the specimens of the wood sent to Calcutta, belonged to the Burman black varnish tree, yet Mr. Maingay who sent them, thought it a different tree. Mr. Mason imagines there was some mistake, and that the Mergui red-wood is identical with the Tavoy red-wood, viz., Syndesmis tavoyana.—*Mason.*

SYMPLOCOS CRATÆGOIDES, *Vern.* Leaves said to be astringent, *Powell's Handbook, Vol.* i, *p.* 359.

SYNGNATHIDÆ, a family of fishes, of the order Lophobranchii. This order may be thus shown—

ORDER V.—Lophobranchii.
Fam. 1. Solenostomidæ.
3 species of Solenostoma.
Fam. 2. Syngnathidæ.
FIRST GROUP.—Syngnathina.
2 Siphonostoma; 8 Ichthyocampus; 1 Urocampus; 1 Leptoichthys; 2 Stigmatophora; 1 Protocampus; 53 Syngnathus; 1 Nannocampus; 23 Doryichthys; 3 Cœlonotus; 9 Neroplus.
SECOND GROUP.—Hippocampina.
1 Gastrotokeus; 3 Phyllopteryx; 25 Hippocampus; 3 Solenognathus; 2 Acentronura.

SYNGNATHUS, of this genus are the species Acus, Æquorius, Anguineus, Brachyurus, *Bleeker.* A short-tailed sea-needle, Lumbriciformis, Ophidion Typhle. See Syngnathidæ.

SYONAK, HIND. Bignonia indica.

SYPHEOTIDES BENGALENSIS, *Gmel.*

Otis deliciosa, *Gray.*	O. himalayana, *Vig.*
Charras, or Charaj, HIND.	Dabar, of NEPAUL.
Charas, ,,	Bengal florikin, ENG.

In the breeding season, the whole head, which is very fully crested, the neck, breast and lower parts and thigh coverts are of deep glossy-black, the plumes of the breast elongated, forming a full-breast tuft and the feathers of the neck in front also lengthened, back a rich olive buff, with zigzag markings, and a black dash in the centre of each feather. It is 24 to 27 inches long. It is found throughout Lower Bengal, north of the Ganges, north-easterly to the foot of the Himalaya, into Dacca, Assam, Tipperah, Sylhet, Assam, north-westerly into the valley of the Jumna, Rajputanah, the Cis-Sutlej states, and parts of the Panjab. It frequents large tracts of moderately high grass. The sexes live apart but near each other.—*Jerdon.*

SYPHEOTIDES AURITUS, *Latham.* The Lesser florikin.

Otis fulva, *Sykes.*

Khar-tilar of Bheels, near Mhow,	Chulla charz. HIND.
Kan-noul. CAN.	Likh, of Hindustan, ,,
Charaz, also Charas, HIND. of S. India.	Tan mohr, MAH.
	Warrogoo koli, TAM.
	Niala nemiki, TEL.

The Bheel name means 'grass partridge," and it gets its Tamil name from being usually found in the Warroogoo (Paspalum frumentaceum) fields. The lesser florikin, also called the common florikin and black florikin, is 19 to 21 inches long. In winter dress, the male closely resembles the female, but has always some white on the shoulder of the wing, when in full feeding plumage, the male in its head, neck, ear tufts, medial wing coverts, and all its lower plumage is deep-black, the chin alone being white, the rest of the plumage fulvous. The different character of the plumage in the two seasons has led some to write on this bird under two names. It is found throughout India, from the extreme south to the foot of the Himalaya and frequents long grass in preference to any other shelter.—*Jerdon's Birds of India, Vol.* ii.

SYGHAN, a pretty place between the territories of Cabul and Kunduz, but situated in a dreary valley.

SYRASTRENE, see Bactria, Greeks of Asia.

SYRIA, is a Greek abbreviation of Assyria. Syria, or Aram, lying between the Mediterranean and the Euphrates, is separated into two plains by a double range of hills which divide the country from north to south. The smaller plain is next to the Mediterranean and is fertile, the larger consists of sand and rocks and stretches to the Euphrates. Libanus and Anti-Libanus its principal mountains, on the west, are well cultivated by means of terraced cultivation, but barren and rugged on the east. The Orontes and Eleutherus are the principal rivers.

The Aenezi, according to Burckhardt, are the most powerful Arab nation in the vicinity of Syria, and if we add to them their brethren in Nedjd, they may be reckoned one of the most considerable bodies of bedouins in the Arabian deserts. They are nomades, in the strictest acceptation of the word, for they continue during the whole year in almost constant motion. In spring, they approach the fountains of Syria and form a line of encampment extending from near Aleppo to eight days' journey to the south of Damascus.

Their principal residence, however, during that time is the Haouran, and its neighbourhood, when they encamp near and among the villages, while in the more northern country, towards Homs and Hamah, they mostly keep at a certain distance from the inhabited grounds. In these parts, they spend the whole summer seeking pasture and water, purchase in autumn, their winter provision of wheat and barley, and return after the first rains into the interior of the desert. They are the only true bedouin nation of Syria, the other tribes in the neighbourhood of this country having more or less degenerated in manners, and several being reduced to subjection; while the free-born Aeneze is still governed by the same laws that spread over the desert at the beginning of the mahomedan era. Mr. Robinson says there are three breeds of horses in Syria, the true Arab breed, the Turkoman, and the Kurdy, which is a mixture of the two former. The bedouins of Syria count five noble breeds of horses, descended as they say from the five favourite mares of Mahomed, Tanese, Manek-eye, Kokeyl, Sablaye, and Djulfie. These five principal races diverge into ancient ramifications. Every mare, particularly swift and handsome, belonging to any one of the chief races, may give origin to a new breed, the descendants of which are called after her, so that the names of different Arab breeds in the desert are innumerable. The horses of the bedouin of Syria are mostly small, seldom exceeding fourteen hands. They ride almost exclusively, their mares, these having the advantage over the horses in speed and good temper. The latter they sell to the towns-people or to the fellahs. They object to them, not only because they are more vicious than the mares, but because they neigh, which in an expedition by night, might be the means of betraying them. They are first mounted after the second year, from which time the saddle is seldom taken off their backs. They are kept in the open air during the whole year, never entering the tent, even in the rainy season. In summer, they stand exposed to the mid-day sun. In winter, a sackcloth is thrown over the saddle. Like his master, with very little attention to his health, he is seldom ill. Burning is the most general remedy, and as this is done with a hot iron, it has given rise to the erroneous notion that the Arabs mark all their horses. Syrians, in the Hejaz are usually known as Abu Sham. The Syrian shugduf differs entirely from that of El Hejaz. It is composed of two solid wooden cots about four feet in length, slung along the camel's sides and covered over with cloth, in the shape of a tent.—*Robinson's Travels, Vol.* ii, *pp.* 167, 169, 183, 238, 356; *Burton's Pilgrimage to Mecca, Vol.* ii, *p.* 225. See Greeks of Asia, India, Ken Kurdistan, Khiraj, Mesopotamia, Rain, Semitic races.

SYRIAN CHRISTIANS. In Malayala, as in other parts of southern India inscriptions occur, in various ancient characters as well as in modern letters. The copper plate grant to the Syrian christians, is still in their possession.

SYRIAN DOGBANE, Asclepias syriaca. One of the plants of the Asclepiadeæ family, useful both for its down and for its fibrous stem, although a native of the burning plains of Syria, it is cultivated as far north as Upper Silesia. It is easily propagated either by seed, or by parting the roots. The plants thrive luxuriantly in light soil, but will flourish on any poor land. The silk-like down which surmounts the seed of this plant, is not more than an inch or two in length; but it has, nevertheless, been usefully applied for articles of dress manufactured of it both in France and in Russia. The fibres of the stem, prepared in the same manner as those of hemp and flax, furnish a very long fine thread of a glossy whiteness.—*Royle's Fib. Pl., pp.* 302, 333, 709. See Caoutchouc.

SYRINGA, a genus of plants of the order Oleaceæ. Syringa chinensis, *Willde.*, the Chinese lilac, is a native of China cultivated in Europe. Syringa villosa, has villous leaves and is found in China on mountains about Pekin.—*Eng. Cyc.*; *Voigt, p.* 549.

SYRINGA EMODI, *Wall.*

Chunu,	BEAS.	Rang-chul,	KUNAWAR.
Ban-phunt,	CHENAB.	Karmar,	RAVI.
„ -dakhur,	„	Ban-chir,	„
Gnari,	„	Shatri; Dudla,	SUTLEJ.
Shafar,	KUNAWAR.	Lolti; Rang chul,	„

Elliptical-oblong leaves, glaucous beneath, attenuated at the base, and acuminated at the apex, with purple flowers. A native of Kumaon near the Himalaya, at many places in the Punjab-Himalaya at 7,000 to 11,000 feet up to the Indus, and collected by Bellew at 9,000 feet near the Sufed Koh. The wood is white and close-grained, and carves well. The leaves are eaten by goats.—*Eng. Cyc.*; *Dr J. L. Stewart.*

SYRINGA PERSICA, *L.*

var β. laciniata, *Vahl.*

Hiasmin,	KANGRA.	Persian lilac.

Leaves small, lanceolate, flowers purple. A native of Persia, and cultivated in some of the gardens on the Kashmir lake seems to be a variety of S. laciniata, a small shrub, from four to six feet high. It is one of the most ornamental of low deciduous shrubs, and on that account is very commonly cultivated. When planted in pots and forced, it may be made to flower at Christmas; but by

this process the fragrance of the flowers is lost. Of this species also three varieties are found in English nurseries, the White, the Cut-leaved, and the Sage-leaved Persian lilacs. —*Dr. J. L. Stewart*; *Punjab Plants*; *Eng. Cyc.*; *Voigt*, *p.* 549.

SYRNIUM ALUCO, (S. stridulum: 'Tawny owl,') of Europe, N. Africa, Asia Minor, N. Asia to Japan, (Temminck.) S. nivicolum, common in the W. Himalaya, rarer eastward, is barely separable.

SYRNIUM INDRANEE, Devil bird, *Sykes*. Mr. Blyth had some doubts about this bird. There would appear to be three or four distinguishable races, the Ceylon bird approximating most nearly to that of the Malayan peninsula. The horror of the owls nocturnal scream was as prevalent in the west as in the east. Ovid introduces it in his Fasti, L. vi, I, 139; and Tibullus in his Elegies, L. i, E. 5. Statius says—but Pliny, I, xi, c. 93, doubts as to what bird produced the sound; and the details of Ovid's description do not apply to an owl. —*Tennent's Sketches of the Natural History of Ceylon*, *pp.* 246-47. See Owl.

SYRO-ARABIAN languages appear to have been spoken from the very earliest times by the various nations who inhabited that part of Asia lying to the eastward of the Tigris. See India.

SYRO-CHALDAEN, see Mesopotamia.

SYROPS, see Crocodilidæ.

SYRUP, Ger. Molasses.

SYRUP OF CAPILLAIRE, see Capillaire.

SYRUP OF SARSAPARILLA, see Sarsaparilla.

SYUD, or Syed, a mahomedan who claims to be a descendant of Mahomed, through his daughter Fatimah and her husband Ali, or through the other wives of Ali. There are 13 tribal designations of Syeds in Kurrachi, and 11 in the Hyderabad district. In the Hyderabad collectorate, the Syuds are land-owners and extensive cultivators and say they came from Arabia, and Persia, about 700 years ago. Kaghan is a long narrow glen, stretching upwards till it nearly reaches Chelas, the latter outpost of maharajah Golab Sing's kingdom, is a barren dependency of Hazara. It is inhabited by pastoral and aboriginal races, and was given by former rulers in fiefdom to a family of Syuds who were confirmed by the British. These Syuds exercised internal jurisdiction and sent certain members of the family in attendance on the Deputy Commissioner of Hazara, virtually as hostages for good behaviour. The Syuds were summoned to answer numerous complaints preferred by the people of Kaghan; they came, but afterwards fled, and assumed an attitude of resistance and intrigued with the Sitana fanatics and with the Hussunzye, then hostile to the British. See Syed.

SYZYGIUM, a sub-genus of plants of the natural order Myrtaceæ, of which the following species grow in the East Indies;

S. acuminata, *Roxb.*, Moluccas.
S. balsamea, *Wall.*, Assam.
S. brachiata, *Roxb.*, Moluccas.
S. caryophyllifolia, *Roxb.*, Bengal.
S. fruticosa, *Roxb.*, Chittagong.
S. grandis, *Wight*, Sylhet.
S. inophylla, *Roxb.*, Sumatra.
S. jambolana, *Lam.*, Pen. of India, Hindustan, Moluccas.
S. leuchophylla, —? Sylhet.
S. macrocarpa, *Roxb.*, Chittagong.
S. myrtifolia, *Roxb.*, Singapore, Sumatra.
S. oleina, *Wight.*, —?
S. operculata, *Roxb.*, Mollucas.
S. rubens, *Roxb.*, Chittagong.
S. tetragona, *Wight*, Sylhet.
S. venusta, *Roxb.*, Tipperah.

It is a large tropical genus, some species of which are now referred to other genera, particularly Eugenia, and notices of E. acris; E. alternifolia; E. amœna; E. bracteata; E. caryophyllifolia; E. caryophyllata; E. cerasoides; E. jambolana; E. jambos, E. laurina; E. malaccensis; and E. obtusifolia, will be found under these names, but, particular attention is directed to the remarks against Eugenia jambolana. And, as Dr. Wight, in Icones, gives Syzygium carophyllaceum; densiflorum; jambolanum; lanceolatum; nervosum; oblatum; rubicundum; rugosum; salicifolium and Zeylanicum, it will be understood that different botanists mix up the genera. Mr. Thwaites notices Zyzygium assimile, Z. gardneri, Z. micranthum; Z. rotundifolia; Z. sclerophyllum; Z. spathulatum and S. umbrosum, all growing in the central province of Ceylon, at elevations of from 2,000 to 8,000 feet. S. oliganthum, *Thw*,, a small tree of the Ambagamowa district, at an elevation of 3,000 to 5,000 feet. Z. jambolanum, will be found noticed under its synonym E. jambolana (Mr. Thwaites gives as its synonyms, Syzygium caryophyllifolium, *DC.* E. S. caryophyllifolia [E. S. jambolana? var. microcarpa,] Wight, t. 553. E. caryophyllifolia, Lam., Roxb.; Fl. Ind., ii, p. 486. Calyptranthes cumini, Moon's Cat., p. 39—c. p. 1584.) It is the Madang-gass, Singh., and is common in Ceylon, up to an elevation of 3,000 feet. Mr. Thwaites gives, Syzygium polyanthum, Eug. S. polyantha, Wight's Ill., ii, p. 17; Ic. t. 543. And S. balsameum, Wall. Wight, III. ii. p. 16. Calypt. caryophyllifolia, Moon's Cat., p. 39—c. p. 2081, the Batta domba-gass of the Singhalese, as a large tree common in Ceylon up

to an elevation of 3,000 feet. And, Syzygium sylvestre, (Eug. S. sylvestris, W. Ic. t. 532. Calyptranthes jambolana, Moon's Cat., p, 39—c. p. 2862,) the Aloobo-gass of the Singhalese, as a large tree, common in Ceylon, up to an elevation of 3,000 feet. The woods of several of these trees are employed for economic purposes.— *Wight's Icon.* ; *Voigt* ; *Thw. En. Pl. Zeyl., p.* 116.

SYZYGIUM ASSIMILE, *Thw.* A small tree of the Central Province of Ceylon, up to an elevation of 5,000 feet, in open places. *Thw. En. Pl. Zeyl., p.* 116.

SYZYGIUM CARYOPHYLLIFOLIA, *R.*

Ch'hoto-jam, Beng.

Its fruit is eaten, but is unpleasantly acid and astringent, *Roxb., Voigt.*

SYZYGIUM CARYOPHYLLIFOLIUM, *DC.*

Eug. (S.) caryophyllifolia E. (S.) jambolana? *Var.*, microcarpa, Wight, t. *Wight*, 533,

Eug. caryophyllifolia, *Lam., Roxb. F. I.*, ii, *p.* 486.

Calyptranthes cumini, *Moon's Cat., p.* 39, *c. p.* 1854.

Madang-gass, Singhalese.

Common in Ceylon, up to an elevation of 3,000 feet.

SYZYGIUM JAMBOLANUM, *DC.*

Eugenia jambolana, *Lam.*
E. caryophyllifolia, *Lam.* not *Roxb.*
Syzygium caryophyllifolia, *DC.*

Kala-jam,	Beng.	Phullindah jamoon,	Kumaon.
Kalo jamun,	,,	Perin njara,	Maleal.
Nœrala mara,	Can.	Perin ngara,	,,
Jambool,	Duk.	Rukan rukni,	Punjab.
Jamoon tree,	Eng.	Nawel maram,	Tam.
Jamun,	Hind.	Neredi ; Neradi,	Tel.
Sumra,	of Hushyarpur.	Nerar, Pidda neredu,	,,
Katammal,	Kangra.		

A fine tree of most parts of British India and the Moluccas, grows to 70 and 80 feet high, and 8 or 9 in girth in low flat localities. Its reddish-coloured timber is heavy, hard and durable, made into planks and used for sugar mills, but though strong and much used for ordinary purposes, it is not esteemed. The fruit is small, somewhat astringent, and is sold in the bazaars. Length of trunk to first branch being 10 feet, and the circumference 6 feet. It attains full size in 40 years ; heart-wood tough, of a dark red-colour, liable to warp a little ; not subject to worms ; used by zemindars for agricultural implements, and produces good timber.—*Mr. Thompson* ; *Captain Macdonald* ; *Dr. Cleghorn, in M. E. J. R.* ; *quoting Balfour, p.* 113 ; *Roorkee Proceeding papers on Gwalior Timber, p.* 32.

SYZYGIUM MICRANTHUM, *Thw.* A moderate sized tree of the Central Province of Ceylon at an elevation of 3,000 to 5,000 feet.— *Thw. En. Pl. Zeyl.*, ii, 116.

SYZYGIUM OLIGANTHUM, *Thw.* A small tree of Ambagamowa district, at an elevation of 3,000 to 5,000 feet.

SYZYGIUM POLYANTHUM.

Eug. S. polyantha, Wight, Illust. ii, p 17 ; Icones. t. 543.

Syz. balsameum, Wall. Wight, Ill. ii, p. 16.

Calypt. caryophyllifolia ; Moon's Cat., p. 39—c. p. 2801.

The Battadomba gass of the Singhalese, a large tree, common in Ceylon up to an elevation of 3,000 feet.— *Thw. En. Pl. Zeyl., Vol.* ii, *p.* 116.

SYZYGIUM ROTUNDIFOLIUM, *Arn. Pug.* A small tree of the Central Province of Ceylon, at an elevation of 6,000 to 8,000 feet.—*Thw. En. Pl. Zeyl., Vol.* ii, *p.* 116.

SYZYGIUM SCLEROPHYLLUM, *Thw.* A moderate sized tree of the central province, of Ceylon, at an elevation of 6,000 to 8,000 feet.—*Thw. En. Pl. Zeyl., Vol.* ii, *p.* 116.

SYZYGIUM SYLVESTRE.

Eug. (S.) sylvestris, Wight, Icon. t., 532.

Calyptranthes jambolana, Moon's Cat., p. 39—c. p. 2862.

. The Aloobo-gass of the Singhalese, is a large tree in Ceylon, common up to an elevation of 3,000 feet. The woods of several of these trees are employed for economic purposes.— *Wight's Icones*; *Voigt; Thw. Enum. Pl, Zeyl., p.* 116.

SYZYGIUM SPATHULATUM, *Thw.* A small tree of the central province of Ceylon, at an elevation of 3,000 to 5,000 feet.— *Thw. En. Pl. Zeyl.*, ii, 116.

SYZYGIUM UMBROSUM, *Thw.* A moderate sized tree of the open, grassy places in the Central province of Ceylon, at an elevation of 5,000 to 6,000 feet.—*Thw. En. Pl. Zeyl.*, ii, 116.

SZAKHR, or Beni Szakhr, are a tribe of free Arabs. According to Burckhardt, they rove in the plain from the fourth to the fifth station of the Haj, and thence westward towards the mountains of Belkaa. They were employed by the pasha of Damascus for the defence of the caravan against the other tribes. They live by breeding camels, for the use of the pilgrim caravan, of which they have a very considerable number. Though smaller than the Anadolian, Turkman, or Kurd camels, they are better able to bear heat and thirst than the latter, are chiefly of a light or reddish grey colour, with very little wool about their necks.—*Burckhardt's Travels.*

SZE-CHUEN, a district of Western China, bordering on Tibet. Gold is collected in the sands of the rivers in Yunnan and Szechuen, especially from the upper branch of the Yangtszekiang called Kinsha-kiang or Golden-sanded River. The largest amount is said by Sir John Davis to come from Li-kiang-fu near that river and from Yung-chang-fu on the

borders of Burmah. It is wrought into personal ornaments and knobs for official caps, and beaten into leaf for gilding, but is not used as a coin, nor is much found in the market as bullion. Silver also is brought from Yunnan, near the borders of Cochin-China and the mines in that region must be both extensive and easily worked to afford such large quantities as have been exported during the last five years. Tavernier tells us there comes gold from China, which the Chinese exchange for the silver which is brought them. For, price for price, they love silver better than gold, because they have no silver mines. Yet it is the coarsest metal of all the Asiatic gold.—*William's Middle Kingdom, p.* 144; *Tavernier's Travels, p.* 156.

SZE, CHIN. A dollar.

SZE-TSEW-KWO. CHIN. The kingdom of lions, also known by the name of Paouchoo, the island of gems.

SZEZECINY, POL. Bristles.

SZU, or Azes Scythians, see Kabul.

SZU TARTARS, Ili is a valley and town in Central Asia, from which Lassen supposes the Szu Tartars were expelled by the Yue-tchi or White Huns B. C. 150. The Szu Tartars he supposes to be the Sacæ and the Yue-tchi to be the Tochari. After occupying Tahia or Sogdiana for a time, they are stated by the Chinese to have been driven thence, also, by the Yengar, some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Kophen valley in the Kohistan. The great Kirghis horde is adjacent to Ili and Tarbagatai. It is under the dominion of China and exchanges large quantities of cattle on the frontier for silk goods. See Affghan, Kabul, Kirghis.

SZU TCHOUAN, see Kalkas.

T. The Arabic, Persian, Urdu, Sanscrit, Hindi, Mahratta, Guzerati, Bengali, Uriya, Telugu, Karnata, Tamil, and Malayalam, all contain letters with the sound of the English letter T, as in tar, tanning, terse, tortion, and turning, and the Arabic, Persian and Urdu have two letters each with the power of the English letter T. This letter of the English alphabet has, in English, but one sound: as in tan, ten, tin, tone, tun, tyne; but in combination with the English letter h, it assumes two compound sounds, a softer one as in than, thus, thyme, then; and a harder sound, as in thicken, thief, thong, thrall, thumb, and thwart. Th, with the sound of the English letter as in thief, and of the Greek letter theta, occur in Telugu, Uriya and Karnatica, but this sound is not frequent in other of the Eastern tongues, though a "t," with the aspirated "h" occurs in most of them, in which "h" has the sound of an aspirate, pronounced after the "t," and should be written t'h, and pronounced hat-t'hear.

TAAG, also Tag. Beng. Hind. Crotalaria juncea, *Linn.*

TAALEB. Ar. Fox.

TAALIM KHANA, the gymnasium of India, are in almost every town. The Sindi are very fond of wrestling, but the Malla or wrestlers of Sind are, generally speaking, African blacks. In Sind wrestling, it is not necessary, as in India, to throw the adversary on his back. —*Burton's Sindh, page* 289.

TAAM. Ar. Food.

TAARLINGEN. Dut. Dice.

TAB. The Tab river is only partly in Khuzistan, near Beibahem, there of considerable size, it preserves a western course as far as Indian, a town of about 4,000 inhabitants; up to which, when ascended by Lieut. Whitelock, of the Indian navy, in 1836, it was found to be navigable for boats of twenty tons. From hence, the river inclines more southward, and has a tortuous course through an alluvial soil to the Persian Gulf; an extensive population have their dwelling on its banks. A little way northward of the city of Shuster, at the bifurcation of the river, Karum is the famous reservoir called Shadarwan, with the bridge of Shapur, and several deep and fine kanat. See Fars, Kabi, Khuzistan.

TABACCO. It. Tobacco.

TABACCO DA NASO. It. Tabac en poudra, Fr. Snuff.

TABACHIR. Fr. Tabasheer.

TABACK. Ger. Tobacco.

TABACO. Jap. Port. Sp. Tobacco.

TABACO DE POLVO. Sp. Snuff.

TABACUM. Lat. Tobacco.

TABAK. Dut. Fr. Rus. Tobacco.

TABAKHIR. A mineral medicinal substance,—not to be confounded with tabashir, the silex from the bamboo, from which it is quite distinct.—*Powell Hand-book*, p. 99.

TABAL, according to mahomedans, the man who made the first sword.

TABA-NEBOO, Beng. Hind. Citrus acida, Citrus bergamia (a variety).

TABANIDÆ. The zimb of Abyssinia, the very sound of whose dreaded hum sends the herds from their pastures, and makes them run wildly about, till they drop with fatigue, fright, and hunger. Quite as formidable in the southern portion of the same continent is the dreaded tsetse, like the zimb, one of the Tabanidæ, though a different species. This insect, which is scarcely larger than the house-fly, reigns over certain districts, attacking the domestic animals. Its bite is certain death to the ox, horse, and dog, yet, strange to say, it produces no serious inconvenience to the human body, nor apparently to the wild game of the country, the buffalo, giraffe, antelope, and zebra, which roam by millions over the same plains.—*Gosse's Natural History*, p. 110.

TABARI, is the Livy of the Arabians, the very parent of their history; but, as far as Ouseley could find by enquiry, given over for lost in Arabic. Tabari was born in the year of our era 838, and lived until 922.—*Ouseley's Travels, Vol.* I. p. 35.

TABAS, in the Salt Desert, north of Yezd, is called by Nasir-ud-din, Tabas Kili or Tabas Gili.—*Yule Cathay, I.* p. ccxiv.

TABASCHIR. Ger. Tabasheer.

TABASHIR. Ar. Hind. Lat. Pers. Turk.

Banslochun,	Beng. Hind.	Dunlochan	Hind.
Bansk	"	Tivakshera,	Sans.
Vanslochun,	Guz.	Oonamaku,	Singh.
Wa-tai-ga-kyouk,	Burm.	Unalie,	"
Chuh-hwang,	Chin.	Munjil uppu,	Tam.
Tabachir,	Fr.	Veduru uppu	Tel.
Tabaschir,	Ger.	Tabashir,	Turk.

A siliceous concretion found in the joints of the female bamboo. It is partly soluble in water, bluish white, concrete, adhesive to the tongue, at a red heat fuses into a transparent glass. It is composed of silica 70, potash 30, per 100. The Persians deem it tonic and aphrodisiac; the Arabs suppose it to be astringent, but from its composition we are warranted in supposing it to be entirely inert. In Tenasserim tabasheer has a place among native medicinal substances. It resists acids, is indestructible by fire, and forms, on being fused with alkalies, a sort of glass. It is much esteemed by the Hindoos, Persians, and Arabs as a powerful tonic, and is said by them to have great efficacy in internal bruises. It is imported into Bombay chiefly from Singapore; small quantities are also brought from the Malabar coast. Dr. Irvine has often re-

moved it from old bamboos at Hoshungabad. It is brought to Ajmeer from Hurdwar, and is used as an aphrodisiac and in general debility. One massa is the dose, and it is sold at two tolahs for one rupee.—*Faulkner. O'Shaughnessy, page* 694. *Mason. Gen. Med Top. p.* 128. *Thompson's Records of General Science* viii. *pp.* 132-35.

TABASHIRI RANG. HIND. Pale yellow, with tone of blue.

TABASI. TEL. Cavallium urens, *Sch.* and *End.*

TABATI. TEL. Mallea Rothii, *Ad. Juss.*

TABEE. MALAY. Chavica Roxburghii, *Mig.*

TABERISTAN. See Koh.

TABERNÆMONTANA, a genus of plants belonging to the natural order Apocynaceæ, found in the West Indies, South America, Australia, India, and tropical Asia. Seeds in a follicle, immersed in pulp. The flowers of many species are very sweet scented, and the double-flowered variety of T. coronaria is very ornamental and is one of the most common species in Indian gardens. The deep red pulp surrounding the seeds of this species appears capable of yielding a beautiful colour. The cream-like sap of T. utilis, the milk-tree, or Hya of Demerara, is said to be very nourishing. Other species are employed medicinally. The sap of T. persicariæfolia is considered a poison in Mauritius. The wood is employed in turnery. Dr. Wight in Icones, gives T. coronaria, T. crispa, T. dichotoma, T. parviflora, and T. recurva.—*Voigt. W. Ic.*

TABERNÆMONTANA ALTERNIFOLIA. LINN. syn. of Tabernæmontana crispa, *Roxb.*

TABERNÆMONTANA CITRIFOLIA. GIBS. Nagin koora. CAN. is a small tree common on the hills near and below the ghats of Canara and Sunda. Wood white, but tough and strong.—*Dr. Gibson.*

TABERNÆMONTANA CORONARIA. R. BR ; *Roxb. W Ic. Rh.*

Tabernæmontana divaricata *R. Br.*	Nerium coronarium *Ait.*
	Nerium divaricatum *Linn.*

Wax flower plant ENG.	Grandi tagarapu chettu TEL.
Fark-i-taggar HIND.	Nandi vardhana chettu „
Nandier vatam MALEAL.	
Nandier vatam TAM	

This ornamental shrub is cultivated in flower gardens, the flowers are fragrant during the night. In the Dekhan it is common in gardens with dark shining leaves, flowers generally double, colour pure white, resembling wax, having a faint pleasant smell. The foliage beautifully contrasts with its large blue-white double flowers, which are often called "wax flowers." The wax flower of Bengal is a trailing creeper, Hoya carnosa, which has been recently introduced into European gardens. Fark-i-taggar is the single variety, and barra-tagar the double flowered. It is propagated by cuttings.—*Genl. Med. Top. p.* 186. *Riddell, Mason, Voigt, p.* 527.

TABERNÆMONTANA CRISPA, ROXB.

T. alternifolia, *Linn.*	Kurutupala, MALEAL.

This shrub grows on the coasts of peninsular India, and is employed in medicine. *Voigt.*

TABERNÆMONTANA DICHOTOMA. ROXB. *A. DC.*

Cerbera manghas. *Linn.*	Manghaslaetescens, *Burm Thes. Zeyl.*
Forbidden Fruit. ENG.	Diwi-kaduru-gass. SINGH.

This is a native of Ceylon, very common in the warmer parts of the island. Its native name is *Diwi Kaduru*, but nine species of the genus are enumerated. "Kaduru," which signifies "forbidden," and *Diwi* "tiger's" It thrives in a low situation, with a light mixed soil.—*The Book of Trees, p.* 157. *Thw. En. Pl. Zeyl. p.* 192.

TABERNÆMONTANA DIVARICATA, R. BR. syn. of Tabernæmontana coriara, *R. Br.*

TABERNÆMONTANA PARVIFLORA. ROXB. syn. of T. micrantha, *Voigt.*

TABERNÆMONTANA PERSICARIÆFOLIA.

Polygonum leaved Tabernæmontana, ENG.	Tugur, HIND.

A straight middling sized tree ; the tree is sacred, and the scented wood is used in incense.

TABERNÆMONTANA RECURVA is a low shrub, indigenous about Moulmain, remarkable for its recurved peduncles and fragrant flowers.—*Genl. Med. Top. p.* 186. *Mason.*

TABI. MALAY. Pepper, Long pepper.

TABIA. BALI. Cayenne pepper.

TABKI HURTAL. HIND. Hurtal.

TABLE-CLOTHS are manufactured at the towns of Cuddalore, Chingleput, and in the outskirts of Madras, equal in quality to those of Britain. They are of different sizes, the largest 9 cubits in breadth and 15 in length, and 12 cubits long by 6 broad, the smallest 9 by 4. They are sold at different rates. The table cloths and napkins of Pondicherry are good in quality, varying in size from that of the ordinary table cloth, to those of dimensions suited to public entertainments. The damask pattern design is imitated in various parts of the Madras Presidency.—*M. E. J. R.*

TABLE BAY. L. 33° 54′ S., L. 18° 25′ E.; leading to Cape Town at the Cape of Good Hope, is overlooked by Table Mountain.

TABLUNG, a rude pagan tribe in the hills of Assam, on the eastern frontier of the Mikir and Cachar.

TA-BOOT. A tree of Akyab. It grows

to a moderate size, but is not very plentiful. Its wood is used for making banghies and other fine work.—*Cal. Cat. Ex.* 1862.

TABOOT OR TAZEEAH. ARAB. A bier in the shape of a mausoleum, intended to represent the one at Karbulla, erected over the remains of Hoossain. It consists of a bamboo frame work, the interstices being filled up with a nicely clipped network of paper, often pasted on mica. But every variety of materials is employed, from the purest silver, to ivory, ebony, sandal-wood, cedar, down to bamboo, also wax and bangles. Within it are placed allums, or tombs to represent those of Hussun and Hoossain.—*Herklots.*

TABOR. At the foot of Mount-Tabor is a green valley. In ascending the hill, on the right hand, looking into the plain of Esdraelon, stands a little village, called Deborah by the natives, in which, say the legends, Jael slew Sisera. The view from Mount Tabor is magnificent, and comprises places of the greatest interest; the hills of Gilboa and Samaria, Mts. Hermon and Carmel, the plains of Galilee and Esdraelon, the Jordan and the Kishon, the Sea of Galilee and the Mediterranean, are all discernible. On the anniversary of the transfiguration, mass is performed at, and a great procession led to, the altars set up where the three tabernacles were made. They are in a vault under ground.—*Skinner's Overland Journey, Vol. I, p.* 130-131.

TABRIZ OR TAURIS, the ancient Antropatia, the capital of Azerjiban, is situated in an open country crossed by ranges of low hills. It presents a large monotonous assemblage of flat roofed, mud-built and mud colored houses, in streets intersected by numerous streams. It was the residence of Abbas mirza, son of the king of Persia. According to the observations of Major Menteith, it is in lat. 38° 4'; and according to the unfortunate traveller, Mr. Browne, it is in long. 46° 25'.—*Porter's Travels, Vol. I, p.* 220. *Mignan's Travels, p.* 333. See Kharvar, Kizzel Ozan, Kuzzilbash.

TABU, in Oceanica, sacred monuments.

TABUT, also Tazia, in India the representation of a tomb in the mohuram festival. See Ashoora; Taboot.

TACAMAHACA, a resin obtained from America and the E. Indies. That of Bourbon is obtained from Calophyllum calaba; portions of this gum are obtained from Elaphrium tomentosum and Canarium commune, also from Fagara octandra; and likewise it is supposed from Populus balsamifera. It is imported from America in large oblong masses wrapt in flag leaves. It is of a light brown colour, very brittle, and easily melted. When pure it has an aromatic smell, between that of lavender and musk; and dissolves completely in alcohol, water having no action on it. Calophyllum calaba is a native of Travancore, and produces true East India tacamahaca resin. This variety is rarely met with: it is yellow, translucent, adhesive, of acrid taste, and pleasant, aromatic smell.—*Thomson's Chemistry. Faulkner. O'Shaughnessy, page* 238. See Balsamodendron, Clusiaceæ, Calophyllum.

TACCACEÆ, a natural order of perennial herbs, with large tuberous roots, seven species of which grow in the East Indies and the Archipelago, viz., T. cristata, integrifolia, lævis, montana and rafflesiana.

TACCA PINNATIFIDA. LINN. FORSK.

T. pinnatifolia, *Gærtn.*

Toja of	BANDA.	Surana	SANS.
Touk-ta	BURM.	Kara-chuné	TAG.
Kunda	DUK.	Kara Karnay kalungu	TAM
Salep Tacca.	ENG.	Cunda gudda	TEL.
Chanay Kalangu	MALEAL.	Kunda	,,
Tacca Liker	MALAY.	Chunda	,,

In Otaheite and other Society isles, they make, of the meal of the root, a nourishing gelatinous cake, like that made of salep. It possesses a considerable degree of acrimony, and requires frequent washing in cold water previously to its being dressed. In Travancore, where this root grows to a very large size, it is much eaten by the natives, who mix a sufficient portion of some agreeable acid with it, to subdue its natural pungency.—*Voigt.* 600. *Ainslie, p.* 248. See Arrow Root, Food, Maranta.

TACCA PINNATIFOLIA. GÆRTN. syn. of Tacca pinnatifida, *Forsk.*

TACHASH. HEB. Badger.

TACHYRES ZARINDA, of Celebes, a rare butterfly with cinnabar red wings.

TACHYPETES AQUILA, or Frigate bird, also called the Sea Hawk, also, Man of War bird, and the Boatswain, has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds, and makes other fishing birds abandon their prey. It is of great endurance, takes great flights, rising to great heights in the air. It ranges through all tropical seas and hovers over the tropical waters. It has been seen 400 leagues from land, and yet is said to return to land every night. Its expanded pinions measure 14 feet from end to end.—*Bennett.*

TACSHAC. See Krishna, p. 545. Tak.

TACSONIA PINNATISTIPULA. A climbing plant, nearly allied to the Passion Flowers, and requiring the same treatment. Colors rose or pink.—*Riddell.*

TACHXUDOGBO, COCHIN-CHIN. Acorus calamus. Sweet flag.

TACHYDROMUS SEXLINEATUS. See Zonurideæ.

TADA CHETTU. TEL. Grewia tiliæfolia, *Vahl.*

TADAGUNNI. CAN. Dolichos catiany.

TADALA. SINGH. Colocasia antiquorum, *Schott.*

TADDI MARAM. TAM. Pterospermum tuberiflorum.

TADDIKA CHUVVA. TEL. Grewia Rothii, *D. C.*

TADI CHETTU. TEL. Terminalia bellerica, *Roxb.*

TADJOURRA. See Tajurra.

TADMOR. ARAB. Palmyra. See Balbec.

TADORNA VULPANSER, the common shieldrake of Europe, Asia, N. Africa, is common in the Punjab, not rare in Lower Bengal.

TADRELU. HIND. Coriaria Nepalensis, *Wall,* also Barleria cristata. See Balel, Kashmir.

TADRU. HIND. Rhamnus purpureus, also R. virgatus.

TAEFA. AR. Amongst the Afghans, this term means a nation, a tribe. In India, amongst mahomedans, a band of singing women.

TAEL, a Chinese coin, value about forty pence.

TAEL VOLCANO. See Volcano.

TÆMBILE. SINGH. Cocos nucifera, *L.*

TÆNIS BLECHNOIDES. The tapeworm fern, so called from the resemblance of the line of sori to a tapeworm, It is not infrequent in Tenasserim.—*Mason.*

TÆN-YO, BURM. Pines of several varieties are abundant in the dry and hilly districts of Burmah, reaching a good size, often fifty feet without limb. One or two species are found in the Tenasserim provinces, but not frequently. It is neglected as timber because of its softness and liability to be attacked by ants. Some turpentine is manufactured from it. Pieces of it are every year washed down the Irrawady. —*Malcolm.*

TAE-PING, native Chinese, as distinguished from the Tartar ruling race.

TAER. ARAB. A bird.

TAFL. When Arabs wish to cool the skin after a journey, they wash with a kind of clay called "Tafl," or with a thin paste of henna, and then anoint the body with oil or butter.—*Burton's Pilgrimage to Mecca, Vol. I., p.* 255.

TAFSIR. ARAB. Ilm-ul-Tafsir, or the exposition of the Koran. Several Tafsir are known all over the modern world. The smaller one is called Jelalani, or the two Jelal, i.e., the joint work of Jelal us Siyuti and Jelal-ul Mahalli, and fills two stout volumes octavo. The larger is the exposition of ul Baizawi, which is supposed to contain the whole subject. Some few divines read Ul Khazin.—*Burton's Pilgrimage to Mecca, Vol.* I., *p.* 156.

TAFTA, a kind of silk cloth.

TAGABALOY. A tribe in Mindanao.

TAGADA. TEL. Bignonia chelonoides, *Linn.*

TAGADA TUNGA. TEL. Cyperus dubius, *Rottl.*

TAGAL. Dry rice cultivation, equivalent to the Malay "muah."

TAGALA. A language of Lucon island, in the Archipelago. See India, Philippine Islands.

TAGARA. MALEAL. TAM. Cassia tora, *Linn.*

TAGARAM. TAM. TEL. Tin.

TAGARISE KURA. TEL. Cassia, *species.*

TAGARU. TEL. Morinda tinctoria.

TAGASHE. TAM. Cassia tora, *Linn.*

TAGETES ERECTA; Genda, HIND. A great variety in gardens. Its handsome yellow flower is used by the hindus in making garlands to decorate their idols, and it may be seen on the gates of churches and houses of Europeans at Christmas and New Year's day.—*Gen. Med. Top. p.* 206.

TAGETES LUCIDA. The African marigold, is common in all Indian gardens, and readily grown from seed.—*Riddell.*

TAGETES PATULA. LINN.; *Roxb.*

Genda	BENG.	Gul-jafare	HIND. PERS.
French Marygold	ENG.	Banti chettu	TEL.

This marigold is grown in most of the gardens of India, and the flower is worn by hindoo women in their hair.—*Gen. Med. Top. p.* 206. *Graham in Thomson's Records of Gen. Science, Vol.* IX., *p.* 303.

TAGGAR. HIND. Varleriana Hardwickii, and V. Wallichii.

TAGHAN. See Kaffir.

TAGHANI KI LAKRI. DUK. HIND. See Polkee.

TAGHAR. HIND. Calotropis procera.

TAGHAR. TURK. PERS. A large sack of which horsemen carry a pair, slung over the horse, to contain provender. According to Timkowsky, it contains about four poods, or one hundred and forty pounds, of flour. Until lately, revenues continued to be estimated in China in sacks of rice; perhaps are so still. In Burmah they are always estimated in baskets of rice.—*Meninski. Yule Cathay I, p.* 153.

TAGIRISE KURA, Cassia, *sp.* Chakramardaka, SANC. is C. tora, *W.* C. occidentalis, *Heyne.*

TAGHO. HIND. Pistacia atlantica, also Celtis caucasica and C. nepalensis.

TAGHUN, or Takpun, Pushtu. Celtis caucasica. Nettle tree.

TAGOLANDA ISLAND, on the north coast of Celebes, is in lat. 2° 23′ N., and long. 125° 36′ E., 12 miles from Bejaren Island. It has a high conical peak, and is of considerable extent.—*Horsf.* See Siao.

TAGOW, a valley in the Kohistan of Kabul, now held by the Safi, an Affghan tribe. It contains many ancient remains and numerous coins have been found in them. See Kohistan.

TA-GOUNG, the ancient capital of the Burmese empire.

TAG-PA. BHOT. Birch. Betula bhojputra, *Wall, Royle.*

TAGUE. A high island, off the coast of Cochin China, in lat. 11° 49′ N., and bounds on the south Camraigue Bay, in Cochin China. —*Horsf.*

TAGU-MUDA. TEL. TAM.? Gmelina arborea, *Roxb.*

TAGUSHE. TAM. Cassia tora, *Linn.*

TA-HAVIN? CHIN. Rhubarb.

TAHBUND, a Loonggee; an article of dress.

TAHFAT-UL-MAJAHIDIN, written by Shekh Zain-ul Abidin, gives an account of the proceedings of the Portuguese against the mahomedans from A. D. 1498 to 1583.

TAHIA, a name of Sogdiana. See Afghan, Kabul, p. 434.

TAHLEEL, a shrill noise made by the women of Arabia. It is a combined motion of the tongue, throat, and hand, vibrated rapidly over the mouth. When an Arab or a Kurd hears the tahleel he almost loses his senses through excitement, and is ready to commit any desperate act. This shrill cry is like a very quick repetition of the word *el* (or *lel lel lel lel*). Between Kazerun and Bushehr, the women, chiefly of Arab descent, use it to welcome a stranger as an expression of joy; they use it also during the mournful ceremony of a funeral—*Ouseley's Travels,* Vol. I., p. 310. *Layard, Nineveh. Vol.* I. 120.

TÂH-NOUNG, a most beautiful, though rather small, tree of Burmah. Leaves very small, composite, lively green, rising from the base of a double thorn.—*Malcom, Vol. I. p.* 188.

TA-HOAN, COCH-CHIN. Rhubarb.

TAHSIL, a revenue subdivision of a district presided over by a tahsildar, whose primary duty is to collect revenue, &c., but who, in the Punjab, is vested with civil and magisterial powers: also the office or building in which the business of a tahsildar is transacted.

TAHSILDAR. A sub-collector or officer in charge of a tahsil.

TAHTAH. HIND. PERS. The Tartar race.

TAI. The Shan race. See Ahom, India, p. 338.

TAI. BURM. Ebony.

TAI. HIND.? Oryza sativa.

TAIA-BOUK-BHA—? A tree of Akyab. It is a small wood, is plentiful, and is used for firewood.—*Cal. Cat. Ex.* 1862.

TAIBEMBAGA. MALAY. Acetate of copper.

TAIF. ARAB. Aloe litoralis, *Kœnig.*

TAIFAH. AR. PERS. A nation, a tribe, a company of singing women. See Taefah.

TAIFI of Kabul, &c., unripe apricots dried; called in the Punjab kishta.

TAIGAB, near Kelat, is 360 feet above the sea.

TAI KHANA, a cellar or underground room.

TAIL, a river near Ambulwara in Nagpoor.

TAILA. SANS. Sesamum orientale. Gingelly seed.

TAIL CHARHANA, a mahomedan domestic ceremony.

TAIL GHURRAY. Oil pots, a mahomedan domestic ceremony.

TAILLESS DEER, or tailless Roe of Pennant and Shaw, syn. of Cervulus pygargus. See Cervus; Deer; Mammalia.

TAIM. A cubit-measure in Rangoon of 18 inches.—*Simmond's Dict.*

TAIMOR, or TAIMUR-LANG. See Timur.

TAINDU, also Bakul, also Mulsari, DUK. Mimusops elengi.

TAING. A Burmese itinerary measure, containing 7,000 cubits, nearly 2 miles 1 furlong.—*Simmond's Dict.*

TAINT, the fruit of the Capparis dela.

TAIR. ARAB. Bird.

TAIT, Colonel C. B., aide-de-camp to the Queen, commanded for many years the 3rd Bengal Irregular Cavalry, which, as "Tait's Horse," did good service in General Pollock's expedition to Cabul, and in the Sutlej and Punjab campaigns. Colonel Tait commanded his Irregulars at the battles of Tiseen and Mammoo Kale, under Pollock; at Ferozepore, under Littler, when besieged by the whole Sikh army; and under Hardinge and Gough at Ferozeshah, Ramnugger, Chillianwallah, and Goojerat. He entered the service as an infantry cadet in 1825.

TAITAN. TAM. Strychnos potatorum.

TAITSUNG, emperor of China, is said to have dismissed three thousand women from the imperial establishment.—*Ch. Anc. p.* 286. in *Yule Cathay I, p.* 1.

TAIWAN, the island of Formosa.

TAIWU, emperor of China (B. C. 1634). In his reign ambassadors, accompanied by interpreters, and belonging to 76 distinct kingdoms, are reported to have arrived from remote regions at the court of China.

TAJ, a crown; a circular head-dress, and in central Asia, as Tajik, applied by the Uzbek and Armenian to the Iranian population in Khiva, Bokhara, Khorasan and Badakhshan.

TAJ. HIND. aromatic bark or cinnamon: Cinnamomum albiflorum, Cassia lignea.

TAJ-BADSHAHI. Astragalus hamatus.

TAJEND. See Aimak.

TAJIK. In Bokhara, this name is given to Persians to distinguish them from the Uzbek. Taj, in Persian, means a crown, or circular head-dress, and in Central Asia, Tajik is applied by the Uzbek, and Armenians to the Iranian population in Khiva, Bokhara, Khorasan and Badakhshan. In Persia proper, the Tajik is so termed in contra-distinction to the Iliyat. On the Oxus, a Tajik is used as opposed to an Uzbek; in Afghanistan, as opposed to an Afghan or Hazarah. Throughout Persia, this term is applied to a cultivator, to distinguish him from an inhabitant of towns. The Tajiks are of the shiah sect. According to Dr. Latham, the term for this race in Bokhara is Sart; in Afghanistan, Dehgan; in Beluchistan, Dehwar. On the Kabul river, they are called Kabuli. In Seistan, the mass of the population is Tajik, and many of them dwell in reed huts on the great lake, and live by fishing and fowling.

The Tajik race of Badakhshan speak Persian and possessed the country before the inroads of the Uzbek and Turk. They are purer Iranian than other Tajik. They are a wild race, living in the little mountain glens, in villages surrounded by gardens. The Tajik of Badakhshan are not so handsome as the men of Chitrar, their dress is like that of the Uzbek.

Bokhara has often changed its rulers and modified its inhabitants. At each successive influx new tribes have been added to the bulk of the population. This intermixture was more particularly felt whenever the Uzbek race re-entered the Khanat. Of the Tajik aboriginal inhabitants there is but a remnant left, which forms the chief population of the city of Bokhara; in other towns there are none, or very few indeed. Owing to their peaceful disposition, not to use the word cowardliness, they abstain from taking any part in warlike achievements. The most salient traits of their character are avarice, falsehood, and faithlessness. They are usually tall, have a white skin with black eyes and hair. Although in their dress they strictly adhere to the rules of the Koran, there is still much greater affectation than is observable among the Uzbek. The Tajik of Balkh are corrupt, dissolute, vicious men. Their politeness in conversation often becomes disgusting, especially if they require the assistance of the person to whom they address their words. The Tajik is supposed by Colonel Tod to be the Scythic Tachari of Strabo, Tak-i-uk of the Chinese. The Tajik of Kabul are the aborigines of the country, and are not Afghans. Alexander probably found them there as fire-worshippers speaking Sanscrit or Pelhevi.

At Mongal, M. Ferrier met with 220 tents of Hazarah surrounded by a considerable extent of cultivation. This tribe had intermarried with the Tajik population, descended from the ancient inhabitants of the country. These Tajik, he says, are subdivided into two very distinct classes:—the Parsivan or Parsi-zaban, who speak the Persian language, and inhabit towns and villages, and the wandering Eimak, who live under canvas. The Hazarah are Eimak, though they pretend to be of Afghan race; the Afghans deny this, because they speak corrupt Persian, whereas the Afghan always speaks his mother tongue the Pushtoo. By their general appearance it is easy to see that they are of Tartar origin. A Hazarah's face is square, flat, and angular, the eyes are small, and obliquely placed; complexion pale and sallow, and beard scanty; they are rather undersized, but their proportions indicate great personal strength; their bravery amounts to rashness, and the Afghans dread them; there are no better horsemen in all Asia. Their duplicity is not so great as that of their neighbours; on the contrary, a certain simplicity may be observed amongst them, which contrasts strangely with their ferocious manners. The women are proud of being able, when necessity requires, to mount a horse and use a firelock or sword with an intrepidity equal to that of their warlike brothers and husbands. In time of peace, women do all the house work, cultivate the fields, and, with their children, weave the barek which are the source of so much wealth to their tribe. They cannot be called pretty, but they are well made; and enjoy perfect liberty, a rare thing indeed amongst Asiatics; their husbands are not jealous, though their Afghan enemies pretend that they profit largely by their indifference.—*Ferrier. Journ. p.* 194. See Afghanistan, Arian, Kabul, Kafir, Kelat, Khurm.—*Latham.*

TAJ KALMI. HIND. Cinnamomum albiflorum.

TAJ-I-KHOROS. HIND. Celosia cristata.

TAJ MAHAL, a monument erected by the emperor Jehangir to the memory of his wife Nur Jehan Begum. It is built upon the banks of the Jumna, in a quadrangular space one hundred and ninety yards square surrounded by a wall. This wall is sixty feet high and adorned at each angle with a tall minaret. The minarets, as well as the wall, are of red sand-stone, but the Taj Mahal itself is of white polished marble, and stands out in shadowless splendour beneath the burning sky of India. It is erected upon a basement nine hundred

feet long, and forty feet high. The great dome which rises in the centre, and which is seventy-two feet in diameter, is surmounted by a spire of gilded copper, thirty feet in height. It is said that the original spire was of pure gold. The interior of the Taj Mahal forms an octagon, in the centre of which, in an octagonal enclosure, is the sarcophagus. On each side of the octagon is a window, closed with a kind of marble net work, in the interstices of which are inserted small panes of glass. Eight chambers surround this hall, the angles of which correspond exactly with those of the main wall. In the four chambers, answering to the sides of the building, are inserted in the walls plates of white marble, six feet high, upon which flowers, in their natural colours, are wrought in a mosaic of precious stones, the stems being worked in with negro-antico. So elaborate is the workmanship, that to form one flower nearly a hundred different gems have sometimes been used; and so exquisite is the finish, that the eye might almost be deceived. The tomb is rather more than a mile to the eastward of the Fort of Agra. It is approached by a handsome road, cut through the mound left by the ruins of ancient palaces. Like the tomb of Akbar, it stands in a large garden. The term Taj Mahal is said to be a corruption of Mumtaz Mahal, another title of the lady.—*Taylor's Visit*, p. 133. *Schonberg's Travels, India and Kashmir*, Vol. I. p. 183, 4, 5.

TAJURRAH, a harbour on the west coast of the Red Sea, quite unsafe and exposed to the north-east monsoon, as well as the southerly winds, and it is probable that ships could not lie there, nor a landing be effected very often.

TAK. A district which adjoins the province of Dera Ismael Khan, and is partly in the plains. The only enemies of which the Sikhs here stood in awe were the Wuzeeree, a barbarous tribe of Afghans who inhabit the mountains to the westward, and sometimes descended and plundered in the low country.—*Papers East India, Cabul and Afghanistan*, 1859, *p*. 22.

TAK. Colonel Tod supposes the Tak race to be the same as the Takshak, Nagabansa or Serpent, race who act a conspicuous part in the legendary annals of ancient India. It is certain that the Tak were progenitors of the mahomedan kings of Guzerat, before that province was absorbed into the empire of Akbar. The Tak of Guzerat are said to have adopted mahomedanism when Wajih-ul-Mulk was converted, and became the founder of the mahomedan dynasty of Guzerat. From this time the name almost disappeared, but there are Tak amongst the Bhangi, who though of spurious descent, have evidently preserved the name. There are also Tank Rajputs in the central Doab and lower Rohilkhund; whose privileges of intermarriage show them to be of high lineage, and there is a tribe of nearly similar name existing near Jamu not far from their ancient capital Taksha-sila, or Taxila, of which the position is most probably to be sought between Mani kyala and the Suan River. Tonk Thoda and its lands on the Bunas, from remote times had been occupied, perhaps founded, by the Tak race, and hence bore the name of Taksilla-nuggur, familiarly Takitpur and Thoda.

From the ruins of the Thoda temples, remnants of Takshac architecture, the amateur might speedily fill a portfolio. This tract abounds with romantic scenery at Rajmahal on the Bunas, Gokurn, and many others. Herbert calls Cheetore the abode of Taxiles, the ally of Alexander. The Tak were all of the race of Poorú, so that Porus is a generic, not a proper name. This Taksilla-nugger has been a large city. The emperor Baber has given the position of the city of Taxiles, where Alexander left it, west of the Indus.—*Elliott Hist. of India*, p. 504. *Tod's Rajasthan, Vol. I. p.* 673. See India, Khelat, Khyber, p. 514.

TAK. HIND. Salvadora oleoides.

TAKAVI. ARAB. HIND. PERS. Advances to farmers in bad seasons.

TA-KEEP-NEE. In Tavoy, a very strong, close grained, heavy, light coloured, wood.—*Mr. Blundell.*

TAKER. HIND. Capparis spinosa.

TAKHE, a Siamese guitar.

TAKH-I-BAHI, in the country of the Yuzufzai, an early seat of the Arians. It is called Bahai by the natives, is an isolated barren hill of no great height, about eight miles west of fort Hoti-Mardan in Yusufzai. It forms irregularly three sides of a square, with the open side towards the north-west. The inner slopes of this hill are covered with the still standing shells of lofty buildings, constructed of hewn stones, most of them have at least been of two stories, the openings for the beams of the upper floor and the windows remaining to attest the fact.

TAKHTA, GUZ. HIND., a plank.

TAKHTA SIYA. Black brick-tea.

TAK-UL-BOSTAN, is one parasang and a half from the town of Kermanshah. There are here magnificent bas reliefs, splendid works of art, well worthy of a visit; their history has been commented upon by many authors, and amongst them by Sir John Malcolm. These bas-reliefs were executed by command of Bahram IV., the Varanes IV. of Roman history, who lived at the commence-

ment of the fifth century, and who, as it is said, was the founder of Kerman-shah.—*Ferrier Journ. p.* 27. See Kerman-shah.

TAKHT-I-JAMSHID. See Naksh-i-Rustoom, Vathek.

TAKHT-I-RAWAN. PERS. A light frame, fixed on two strong poles like those of a sedan chair; the frame is covered, generally, with cloth, and has a door, sometimes of lattice work, at each side; it is carried by two mules, one between the poles before, the other behind. The Kajawah is a kind of cradle, swung one on each side of a mule.—*Ouseley's Travels, Vol. I. p.* 251. *Rich's Residence, Koordistan, Vol. I. p.* 6.

TAKHT-I SULAIMAN. A mountain in L. 34° 4′ 8″ N., and L. 74° 49′ 7″ in Kashmir above Kosa. Srinugger, the capital of Kashmir, is 6,266 ft. above the sea.

TAKIAH. ARAB. PERS. Amongst shiah mahomedans, the outward observance of a faith with which the observer differs.

TAK-I-KESRA, or Arch of Chosroes, the modern Tak-i-Kesra, marks the site of the ancient Ctesiphon. See Chosroes, C'tesiphon, Kasr, Kesra, Tigris.

TAKHT MALANGA. HIND. Nepeta elliptica.

TAKHUM. PANJ. Celtis caucasia, *Willde.*

TAKHUR. See Thakoor; Tripati.

TAKIN, the Budorcas taxicolor of Blyth, is a large, massive and remarkable animal, denominated Takin by the Mishmi, and Kin by the Khamti. It is one of the group of Bovine antelopes. Its nearest affinity is probably to the gnoo; but it has various points of stronger connexion with musk oxen, and in a natural system its place would probably be assigned between those two types. The Takin tenants the easternmost part of the Himalaya, adjacent to Yunan, Sechuen and Kham, more especially in the upper or alpine region, but found also in the central region, though never in the lower region, and it probably extends its range from the Himalaya proper, to the proximate mountains of China and Tibet. The Takin derives its high interest for the naturalist, not merely from its compound structure, made up, as it were, of the ox, the antelope, the sheep, and goat, but also from its habitat, so remote and dissimilar from those of its allies. It is described as of high courage and great ferocity, so that it cannot be taken alive, and is killed by the natives with much trouble and some risk. It is said to be very gregarious, though old males are sometimes found solitary; but, for the most part, the species herd together in considerable numbers. Strength and ferocity are inscribed in very legible characters on the form and aspect of the Takin, which is a much larger as well as bulkier animal than the lusty Caprine antelope (Thar) of the Himalaya. The Takin, however, reminds one in several respects of the Thar, (Schinz in his "Genera Mammalium" has ranged this animal with the gnoo; this is a mistake, but one indicative of remote affinity. The Thar is a typical Nemorhedus,) which it much resembles in colour as well as by its short Caprine tail, harsh adpressed hair, and vigorous make, suited to climbing these stupendous mountains. But the Thar is in structure as much more Antelopine as the Takin is more Bovine. The Takin is not much, if it all, inferior in size or bulk to the female yak; and, as seen from the front especially, with its lunate horns displayed and its short tail concealed, it would be at once pronounced to belong to the ox kind, close examination alone being likely to suggest any doubts on that head. Its massive form and peculiar proportions are quite Bovine. It is in length, from snout to vent, six and a half feet; and in height $3\frac{1}{2}$ feet at the shoulder. Its head is 20 inches, its ears 5 inches, its tail 3 inches, or 8 with the hair. The head is large and heavy, the neck short and thick, the body somewhat elongated but deep in the barrel, and yet more so in the shoulder, which is said to be raised in the Bisontine manner. The limbs are short, stout and Bovine, and so are the broad hoofs. In Takin there is no approach to the Cervine limbs, or equine body and tail of the gnoo: and the horns of the Takin, which to a superficial view are round, smooth and lunate, would complete the impression of a Bovine animal, were not progressive attention almost necessarily now turned to the short narrow pointed ears, very short depressed tail, and hairy attenuated muzzle of this animal; particulars in which, with others, the Takin deviates from the Bovine to approach the Ovine or Caprine type, and is sundered from the gnoo in the same degree, that it is approximated to the musk oxen or Ovibos. The head of the Takin is large, heavy and inelegant, exhibiting a mixed character, compounded of the Bovine and Ovine types. Its vertical dimensions (or height) are great, owing to the lofty curve of the nose and forehead, the chaffron being more romanised than even that of the Barwal (Ovis barual). But the length also of the head of the Takin is considerable. and surpasses that of any Caprine or Ovine head, though inferior to the full normal length of head characterising the ox tribe. The head, though large and upon the whole perhaps Bovine, yet lacks the characteristic squareness of the ox's head, both jaws being attenuated towards their aureal extremities much more than in the ox, though somewhat

less than in the sheep and goat. There is in the muzzle of the Takin neither the nudity nor the breadth of that of the ox and gnoo, but on the contrary the lips are both tapered and clad with hair almost as much as in the goats and sheep, and the animal is consequently a browser, not a grazer. Nevertheless the mere nostrils, which are wide and terminal, have a decidedly Bovine character both as to form and position; and, as it were, to remind us of the true Bovine muzzle, there is a clear broad margin round the nostril which is quite nude and moist.—*Beng. As. Soc. Jour. No.* 1 *of* 1850. *J. A. S. No.* 185, *for December* 1847, *No.* 206, *for August* 1849. *No.* 206. *No.* 181. *July* 1847. *Phys. Geog. of Himalaya.*

TAKINABAD. A large city of Garm-sir. *Tabakat-i-nasiri, p.* 293.

TAKIN-KAR, a predatory race in the Dekhan, employed in making hand-mills.

TAKITPOOR, the modern Thoda, near Tonk, where there are fine remains.—*Tod's Rajasthan,* Vol. ii. p. 449. See Tak.

TAKIYAH, a place where dervishes have rooms, and perform their devotions.—*Burton's Pilgrimage to Mecca, Vol. I, p.* 124.

TAKKA. See Chandragupta. Tak, Taksila.

TAKKALI PANDU. Tel. Physalis angulata.

TAKKEDU CHETTU. Tel. Premna, *sp.*

TAKKOLAPU CHETTU. Tel. Clerodendron inerme, *Gærtn.*

TAKKRI. Hind. Digitaria sanguinalis.

TAKPA. Hind. Betula bhojputra.

TAKPONI or TAKPO, the country of the Tak. It is marked as Towang or Raj Towang in the ordinary maps, and lies in a line between Lhassa and Jorhat in Assam. Little is known of its occupants, but they may be Shammer Tibetans of nomad habits.—*Latham.* See Xenponi.

TAKU CHETTU. Tel. Tectona grandis.

TALA. Singh. Corypha umbraculifera.

TALA. Sans. Borassus flabelliformis.

TALA, also Kufl, also Kulf, Guz. Hind. Duk. A lock.

TA-LAIN-NO. Burm, is a vine which attains a diameter of eight or twelve inches. Fruit yellow, pear-shaped, acid, with six or eight stones, size of an egg.—*Malcom, Vol. I, p.* 180.

TALANOPPI CHETTU. Tel. Xanthium orientale, *L.* X. Indicum, *R.* The prickly involucre is tied to the earring to cure headache. Hence the name which means headache tree.

TAKKU MARAM. Tam. Tectona grandis.

TA-KOUK-THA, also Yay-mi-ne. Burm. A tree of Amherst, Tavoy and Mergui, abundant all over the provinces, of maximum girth ½ cubit, and maximum length 7 feet. When seasoned it floats in water. It has a durable wood, likely to make good helves or to be useful in turning, too small in size, however, to be recommended.—*Captain Dance.*

TAKRI or TAKNI. See Chandragupta.

TAKSHA, Hind. Oxytropis macrophylla, *Lad.*

TAKSHAC, or Snake Race, are the Toorshka, one of the most extensive and earliest of the races of higher Asia, and celebrated in all its extent. The Takshak were Scythians of the buddhist persuasion. From the time of the great war of the Mahabarata, when we find them already in the northwest, to about 500 B. C., they extended their conquest in India; and as they had a serpent for their national emblem, they were known as the *Takshac,* or serpent race. There can be no question, also, that the early legends of Persia are to be interpreted with this key, and that the voracious snakes of *Zohac* were hordes of barbarous Scythians from the north.

The period of their chief, though perhaps not their first, invasion of India, under their leader *Suhesnag,* occurred about 600 B. C. Many memorials of the bloody wars in which the hindoos were engaged with these invaders, exist in the records of Indian history. They extended their usurpations to the Magadha empire of Behar, the throne of which was held by the Nag, or Serpent dynasty for ten generations, and a branch of them, the Nagbunsee chieftains of Ramgurh, Sirgooza, have (*Trans. R. A. Society, Vol. II. p.* 563) the lunettes of their serpent ancestor engraved on their signets in proof of their lineage,—while the capital and district of Nagpoor are called after their name. The Vayu and Matsya Purana books call the Saisunaga, Kshatra-Bandhee, which may designate, says Wilson (Vishnu Pur. p. 467), an inferior order of the Kshatriya. The use of the title serves to show that they had already begun to be included in the military class, and is confirmatory of the view that they are included in the *Agnicula.* The invasion abovementioned was, according to Colonel Tod's supposition, nearly contemporaneous with the appearance of the 23rd Buddha, *Parisnath,* whose symbol is that of the race he accompanied, and hence he is called *Suhus Phun,* "the thousand-hooded." It is supposed that the brahmins made converts of some powerful branches of these new sectaries, and that it is to them the term *Agnicula* (fire-race) is applied, as signifying their spiritual regeneration by the element of fire. If so, the *Takshac* must be the progenitors of the most distinguished tribes of Rajpoots, and yet it is strange that no vestiges are now to be found of the original name

Tak, or *Takshac*, though it is recorded amongst the 36 royal races. Elphinstone opposes the doctrine of a Scythian admixture with the Rajpoots, but there is much in Indian history which could not well be explained without it, at least, without the admission of an incorporation of some northern family; and even he is disposed to concede the point with regard to the Jat. *Tak* is one of the sub-divisions of the Bhungee, but they are not likely to be in any way connected with the Rajpoot Tak. There is also a community of Tank Rajpoots in Gihror of Mynpooree, and in the south of Rohilcund. They trace their origin from Tank Tora in Kuraolee, and receive the daughters of Bumun Gour, Chumur Gour, Gehlote and Dhakura in marriage, which would argue them to be of respectable lineage. Takshac is still one of the Grama Deota, or village gods, of the Bhagulpoor district. It was a converted Tak Rajpoot who established the independent dynasty of Guzerat. The "Mirat-i-Secunderee" says the tribe was called Tak, because it became Teeagee, or separated from its brethren, ascribing therefore the same origin to the name as is given to the Tuga. For instance, when it is mentioned that an Apsara from Naglok was married to Chuttergoopt, and that more than half the Kayeth race of the country are the offspring of this union, and when it is mentioned that the seventeen daughters of Basook, the king of the Naga, were married to the seventeen sons of raja Ugersein, we are to understand that a nuptial alliance united a Scythian family with that of Chuttergoopt and raja Ugursein.

This race seem to have, on one occasion, entered Hindustan, led by a conqueror named Sehesnag, from Sehesnag desa who ascended the Pandu throne. The dynasty lasted 360 years, and terminated with Bykyat. Another Takshak dynasty of ten princes commenced with Chandragupta Mori, but lasted only about 137 years. Chandragoopta, the supposed opponent of Alexander, was a Mori, and in the sacred genealogies is declared of the race of Takshac. The ancient inscriptions of the Pramara, of which the Mori is a principal branch, declare it of the race of Tusta and Takshac, as does that now given from the seat of their power, Cheetore. The terms Nag, Tak, or Takshac are regarded by Colonel Tod as synonymous. Sehesnag-desa he considers to be synonymous with the abode of the ancient Scythic Tachari of Strabo, the Tak-i-uk of the Chinese, the Tajuk of the present day of Turkistan. This race appears to be the same with that of the Toorshka of the Poorana, who ruled on the Arverma (the Arakes), in Saca-Dwipa, or Scythia. The names of animals in early times, planets, and things inanimate, all furnished symbolic appellations for the various races. In Scripture we have the fly, the bee, the ram, to describe the princes of Egypt, Assyria, and Macedonia. Amongst the ancient as well as the present races in India, we have the snake, the horse, the monkey, the fox, the tortoise, the boar, the nag or snake-race being the Takshac. The Jat divided with the Takshac the claim of being the parent name of the various tribes called Scythic, invaders of India ; and Colonel Tod possessed an inscription of the fifth century, applying both epithets to the same prince, who is invested moreover with the Scythic quality of worshipping the sun. It states, likewise, that the mother of this prince was of the Yadu race: strengthening their claims to a niche amongst the thirty-six Rajcula, as well as their Yadu descent. The fifth century of the christian era, to which this inscription belongs, is a period of interest in Jit history. De Guignes, from original authorities, states the Yuchi, or Jit, to have established themselves in the Punjab in the fifth and sixth centuries, and the inscription alluded to applies to a prince whose capital is styled Salindrapoora in these regions, and doubtless the Salivahanpoor, where the Yadu Bhatti established themselves on the expulsion of the Tak. How much earlier than this the Jit penetrated into Rajasthan must be left to more ancient inscriptions to determine : but in A. D. 440 we find him in power.—*Elphinstone's History of India. Tod's Rajasthan, Vol.* I. *p.* 35. *J. A. S. B., Vol. VI.*, p. 677.

TAKSILES. According to the Greeks, the chief who joined with Alexander on his approach to the Indus.

TAKU. HIND. Chenopodium *sp.*

TAKULBE. See Kazzilbash.

TAK-UL-KESRA. See Kasr.

TAKUR. HIND. A spindle turned upon the thigh or the sole of the foot.—*Simmond's Dict.*

TALA BHATTA. See Inscriptions.

TALA GOTSO. URIA. Dammer.

TALAK. AR. Divorce.

TALAB. AR. HIND. MAHR. Pay.

TALAING OR MON, is the native name of the natives of Pegu. The Burmese call them Talieng. The Siamese appellation is Ming-mon. Part of this population dwell in the delta of the Irrawadi, Mon being the name used by themselves for the native populations of Pegu, Martaban, Moulmein, and Amherst ; but their neighbours call them Talieng, and the same names Mon or Talieng are given to the vernacular language of Pegu. The alphabet, like that of the Thay and Burmese, is of Indian origin, being essentially that of the Pali form of speech, and like all alphabets of this kind, it embodies a buddhist literature. The Mon

language is quite unintelligible to a Burmese or Siamese.—*Latham's Eth.* See Mon.

TALANG. See Johore.

TALANTU TIGE. Tel. Ipomœa dentata, *Willd.*

TALASHRUBE. Tam. Aristolochia indica.

TALAM. Tam. Caldera Bush. Pandanus odoratissima.

TALAPIRIGES. See Oryza sativa.

TALAPOIN. This order of budd'hist ascetics or monks are known under different names in Ceylon, Siam, and Thibet, conveying nearly the same meaning, and expressing either the nature or the object of their profession.

The members of the order are known also as "Bonz." The former word is derived from the Pali "Talāpat" meaning the leaf of a palm tree, but applied by the Siamese to designate the large fan made of palm leaves, set in a slender wooden frame which the Talapoin carry with them when they go abroad. The votaries of buddhism in Ceylon, Burmah, Siam, Thibet, &c. show the greatest respect to the Talapoin. They are called by the Burmese Phonghi, which term means great glory, or Raban, which means perfect.

According to the tenets of this religious order, there exists an eternal law, which, when obliterated from the memory of men, can be known again, and, as it were, recovered and only thoroughly understood by the incomparable genius and matchless wisdom of certain extraordinary personages called Buddhs, who appear successively and at long intervals during the various series or successions of worlds. These Budd'hs or Budd'has announce that law to all the then existing rational beings. The great object of that doctrine is to point out to mankind the means of freeing themselves from the influence of passions, of becoming abstracted from all that exists; that being thereby delivered from the action of evil influence, which causes mortals to turn incessantly in the whirlpool of never ending existence, they may obtain the state of Neiban or rest, that is to say, a situation wherein the soul, disentangled from all that exists, alone with herself, indifferent to pains as well as to pleasures, folded, as it were, upon herself, remains for ever in an incomprehensible state of complete abstraction and absolute rest. A Budd'ha is a being who, during myriads of existences, slowly and gradually gravitates towards this centre of an imaginary perfection, by the practise of the highest virtues. Having attained thereto, he becomes, on a sudden, gifted with a boundless genius, wherewith he at once discovers the wretched state of all beings, and the means of delivering them from it. He thoroughly understands the eternal law which alone can lead mortals in the right way, and enable them to come out of this circle of existences, wherein they have been unceasingly turning and moving in a state of perpetual agitation opposite to that of fixity or rest. He preaches that law whereby man is taught the practice of those virtues which destroy gradually in him every evil influence, every affection for all that exists, and brings him at last to the end of existence, possession of Neiban. His task fulfilled, Budd'h dies, or rather to use the language of budd'hists, he enters into the state of Neiban. In that situation which is truly inexplicable, he knows nothing of, and enters nowise into the affairs of this world. He is as if he was not, or had never been. Buddhists venerate three precious things, Buddha, his law, and the assembly of the just or perfect, in the same sense as we venerate and admire what is morally good and beautiful, such as virtue considered abstractedly and the acts originating from it. The statues of the last Buddh, Gaudama, are honored by his followers, not with the idea that any powers or virtues are inherent in them, but solely because they are the visible representations of Buddh, who desired that the same honor should be paid to them as would be offered to his person, were he yet living among them. This faint outline of the buddhistic creed is sufficient to bear out the above assertion that it is in no wise based on the belief in a supreme being, but is strictly atheistical, and therefore that no real priesthood can ever be found existing under such a system. It may prove too of some assistance for better understanding what is to be said regarding the subjects of this notice.

A buddhist, on becoming a member of this holy society, proposes to keep the law of Buddh in a more perfect manner than his other co-religionists. He intends to observe not only its general ordinances obligatory on every individual, but also its prescriptions of a higher excellency, leading to an uncommon sanctity and perfection, which can be the lot of but a comparatively small number of fervent and resolute persons. He aims at weakening within himself all the evil propensities that give origin and strength to the principle of demerits. By the practice and observance of the highest and sublimest precepts and counsels of the laws, he establishes, confirms and consolidates in his own soul, the principle of merits, which is to work upon him during the various existences he has as yet to go through, and gradually lead him to that perfection which will qualify him for, and entitle him to the state of Neiban, the object of the ardent desire and earnest pursuit

of every true and genuine disciple of Budd'ha. The life of the last Budd'ha, Gaudama, his doctrines as well as his example, he purposes to copy with scrupulous fidelity, and to follow with unremitting ardour. Such is the great model that he proposes to himself for imitation. Gaudama withdrew from the world, renounced its seducing pleasures and dazzling vanities, curbed his passions under the yoke of restraint, and strove to practise the highest virtues, particularly self-denial, in order to arrive at a state of complete indifference for all that is within or without self, which is, as it were, the threshold of Neiban.

Like the monk, the Talapoin bids a farewell to the world, wears a particular dress, leads a life of community, abstracts himself from all that gives strength to his passions, by embracing a state of voluntary poverty, and absolute renunciation of all sensual gratifications. He aims at obtaining by a strict observance of the law's most sublime precepts, an uncommon degree of sanctity and perfection. All his time is regulated by the rules of his profession and devoted to repeating certain formulas of prayers, reading the sacred scriptures, begging alms for his support, &c. These features of exterior resemblance common to institutions of creeds so opposite to each other, have induced several writers little favourable to Christianity, to pronounce without further enquiry that Catholicism has borrowed fromBuddhism many ceremonies, institutions and disciplinary regulations. Some of them have gone so far as to pretend to find in it the very origin of Christianity. They have however been ably coufuted by Abbe Remusat in his Memoir intituled Chronological Researches into the Lamaic Hierarchy of Thibet.

It is somewhat surprising to find in the middle of half civilized nations, such as the Burmese, Siamese, Singalese, and Thibetans, a religious order with a distinct and well marked hierarchy, constitution and regulations, providing for the admission of members, their occupations, duties, obligations, and their mode of life, forming as it were a compact, solid and perfect body, that has subsisted almost without change during several centuries, and survived the destructions of kingdoms, the fall of royal dynasties, and all the confusion and agitation produced by political commotions and revolutions. It is in Thibet that the order is found existing in the greatest perfection, under the fostering care of the Great Llama, or high priest, who combines in his own person the regal as well as the sacerdotal dignity and power. In the city of Lhassa, a pontifical court, an elective sacerdotal chief, and a college of superior Llamas, impart to the order dignity, decency, respectability, and stability, which insure its continued existence, and more or less extend its influence over its members living in distant countries, ruled by a foreign sovereign. The period of the introduction of buddhism from India into Thibet is very uncertain if not quite unknown; but it appears certain that the establishment of a pontifical chief or sovereign, with royal prerogatives, was set up by one of the grandsons of the great Tartar warrior Gengis, in or about the middle of the thirteenth century. In other countries, where the order has no connection whatever with the civil power, we expect to see it surrounded with an equal splendour, or subsisting in the same state of perfection, regularity and fervour. Extraordinary indeed would be its vital energies, were the remotest parts of this great and far spread body to receive the same impulse and exhibit the same symptoms of vitality as those nearest to the heart or principle of life. The following is an account of all that relates to the constituent parts of the order, such as they have been found existing in Burmah, and developed in their sacred writings.

The whole fraternity is composed, 1st, of young men who have put on the Talapoinic dress, without being considered professed members thereof, or having hitherto passed through a certain ordeal somewhat resembling an ordination; they are called Shung. 2nd, of those who having lived for a while in the community in a probationary state, are admitted professed members with the ceremonies usually observed on such occasions, whereby the title and character of Talapoin are solemnly conferred—they are denominated Pazin. 3rd, of the heads of each house or community, who have the power to control all inmates of the house. 4th, of a Provincial, whose jurisdiction extends over all the communities spread over the towns and villages of one province or district. 5th, of a superior general, residing in the capital or its suburbs, called Haia Daw or great master, having the general management and direction of all the affairs of the order throughout the empire. In the kingdom of Ava, the key-stone of the Talapoinic fabric is the superlatively great master residing in the capital or its suburbs. His jurisdiction extends over all the fraternity within the realm of his Burmese Majesty.—*Jour. of Ind. Arch. Vol. IV. No. V. and VI. May and June* 1850, *page* 223.

TALARA. HIND. Kalanchoe varians.

TALASHRUBE. TAM. Aristolochia indica, *Linn.*

TALATHI MARAM. TAM. Grewia tiliæfolia, *Vahl.*

TALAUMA HODGSONI, a Magnolia growing on Tonglo, in Sikkim, at an ele-

vation of several thousand feet. It is a large tree, with very dense foliage, and deep shining leaves, a foot to eighteen inches long, most of its flowers drop unexpanded from the tree, and diffuse a very aromatic fragrance: they are nearly as large as the fist, the outer leaves purple, the inner pure white.—*Hooker Him. Journ. Vol.* I. *page* 163.

TALAWA. SINGH. Open park like meadows, in the lowland forests of Ceylon, varying in extent from one to one thousand acres.

TALAXAN, a solid measure for firewood in Manilla, equal to 72 cubic feet.—*Simmonds.*

TALAZ—? A tree of Akyab. It is plentiful and is used for oars and banghies, and in house building.—*Cal. Cut. Ex.* 1862.

TALC. ENG. FR.

Kobub-ul-arz	AR.	Talcum,	LAT.
Tulk, DUK. GER. GUZ. HIND. KASH. PERS TURK.		Abraka,	SANS.
		Minirum,	SINGH.
Abrak,	GUZ. HIND.	Appracum,	TAM. TEL.

This mineral is a hydrous silicate of magnesia; it occurs crystallized and massive. Massive talc reduced to powder is the boot powder of shoe makers. It occurs also indurated.

TALCOSE SLATE, is a rock resembling mica slate. Talcose rocks are the gold rocks of the world, and contain the topaz of Brazil, euclase, and other minerals.

TALCHIR, a town in Cuttack where coal was discovered about the year 1850 by Mr. Turnbull, an Overseer in the commissariat department. The series of rocks there have been designated the Cuttack and Talchir group. Messrs. Blanford and Theobald examined the Cuttack or Talchir coal-field, and the following section is in descending order.

Alluvium, laterite, &c.

1.—Upper grit series,—unfossiliferous—quartzose grits and coarse sandstones, with occasional red shales; pebbly throughout, and near base conglomeric—above 2,000 feet.

2.—Carbonaceous shale series, fossiliferous, consisting of

(*a*)—Blue and lilac shales, micaceous; white speckled sandstones, ironstones, about 1,500 feet thick.

(*b*)—Carbonaceous shells containing thin seams of coal (3 inches) irregularly dispersed through them, about 200 feet.

(*c*)—Shales and coarse white sandstones, the latter predominate in lower portion, 100 to 200 feet.

3.—Lower shale and sandstone series, annelide tracks, consisting of

(*a*)—Blue nodular shales, generally arenaceous.

(*b*)—Fine sandstones, much jointed and "tesselated."

(*c*)—"Boulder bed," containing numerous boulders of gneiss and granite frequently 5 to 6 feet across—in a fine argillaceous or arenaceous rock, often rippled, sometimes replaced by a coarse sandstone.

Each of these series rests unconformably on that beneath it.

The Talchir field extends for about 70 miles from east to west, with an average breadth of 15 to 20 miles, and is bounded both on the north and south by great parallel faults, the former of which has an aggregate throw of upwards of 2,000 feet; these faults are not truly east and west, but to the south of east and north of west. The section in ascending order of the basin shows at the base sandstone and blue shale, but slightly fossiliferous, in thickness from 500 to 600 feet; over these is a series of shales and standstones often micaceous, occasional beds of ironstone, and thin layers of coal and coally shale, giving a total thickness about 1,800 feet; and over these again is a distinct series of quartzose grits, conglomerates, and sandstones, in thickness from 1,600 to 2,000 feet. These three groups are unconformable each to the other; the uncomformity between the two lower being, however, much less marked than that between the two upper.

To the lower group, as having been first recognized and described in this district, the name of "Talcheer" series has been given.

The second group, which, from its imbedded vegetable remains, was proved to be identical with the rocks of the extensive Damoodah coal-field, when these were first described, has been denoted the "Damoodah" series.

While the upper group, supposed to represent the great series of rocks, so magnificently seen in the Mahadeva hills of Central India, has been called the "Mahadeva" series. Thus three series can be recognised in each of the extensive fields referred to, although with varying developments and thickness. At the base of the Talcheer series there is a remarkable bed consisting of very large and only slightly rounded masses of granite and gneiss imbedded in a fine silt, and occurring under such conditions as induce the opinion that the action of ground ice has been the cause of its formation. In the Rajmahal dictrict there is a very limited development of the lower beds, above which unconformably comes the Damoodah series, here exhibiting a greater extension upward than in Cuttack; but unfortunately, the sequence of the rocks is interrupted by the intercalation of several successive floes of basaltic trap, the intervals between which have been marked by the continued and tranquil deposition of the mechanical rocks going on. These floes have been repeated six or seven times, and the phenomena of contact are in all cases marked; the upper layers of the

mechanical deposits in contact with the trap being in all cases greatly altered, while the lower layers are in no cases changed, but rest unaltered on the degraded surface of the underlying trap. But while the actual physical sequence of the deposits cannot be here traced, the fact of their all belonging to the same great series is attested by the occurrence of some identical fossils throughout. A few species pass upwards through the series, but there is a very marked change in the general facies of the flora in the upper as compared with the lower portions of the group, the latter characterized by the abundance of vertebrata pecopteris, trizygia, &c., the former by the abundance of zamia-like plants. The series, therefore, has been divided into Upper and Lower Damoodah rocks.

TALDENIA, a town in Ceylon, on the road to Badulla.

TALE, or Tael, a Chinese money and weight of 10 mace. See Tael.—*Simmond's Dict.*

TALEE. Beng. Corypha umbraculifera.

TALEE-TARAS, a fibre of Singapore, made into sewing twine.

TALE ELLE, Tam. Leaves of Pandanus odoratissimus.

TALENA, also Talhana, Talhang, Hind. Viburnum fœtens.

TALESFUR. Hind. The highly fragrant, stimulating leaves of Rhododendron aromaticum, used as a medicinal snuff in India.—*Simmonds.* See Talisa.

TALG. Ger. Tallow.

TALGACH. Beng. Hind.? Borassus flabelliformis, *Linn.*

TAL-GHAT in L. 19° 40′ N., L. 73° 33′ E. in the Dekhan, a principal pass on the road from Bombay to Nassik and Agra. Top of the ghat is 1,912 ft. above the sea, and the top of the hill near the ghat is 3,241 feet.

TALI, a name in the Eastern Archipelago for the treble fanam formerly coined at Madras, the 24th part of the Spanish dollar.

TALI, in peninsular India a piece of gold tied by the bridegroom round the bride's neck, at the time of marriage. It remains till she become a widow and is then removed by the husband's relations. The Tali are not all of the same form. In some castes it is a small round plate of gold, without stamp or figure on it: in others, it is a tiger's tooth: others are hammered by the goldsmith without any precise form; many castes have them flat and oval, of two small pieces which separate, and with hieroglyphics, representing the god Pulear, or the Lingam. A woman is obliged to wear the tali during her husband's life. —*Sonnerat's Voyage,* p. 92.

TALI. Beng. Corypha umbraculifera, *Linn.* of Ceylon. C. taliera, *Roxb.* of the Peninsula.

TALI. Hind. Dalbergia sissoo.

TALIB, an inquirer or wisher, a pupil, a seeker, from talb.

TALIB-UL-ILM, a learner.

TALIENNOE. Burm. Chaulmoogra odorata, syn. of Gynocardia odorata.

TALIERA, Beng. Corypha taliera, *Roxb.*

TALIERA BENGALENSIS. Spreng. syn. of Corypha taliera, *Roxb.*

TALIERA ELATA. Wall. Corypha elata, *Roxb.*

TALIERA SYLVESTRIS. Bl. syn. of Corypha utan, *Lam.*

TALIF-I-SHARIF, a Persian work on medicine translated by Dr. Playfair.

TALIKAN. A city of Tukharistan between Balkh and Merv, three days' journey from the latter. There is another town of the same name east of Kunduz. The Talikan of Tukharistan is the one most frequently mentioned, and it is generally coupled with Fariyab, a city of Guzjan west of the Oxus, three days' journey from Talikan, three from Shaburkan, and six from Balkh. Yule, however, says there were, in fact, three places so called, that in Badakhshan, that in Khorasan, and a third in Dailam, the hill-country adjoining Kazbin.—*Yule Cathay* i. p. ccliii. *Elphinstone's Cabul* II., 221, 240.

TALIPAT. Singh. Corypha taliera, *Roxb.*

TALIPAT TREE, also, Talipat Palm tree, Anglo-Singh. Corypha umbraculifera, *Linn.* one of five species of a genus of palms, all inhabitants of Asia. The Talipot tree grows in stony parts of the mountains of Ceylon. Its leaves are of gigantic size, the petiole being seven feet long, the blade six feet long and thirteen broad. The outspread leaf affords shelter for seven or eight persons. They are extensively used by the Singalese as umbrellas and some of their records are written with a style on pieces of the blade of this palm.—C. taliera is the Talipat of the peninsula.—*Seeman.*

TALI-KALAT, Malay. Cordage.

TALI RAMI. Malay. China grass.

TALISA, also Talisfar, Talisri, Hind. Rhododendron anthopogon, R. campanulatum.

TALISAPATRI. Vern. Flacourtia cataphracta, *Roxb.*

TALI-SAWAH. Malay. Cable.

TALISH. A province on the western shores of the Caspian.

TALISHA. Sans. Flacourtia cataphracta.

TALK. Ger. Talc.

TALKH, Ar. bitter; also of tobacco, &c., pungent, strong, Badam-i-talkh, Amygdalus amara; Kust talkh, or Kut talkh, Hind. Aucklandia costus.

TALKHUR, or Thakkur in Guzerat, a name of the idol Balaji.

TALLAGADDA. TEL. Allium sativum. *Linn.*

TALLARI. See Tillari.

TALLA, JAV. Colocasia esculenta, *Sch.*

TALE TANGA, MALEAL. TAM. a Malabar and Canara tree, which grows to about two feet in diameter, and thirty feet high. It produces the jungle almonds, on which monkeys and other forest animals feed. The natives cut this wood into boards for boats and house building; they also make it into canoes, which are said to be durable. The boats are sewed together by coir yarns.—*Edye Forests of Malabar and Canara.*

TALLI, near Lehri, occupied by the Bangolzye in winter. See Kelat.

TALLIAR. ANGLO-TEL. a policeman, a night watchman, from Tillari, TELUGU.

TALLI NANAS, MALAY. Cordage material obtained from the leaf of the pine-apple plant.

TALLI PINDING. A waistbelt worn by the natives of the Archipelago. They are manufactured by the Arafura of New Guinea, or Seram, who manufacture various textile fabrics from native fibres.

TALLON. HIND. Populus ciliata.

TAL-LOORA. BENG. Curculigo orchioides

TALLOW.

Shahum	AR.	Pih	PERS.
Suif	FR.	Sebo	PORT. SP.
Talg	GER.	Salo, Toplenoe	RUS.
Charbi	GUZ. HIND.	Govapa	SANS.
Sevo	IT.	Hurruk tail	SINGH.
Lamak chair	MALAY.	Maattu Kolupu	TAM.
Lamak	„	Passalum kowu	TEL.

The fat of horned cattle and sheep.

TALLOW-GOURD. ENG. Benincasa cerifera.

TALLOW-TREE. Dryandra cordata.

TALLOW TREE, of China, Stillingia sebifera, Sapium sebiferum, the Croton sebiferum of some authors. Its seeds are covered with a waxy substance used in China for making candles. The Tallow-tree of China has been introduced into northern India, into the Dhoons of the N. W. provinces and Kohistan, Panjab.

TALLOW, VEGETABLE, of Borneo, is said to be extracted from the nut of various species of Dipterocarpus, and melted into a gourd shell.

TAL MAKHANA. HIND. Asteracantha longifolia, NEES. Barleria longifolia. The seeds of this plant are stimulant, used in general debility, but chiefly as an aphrodisiac.—*Genl. Med. Top. p.* 152.

TALMUD, a religious book of the Jews.

TALMULI. BENG. See Mooslie.

TAL-NUROO. BENG. Fimbristylis Roylenia.

TALOO-DALEI. Clerodendron phlomoides.

TALOOKAH, in India, a revenue district.

TALOOKDAR, a revenue officer.

TALOPODO. SANS. Cassia auriculata, *Linn., Roxb.*

TALOPOIN. See Abishegam.

TALOPOTA. HIND. SANSC. Cassia auriculata.

TALAR. HIND. Vitis Indica.

TALPIDÆ, a family of animals belonging to the order Insectivora, and including the Moles, the genus Talpa. The species of restricted Talpa amount to five in number, viz., T. europœa, *L.*, of Europe generally; T. cœca, *Savi*, of Italy and Greece; T. moogura, *Temminck*, of Japan; and T. microura, *Hodgson*, of Nepal, Sikim, Butan, and the mountains of Assam: the fifth is T. leucura, of Cherra Punji, N. of Sylhet. It differs little from T. microura, except that the tail is considerably more developed, though much less so than in T. europæa; and the tail is clad and tufted with white hairs, whence the name T. leucura. This animal also would seem hardly to attain the size of T. microura. An adult female in spirit measures 4¼ inches long, with a tail ⅜ inch additional: the latter is of a club shape, much constricted for the basal half. The general colour of the fur, too, is less fulvescent than is usual with T. microura. In both of these Asiatic species, as in T. cœca, there is no perforation of the integument over the eye, as in T. europæa, the skin being there merely attenuated and imperfectly transparent.

The specimens of T. microura from Assam, like those of Nepal, have generally a very minute tail, which can be distinctly enough felt under the fur; but those from the vicinity of Darjiling have no external trace of a tail. There is, however, no perceptible difference in the skulls and dentition, nor in any other character whatever, that should warrant us in considering the tailless Darjiling mole as a distinct species, separable from T. microura. It is not improbable that T. leucura may extend its range eastward into China; and in that direction we may look for additional species of Talpa, if not also in western Asia. In Africa the genus is unknown, but is represented in the south by Chrysochlore; in N. America by Scalops and Condylura; while in S. America the Insectivora, *Cuv.*, do not occur, their functions being performed by numerous diminutive species of Didelphys, as also may be said in Australia by the Perameles tribe; and it is far from unlikely that Australia may yet be found to produce a fossorial marsupial form, resembling the moles, as other Marsupialia present an analogical but superficial likeness to certain other Insectivora.—*Blyth.*

TALPA MACRURA. HODGSON. The long tailed mole of Sikkim, is four inches long and

tail $1\frac{1}{4}$ inches. Its fur is a deep slaty blue, with canescent gloss.

TALPA MICRURA. HODGSON.

T. cryptura	*Blyth.*	Pariam	LEPCH.
Short tailed mole	ENG.	Biyu kantyem	BHOT.

The mole of Nepaul and Darjeling, is $4\frac{3}{4}$ to 5 inches long, with a tail 3-16ths or less. *Journ. Ben. As. Soc. p.* 215, *No. III. of* 1850. *Jerdon Mammals.*

TALPUR, a dynastic title of the late amirs of Sind, descendants from Mir Bahram Khan, chief of the Baluch tribe of Talpur, who succeeded Abdul Nabi of the Kalora dynasty in 1788. Their greatness arose of Futteh Ali Khan. The Talpur dynasty of Sind were replaced by the British in 1845. The Talpur were an inferior hill clan of Baluch. Even when they became rulers of Sindh, Mahomed Khan, the ruler of Kelat, was ready to go to war with amir Gholam Ali, Talpur, because the latter had the audacity to propose to a female of his family.

TALSAR. HIND. Rhododendron lepidotum.

TALUDALA. TAM. Clerodendron phlomoides, *Linn.*

TALU-DAMA. Boerhavia diffusa.

TALUK, in India, a revenue district, more correctly written Taluqah. It has as its immediate superintendent a revenue officer styled a talukdar.

TALUM. LAMPUNG. Indigofera tinctoria.

TALUMPU. TAM. Pandanus odoratissimus.

TALUNGA, See India, p 321.

TALUQ. AR. HIND. An estate ; commonly written talook.

TALURA. Vatica laccifera, *W. and A.*

TALWA, also Phalawar, HIND. Bassia butyracea, *Roxb.*

TALWAR. HIND. A sword. A wooden scythe used for cutting down plants for barilla burning.

TALWAR, a tribe in Mysore.

TALZUFFAR. ARAB. Mace.

TAMA, HIND. Caragana pygmæa, also Arundo, *sp.* ?

TAMAKU. HIND. Tobacco.

Tamaku kashmiri, HIND. Rhododendron campanulatum.

Ban tamaku, HIND. Verbascum thapsus.

Chilassi tamaku, HIND. Nicotiana rustica.

Gidar tamaku, HIND. Heliotropium Europœum. Verbascum thapsus.

Kakkar tamaku, Kalkatti tamaku, Kandahari tamaku, HIND. Nicotiana rustica.

TAMAKU, HIND. Nicotiana rustica. N, tabacum, Tobacco.

TAMALA, HIND. Cinnamomum albiflorum.

TAMALA CHETTU, also Chikati Mraku, TEL. Xanthochymus pictorius, *Roxb.*

TAMALAPAKU, also Nagavalli, TEL. Chavica betle, *Mig.* Piper betle.

TAMALA PATRA. TAM. Cassia lignea. C. nitidum, *Nees.*

TAMAN. HIND. Pennisetum cenchroides.

TAMANA, on the Malabar coast, was the boundary of Angria's dominions.

TAMAR. AR. HIND. Phœnix dactylifera.

TAMAR-I-HINDI. Tamarindus Indica, the tamarind tree.

TAMARA, MALEAL. Nelumbium speciosum, *Wild.*

TAMARA RUBRA. ROXB. Nelumbium speciosum, *Wild.*

TAMARA-TONGA, or Kamaranga, MAL. Averrhoa carambola, *Linn.*

TAMARIA. See India, p. 329.

TAMARICACEÆ, the Tamarisk tribe of plants. Six species occur in the E. Indies, viz. 3 of Tamarix, 1 of Trichaurus, 2 of Myricaria. Four of these inhabit the plains of the peninsula and Hindustan, and two are found in Kunawar and in Kashmir. Dr. Roxburgh describes the Tamarix indica,—identical with T. gallica—and T. dioica (jhuo). T. furas occurs in the drier parts of the Doab, and in the neighbourhood of Delhi, where it is called Asul or Atul as in Arabia. The other species are also found in the peninsula.

The Tamarices are bitter and astringent. In Denmark they are used instead of hops for making beer, and in some parts of Europe as a tonic remedy. Galls are formed on the T. furas and are called Sumrut-al-asul or Chotee mue. Those on the Jhou are named Sumrut-ul-toorfa, or Burree mue.

The T. gallica of Mount Sinai is at certain seasons covered with a kind of sugary exudation, said by Ehrenberg to be produced by the puncture of the Coccus maniparus. It is called Arabian manna, or Guzunjabeen ; it is unknown in the bazars of Bengal, and is not produced in India.—*Voigt. Roxb. Royle, p.* 213, 214, *O'Shaughnessy, page* 332.

TAMARID, in-Socotra, in Lat. 12° 39′ N., and L. 54° 1′ E.

TAMARIND, ENG.

Tamar-ul-Hind.	AR.	Tamarindus	LAT.
Ma-gye	BURM.	Neghka	MAL.
Cay-me.	COCH. CHIN.	Tamr-i-hind,	PERS.
Imlee, Umbulee,	CASH.	Amlika. Tinti li	SANS.
Tamarins	FR.	Mahasiambala,	SINGH.
Tamarinden.	GER.	Demer hindee,	TURK.
Amlee,	GUZ. HIND.	Poolie,	TAM.
Tamarindo,	IT. SP.	Chinta-pundoo,	TEL.
Kamal,	JAV.		

Tamarind is the fruit of the Tamarindus Indicus, which grows in the East and West Indies the Eastern Islands, Arabia, and Egypt. It attains the height of 30 or 40 feet. Tamarind pods are from 3 to 6 inches long, and more or less curved, when ripe they consist of a dry, brittle, brown external shell, within which is the useful part, an acidulous, sweet, reddish-brown

pulp penetrated by strong fibres. Within this is a thin membranous coat enclosing the oval brown seeds. The pulp, as analysed by Vauquelin, contains citric acid 9·40, tartaric acid 1·55, malic acid 0·45, bitartrate of potash 3·25, sugar 12·5, gum 4·7, pectin 6·25, parenchyma 34·35, and water 27·55. The fruit is used by the natives of India and Persia in making a sherbet or cooling drink; and also as a necessary ingredient in curries, to which it communicates a tartish flavour. The pulp allays thirst, is nutritive and refrigerant, and in full dose laxative. An infusion forms a very pleasant, cooling drink, as does also tamarind whey. Infusion of senna with tamarinds is a useful laxative. Tamarinds form a large export from India, being packed in tin with or without syrup. Several varieties are distinguished, such as the red tamarind, the sweet tamarind, obtained from Persia: the dark tamarind, produced in Madura, one of the Eastern Islands; and the common or green tamarind, which is extensively produced throughout India. The red coloured tamarinds are found in Guzerat, at Kheir on the Godavery, at Punderpoor on the Kistna, and there are four trees in Madras. It is the best of the three Indian varieties. In preserving it for export, when the fruit is ripe, the shell or epicarp is removed and the fruit placed in layers in a cask, boiling water being then poured over it. Another plan is to put alternate layers of tamarinds and powdered sugar in a stone jar. Tamarinds are exported both raw and preserved. The mootchee men prepare a useful paste of the tamarind stones, which is called Pasay, Tam. —— ? Tel., by first taking off the brown skin and then boiling them down till they become glutinous.—*Madras Exhibition Juries Reports. Ainslie's Mater. Medica, p.* 231. *Royle Materia Medica. McCulloch Dictionary. Faulkner Commercial Dictionary. Tomlinson.*

TAMARINDEN. Ger.

TAMARINDO. It. Sp. Tamarind.

TAMARINDUS INDICA, Linn.; *Roxb.*

Tamarindus occidentalis, *Gærtn.*

Tamr-i-hindi, Homar	Ar.	Asam.	Malay.
Tintori.	Beng.	Assam Gloogoor	,,
Tentul	,,	,, Kambing iju	,,
Ma-gyi.	Burm.	,, Kundisun.	,,
Hulishena.	Can.	Kamal.	,,
Oonara mara.	,,	Darakht-i-tamr-i-hindi	Pers.
Hoonsay ?	,,		
Tamarind-tree.	Eng.	Amlika.	Sansc.
Common Tamarind	,,	Tintili, Tintiri.	,,
Amli ka jhar	Hind.	Nuli	,,
Imli ka jhar	,,	Siyambela.	Singh.
Tinturi	,,	Pulia maram.	Tam.
Cheetz.	Mahr.	Chinta chettu.	Tel.
Balam-polli	Malbal.		

The Fruit.

Amli	Ar. Guz. Hind.	Jawa	Malay.
Imli	Cash. Duk.	Kranji	,,
Umbuli	,,	Kamal	,,
Kay-me	Coch.-Chin.	Neghka	Malbal.
Tamarind	Eng.	Tamr-i-hindi	Pers.
Tamarins.	Fr.	Amlika	Sans.
Tamarinden.	Ger.	Tintili	,,
Tamarindo	It. Sp.	Maha-siyambala	Singh.
Kamal	Jav.	Puli pallam	Tam.
Tamarindus	Lat.	Chinta pandu	Tel.
Asam	Malay.	Demer-hindi	Turk.

This is a very handsome tree, of slow growth, but attains a great size; indeed, is one of the largest in India, and with a very extensive shady head. It is not common in forests, but is met with in gardens, near old temples, where it has been planted. It is a graceful avenue tree, and grows throughout Hindustan, in the Peninsulas, in Burmah and the Archipelago, but is rare in the Punjab.

In Burmah it is not found upon tidal waters, but is very abundant throughout the upper provinces. It rises to ninety or one hundred feet high, and twelve or fifteen in circumference, and, like the mango, is planted not less for shade than fruit. The branches extend widely, with a dense foliage of bright green composite leaves, very much like those of the sensitive-plant. The flowers are in clusters of a beautiful yellow, veined with red. The pods hang like beans, are longer, darker, and richer than the tamarind of the West Indies, and are preserved without the addition of syrup.

Its timber is remarkably heavy and hard, much like Lignum vitæ, and is used generally for shivers in blocks, and such purposes. It is hard, dark coloured and durable, is often finely veined, and the heart wood of old trees is dark coloured, resembling ebony. The tree is apt to be hollow in the centre, which prevents large slabs being obtained. It is used in the manufacture of sugar and oil mills, naves, mallets, rice pounders, and for furniture and building purposes, but carpenters are very unwilling to work it up on account of the great damage it causes to the best tempered tools. It is valuable for brick and tile burning. The trees grow to about seven or eight feet in diameter at the but, while that of the body of the tree is about five feet. This part is seldom more than ten feet long when it branches out into curves of various dimensions. Mr. Edye, in saying that there are two sorts of tamarind, the light and the dark,—must allude to the West Indian red and East Indian white varieties; several large trees of the former, with red fruit, grow in the south of India, and the editor largely distributed the seeds through the Madras Board of Revenue. The tree is valuable from the quantity of fruit it produces, which is used medicinally in cookery. In India, the shadow of the tama-

rind tree is deemed particularly injurious to vegetation, and for people to reside beneath this tree, is supposed, in India, to be unhealthy; but in the northern part of the island of Ceylon, people build their houses beneath the tamarind tree as the coolest site.—*Edye, Forests of Malabar and Canara, Drs. Wight, Ainslie, Royle, Riddell, Mason, Cleghorn, Stewart and Gibson, Mr. Mendis. Mr. Rohde. McCulloch's Com. Dic. p.* 1111. *Malcom's Travels in S. E. Asia. M. E. J. Rep.*

TAMARIND FISH, white pomphret cut in transverse slices preserved in tamarinds, much prized as a relish.

TAMARIND ISLAND. See Pulo Bessy; Bezee.

TAMARISK. Three species occur; the farwa faras, or ukhan, Tamarix orientalis grows easily and rapidly to a large tree; it is resinous and a good fuel, but when green emits a bad smell in burning. The lai or Tamarix indica is a large shrub; and chilchi or T. dioica, is a small shrub with wood fit for basket work, &c. It grows by the sides of rivers, &c.

TAMARIX DIOICA.

Lal-jhao	HIND.	Jhao, Lai, Kachlei
Rgelta	LADAK	Ghazlei, Pilchi,
		Rukh, Koan, PUNJAB.

Very common in Ajmir in the beds of rivers and near the great rivers of the Punjab. It is a very graceful shrub, with numerous small rose-coloured flowers in terminal drooping spikes; common in the beds of rivers. —*Drs. Riddell. J. L. Stewart.*

TAMARIX GALLICA. LINN.

T. Indica, *Roxb.* | T. gallica *var* Indica *Ehrenb.*
Tamarix epacroides, *Sm.*

Toorfa AR. GUZ. PER.		Pharwan: Pilchi: Koa;
Tamarisk	ENG.	Rukh PANJ.
Indian ,,	,,	Lainya of Salt range;
Ferish; Ferash; Frash		Prakke; Pakke
Jhao	HIND	chettu TEL.

The exudation—Gazanjabin.

The galls.

Sumrut-ul Turfa | Ma-in; Buree mue HIND.

The Indian tamarisk is a glabrous greenish plant with stiff twiggy branches, of considerable size in the Ajmeer district, but the wood is there very inferior. In the Dekhan it grows abundantly as a small tree or shrub in the beds of many rivers, and affords shelter for all sorts of game. It is subject to the attacks of a cynips, which produces galls that possess astringent properties, and they are on this account used in medicine by the native doctors of India. The same property also renders them valuable in dyeing; baskets are made of the twigs which are also used medicinally as an astringent. This and other Indian species of the tamarisk produce galls. The galls are largely gathered in the Jhang, Gugaira and Muzaffargurh districts, as also in Dera Ghazi Khan district, where as much as 500 maunds are annually collected. The manna of Mount Sinai is produced from a variety of this plant, and consists of a pure sugar. It grows up to 10,600 feet on the Shayokk in Ladak, reaches 3 feet in girth and 30 high, and furnishes much of the steamer fuel in the southern Punjab and in Sind; the wood is coarse grained and often very red and is used for Persian wheels, in turning, &c. In Ladak, where wood is scarce, this is used for the handles of the sticks for polo or hockey on horseback.—*Dr. J. L. Stewart. Royle. Ill. Him. Bot.*

TAMARIX ORIENTALIS. LINN.

The tamarisk tree.

Ghuz, PANJAB.	Rukh,	PANJAB.
Farwa; Furas; Parwan ,,	Kharlei; Narlei,	,,
Khwa; Ghwa, PASHTU.	Ghaz, PANJ.	PERSIAN.
Ujhan; Ukhan; PANJAB.		

The galls.

Bari-mai, HIND. | Choti-mai, HIND.

The exudation.

Gazanjabin, HIND. | Misr-i-lei, HIND.

The flowers.

Bur, HIND.

This tree is sometimes mistaken by Europeans for a fir. It grows commonly in the Punjab plains, chiefly from Delhi westward, along the more arid tracts up as far as Peshawur, flowering after the rains. A proportion of the trees grow with their branches rather upright and close to the trunk, somewhat like Acacia arabica var. cupressiva. It grows very rapidly and to a large size, 10 or 12 feet girth, and 60 or 70 high; but it affords little shelter; it speedily decays at the heart, and most of the larger specimens are hollow. It mostly grows where the soil is saline, but not too light; it is raised very readily from cuttings which are frequently merely buried length-wise in the ground. The timber is coarse-grained, and weighs 92 lbs. per cubic foot green, and 60 lbs. dry. In the southern Punjab it is used for ploughs, Persian wheels, and small rafters, being often cut as coppice for the last purpose. In Sind the wood is employed in turnery. When the green wood is used for fuel, it is said to give out a most offensive odour, rendering it intolerable in a room, whence the European soldiers at Peshawur give it a ludicrous nickname. But when dry it burns without smell, and makes a tolerable fuel for ordinary purposes, although by the railway people only the Salvadora is reckoned worse for the locomotive. The galls appear mostly or altogether to be derived from this species, and the two names seem to Dr. Stewart to indicate merely difference of size, not of origin. They are employed as a mordant in dyeing, and in medicine are reckoned astringent, be-

ing used in gargles, &c. Trans-Indus the bark is stated to be used for tanning. The manna of the tamarisk is said to be very accurately described by Diodorus Siculus. This plant sometimes secretes saccharine matter allied to manna caused by a species of coccus which attacks the tree. A shower of this kind of manna fell at Agra in February 1855. Near Sinai it is stated to be produced by the borings of an insect. Aitchison notes that he never saw it on the tree in the Punjab, nor has Dr. Stewart observed anything nearer it than a white caterpillar-looking larva, with which he has repeatedly seen trees infested. It is, however, said to be produced largely in parts of the Punjab, as near Jhang. Masson states that in Brahuistan it is produced on the white flowered kind only (in the Punjab some few trees have whitish, instead of reddish flowers), and in alternate years with the galls, but this seems hardly probable. The twigs have often or always a saline taste from a very minute efflorescence of salt, and Edgeworth mentions that poor people near Multan dip them in water in order to season bread. In parts of the Punjab the flowers are said to be used in dyeing.—*Dr. J. L. Stewart.*

TAMARTAM-PALLAM. TAM. Tamarta pandu, TEL. Fruit of Averrhoa carambola.

TAMASA. See Brahmadica. Menu.

TAMATI. MALAY. Solanum lycopersicum.

TAMBA. HIND. MALAY. Copper.

TAMBACHI MARAM. TAM. Ulmus integrifolius.

TAMBAC. SP., also Tambaga, SP. Pinchbeck, the white alloy of copper of the Chinese. —*Simmond's Dict.*

TAMBAGA. MALAY. Copper.

TAMBAGA, or Copper Crocodile. See Crocodilidæ.

TAMBAKU. HIND. Tobacco.

TAMBAGUM. TAM. A very strong wood of Travancore of a brown colour, specific gravity 0·910, five feet in circumference, used for houses, blocks, &c.—*Col. Frith.*

TAMBATANGAI. TAM. Dolichos cultratus. Lablab cultratus.

TAMBE-KA PATTAR. HIND. Copper ore.

TAMBELAN ISLANDS. A group of islands in the China Sea, of considerable extent, and moderately elevated. They lie 27 miles N. E. of St. Esprit group.

TAMBI. Mahomedans of Ceylon, who excel as masons.

TAMBLEGAM. A marine lagoon near Trincomalee in Ceylon.

TAMBOGUM, TAM. Van-ponga. MALAYALA. Shorea tambugaia. A Malabar and Canara tree, remarkably heavy and close grained, very similar to the timber imported into the English dock yards from Africa, named African teak, No. I. It grows from thirty to fifty feet long, and about thirty inches in diameter, and is used by the natives where strength and durability are required, and weight is of no consideration. It produces a fruit or berry, which the natives reduce to meal, with which they make cakes, curry, &c., the berry is much like coffee in shape and size.—*Edye, Forests of Malabar and Canara.*

TAMBOLI. SANS. Chavica seriboo, *Miq.*

TAMBORA. See India, p. 356.

TAMBRA. HIND. Garnet.

TAMBRA-BIJ. Seed of a small plant from Harowtee, stimulant.—*Gen. Top. p.* 153.

TAMBRAKO, MAL. Tobacco.

TAMBRAM. TEL. Copper.

TAMBROCA. BALI. JAV. Tobacco.

TAMBU. See Kelat, p. 493.

TAMBUDRA RIVER. A river of the peninsula of India formed by the junction of the Tunga and Budra. See Tumbudra.

TAMBUKHS, a large spoon to serve out rice with.

TAMBUL. ARAB. Betel leaf. Chavica betle.

TAMBUL. MALAY. Artocarpus integrifolia.

TAMBUL. SANS. Piper betle. Betel leaf.

TAMBURAN. MALEAL. The title of the rajah of Cochin.

TAMBUT. D.C. Andropogon glaber, *Roxb.*

TA-MEIN, OR TE-MI-NE. BURM. A garment in use with the Burmese women, broad enough to surround the waist and slightly overlap there, where it is fastened by one end being tucked under the other, and it extends to the feet. It opens at every step taken by the wearer, exposing the greater part of one leg. It is the petticoat of the Burmese women.—*Winter's Burma, p.* 56. See Dhoti. Dress. Women.

TAMERLANE, a name of the emperor Timur, a corruption of Timur-lung, or Timur the lame. See Timur.

TAMHID. AR, a section of the mahomedan creed. See Kalamah.

TAMIAS. Ground squirrels. Sciuridæ.

TAMIDELU. TEL. also Chollu. TEL. Eleusine coracana, *Gærtn.*

· TAMIL. The name of a language and of a country where that idiom is in general use. The Tamil land is the same with Dravira, and comprehends all the districts in which that language is spoken, enclosing a portion of the eastern parts of the peninsula. When Dravira was confined to the Chola, Pandya and Chera principalities, its northern boundary was the Palar river. When the Chola princes colonized Tondamandala, it was extended westward to Tripeti, in a line with Pulicat, where the land of Dravira was met by that of Telingana, Tamil is spoken in the country called Dravira, which

occupies the extreme south of the peninsula, and is bounded on the north by a line drawn from Pulicat (near Madras) to the ghats, between Madras and Bangalore, and so along the curve of those mountains westward to the boundary line between Malabar and Canara, which it follows to the sea, so as to include Malabar. Dravidian is a term recently applied to the vernacular tongues of the great majority of the inhabitants of Southern India. With the exception of Orissa, and of those districts of Western India and the Dekhan where Gujarathi and the Marathi are spoken, the whole of the peninsular portion of India, from the Vindhya mountains and the river Nerbudda to Cape Comorin, from the earliest period, appears to have been peopled by different branches of one and the same race, speaking different dialects of one and the same language; and scattered off-shoots from the same stem may be traced still further north and west, as far as the Rajmahal hills, and the mountain fastnesses of Beluchistan. Dr. Caldwell, excluding the Rajmahal, the Uraon and the Brahui, designates as Dravidian nine idioms current in Southern India, viz. Tamil, Telugu, Canarese, Malayalam, Tulu, Toda, Kota, Gond or Goand, Khond or Kund or Ku, and it has been remarked that in the cultivated languages of the Dravidian tongue, Sanscrit words are not at all, or but very rarely employed. The *Tamil* was formerly called by Europeans the Malabar language, and this term is even still used amongst the illiterate of the English speaking community, but even the educated classes write it erroneously as Tamul. It was the earliest developed of all the Dravidian idioms, is the most copious, and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and coloquial, the ancient and the modern, called respectively the Shen Tamil and the Kodun-Tamil, which so widely differ that they may almost be regarded as different languages. The Tamil language is spoken throughout the vast plain of the Carnatic or country below the ghauts, the country termed the Carnatic Paen Ghat by the late mahomedan sovereigns and by the British who have succeeded them, from Cape Comorin to Pulicat, and from the Bay of Bengal to the eastern ghauts, or central mountain range of Southern India. It is also spoken in the southern part of the Travancore country, on the western side of the ghats, from Cape Comorin to the neighbourhood of Trevandrum; and in the northern and north-western parts of Ceylon, where Tamilians formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese. The Tamil race is the least scrupulous or superstitious, and the most enterprising and persevering race of hindus, and swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting to be pushed aside. The majority of the hindus found in Pegu, Penang, Singapore, and other places in the east, where they are known as Klings, are Tamilians. All throughout Ceylon, the coolies in the coffee plantations are Tamilians; the majority of the money-making classes, even in Colombo, are Tamilians, and ere long the Tamilians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants, and of the camp followers in the Madras presidency, and along with its army, are Tamilians. The half of its army are Tamilians, and the coolies who emigrate so largely to the Mauritius and the West India Islands, are mostly of the Tamil people. Including the Tamil people who are residing in the military cantonments and distant colonies, and those in South Travancore, Northern Ceylon, and excluding all Mahomedan, Teling. and Brahmin residents of the Tamil country, who amount to at least ten per cent. of the whole population, the people who speak the Tamil language are estimated by Dr. Caldwell at about ten millions. The Tamil people are, generally speaking, a dark colored and short statured race, energetic, fiery and quarrelsome, but not vindictive. Most of them have embraced brahminism, but the outcasts and fragmentary tribes have a spirit and a devil worship, and they worship the local deities called Ammun. Amongst the poorer of the Tamil people, we find remnants of a belief in spirits, a veneration of black stones, a shammanite diabolatry, indications of their earliest mythology. Tamil and Malayalam writing characters were originally modifications of the ancient Thibetan. The Tamilian languages are written in alphabets derived from some prototype of Devanagari, scarcely from the actual Devanagiri. Tamil is written from left to right. Tamil labourers arrived in Ceylon in 1858, to the number of 96,000, and the number who took their departure was 50,000. Amongst the Tamil people, the Adima or Adimai are predial slaves attached hereditarily to the land, and only transferable with it. The Vellala are a Sudra race of hindus who speak Tamil. They assume the honorific designation of Mudali or (*pl.*) Mudliar, meaning first man, and are chiefly farmers, but many of them are soldiers. Another branch of the Tamil race is the I'dyan, who take the honorific appellation of Pillai, meaning sons. These are of the herdsman race, and are less ad-

vanced in education than the Vellala. Amongst the fragmentary tribes in the Tamil country,the more prominent are the Pariah, and the Chakkili, the Yenady, the Kadir, the Malai Arisar, and others. The Chakkili is a currier, a tanner, shoemaker, the village shoemaker; known to Europeans as a chuckler. The chakkili is one of the outcast races of India, and correspond to the Mhang or Mang of the Mahratta country. They are held in great disesteem, and are the public executioners. The condition of the tanners is similar in Japan, where they are restricted to a particular locality, and are similarly employed.—*Elphinstone's History of India, vol. I., p.* 410. *Tennent. Wilson.* See Aborigines. Beluchistan. India. Kelat. Malayali.

TAMIL FASLI. The Fasli or Harvest era of the Tamil people.

TAMIL KORAN. A translation of the Arabic Koran, in use by the Labbi mahomedans.

TAMILLA JILLEDDU. TEL. Calotropis, *sp.*

TAMIRAMA. MALEAL. Boerhavia procumbens.

TAMISRA. SANS. The hell of darkness, from Tamisra, darkness.

TAMIYA. HIND. Alhagi maurorum.

TAMLUM, the tael of Siam; a money of account of four silver ticals, or two Spanish dollars.—*Simmonds' Dict.*

TAMMA. TEL., also Chamma, Canavalia gladiata, *D. C.*

TAMMA KAIA. TEL. Dolichos cultratus.

TAMOOK ISLAND, in lat. 6° 28′ N., long. 121° 56′ E., a rathre low island off the Philippines.

TA-MOOLEE. BENG. Curculigo orchioides.

TAMPANG. MALAY. A weight in use in Malacca for tin, about 1¼ lb.—*Simmonds' Dict.*

TAMPING. MALAY. A package; "sago tamping" is baled sago, wrapped in the leaves of the paudanus.

TAM-PING. CHINESE, a kind of oil-cake extensively imported into Shanghae, China, made from a large white pea.—*Simmonds' Dict.*

TAMPINNIS, a fruit tree of Penang, of a light red colour, used for ornamental furniture. billiard cues, &c.—*Colonel Frith.*

TAM-POI-NE. MALAY. Artocarpus echinata, *Roxb.*

TAMRA, also Tamraka, SANS. Copper.

TAMRA VALLI. TEL. Manjistha-tige TEL. Rubia cordifolia, *Linn.*

TAMTOO ISLAND, on the south coast of China.

TAMULI. BENG. Curculigo orchioides, *Gær.*

TAMUS.——? See Dioscoreaceæ.

TAN, the body. See Dhan, Rudra sampradayi.

TANA. TAM. A tree with hard and heavy wood, used in house-work, and for implements of agriculture. It is very scarce.—*Edye. M. and C.*

TANAB. TURK, a land measure of 60 yards square.

TANACETUM TENUIFOLIUM. JACQ. The tansy, grows at 10,000 feet on the Sutlej, and is useful for flavoring puddings.—*Dr. J. L. Stewart.*

TANA-JINIYA. BENG Poa punctata.

TANAKEKE OR Tunikik island, in lat. 5° 34′ S., long. 119° 24′ E., in the Java sea, is discernible from the sea 18 or 21 miles.

TANA-HAL. SINGH. Millet.

TANAKU MARAM. TAM. Cochlospermum gossypium, *D. C.*

TANARIUS MAJOR. RUMPH.

Lacca Tree,	ENG.	Laka,or Kayu laka MALAY.
Malayan Red-wood	„	

A tree with a red coloured wood, a native of Sumatra, used in dyeing and pharmacy. It is an article of considerable native trade, and is chiefly exported to China. This Malayan red wood is heavy and compact, somewhat resembling red sanders wood, but when powdered the colour is browner and not so brilliant.—*Crawfurd, p.* 204.

TANAUR. HIND. Vitis Indica.

TANBARARI. A Beluch race. See Kelat, p. 492.

TAND, in Kohat, a kind of soil.

TANDA. HIND. A binjara encampment. A caravan for transportation of goods on bullocks, bulls, and cows.

TANDAI. HIND. Albizzia odoratissima.

TANDALA. HIND. Digera arvensis; also Ephedra alata.

TANDALE COTTI. MALEAL. Crotalaria retusa, *L.*

TANDEI. HIND. Viburnum fœtens.

TANDESVARA, the most famous and most honored of the sixty-three special devotees of Isvara.

TANDOI, in Bunnoo, land watered by canals.

TANDOK. MALAY. Horn.

TANDOO. JAV. AR, palanquin, a sedan chair, a palanquin carried by two bearers.

TANDRA MARAM. TAM. Terminalia rubrica.

TANDUL. MAR. Rice.

TANDUR. HIND. An oven.

TANEN THA. BURM. also Ree Kyeing Calamus, *sp.*

TANESSUR, 30 miles south of Umballa.

TANG. HIND. Pyrus communis. P. variolosa. Mail Tang. HIND. Pyrus Kumaonensis.

TANGA, TANJA, a money of Goa, worth about 7½*d.*—*Simmonds' Dict.*

TANGEDA WOOD. ANGLO-TEL. Tangeda karra, TEL. Cassia auriculata.

TANGAL. MAL. A priest of the Moplah mahomedans.

TANGA MARA. A pirate race who, in ancient times, occupied the seacoast from Karachi to Lahori Bandar; one of their heroes, Rana Abaid, lived A. D. 1591.

TANGAN, a river near Kurmi in Dinajepoor.

TANGAN-TANGAN. PHILIPPINE. Ricinus communis. Palma christi. Castor-oil.

TANGAR. A hill in the Tanna collectorate of Bombay, about 2350 feet above the sea. Its rainfall is about 80 to 83 inches. The top is about two miles long and one mile broad.

TANGASIR, or Tangestan, a district near Bushehr, a country of narrow and difficult passes. The people possess very considerable bodily strength.—*Ouseley's Travels*, Vol. I., p. 226.

TANGAYREE. CAN. Cassia auriculata, *Linn.*, *Roxb.*

TANGEDU, TEL. Cassia auriculata, *Linn.*

TANGEDU MANU. TEL. Inga xylocarpa, *D. C.*

TANGEER BARK, of Macassar, is used in making a dye for washing the hair, which it is said to cleanse and strengthen.

TANGGILIN. MALAY. Ant Eater, the Manis or pangolin.

TANGGULUN, a hard wood of Java, of a close grain, and employed by turners for various small works.

TANGHA. MALAY. Cocoa-nut palm.

TANGHAI, or Tangul, or Tangala. MALAY. Ægle marmelos, *Corr.*

TANGHAN, a small horse of Tibet wonderfully strong and enduring; they are never shod, and the hoof often cracks, and they become pigeon-toed: they are frequently blind of one eye, when they are called "Zemik" (blind ones), but this is thought no great defect. They average *5l.* to *10l.* for a good animal in Tibet; and the best fetch *40l.* to *50l.* in the plains of India, where they become acclimated and thrive well. Giantchi (Jhansijeung of Turner) is the best mart for them in the eastern part of Tibet, where some breeds fetch very high prices. The Tibetans give the foals of value messes of pig's blood and raw liver, which they devour greedily, and it is said to strengthen them wonderfully; the custom, Dr. Hooker believes, is general in Central Asia. Humboldt (*Per. Nar. IV. p.* 320) described the horses of Caraccas as occasionally eating salt meat. The Tangun, Retangun, or Tanyan, of Nepaul, so much esteemed in India for their hardiness, come entirely from Upper Tibet; and, notwithstanding their make, are so surefooted, that the people of Nepaul ride them without fear over very steep mountains and along the brink of the steepest precipice. The species which is indigenous to Bhootan, has its title from the region in which they are bred, being called Tangun, vulgarly Tannian, from Tangastan, the general appellation of that assemblage of mountains which constitutes the territory of Bhootan.—*Turner's Embassy, p.* 22. *Hooker Him. Jour. Smith's Nepal.*

TANGHANI. URIA. Cassia, *species.*

TANGHEDU. TEL. Cassia auriculata.

TANGHINIA ODALLAM. DON. Cerbera odallam. *Gært.*

TANGHINIA VENENIFERA. See Cerbera tanghin.

TANGHIN POISON. See Cerbera.

TANGI. HIND. Pyrus variolosa.

TANGOLI. CHENAB, &c. Corylus lacera; the Hazel tree.

TANGLA. HIND. Tagetes erecta.

TANGLING. See Kunawer.

TANG-NET-NA. BURM. A Tavoy wood.

TANGNO. See Kunawer.

TANG-PO-CHA. See Kambogia.

TANGROR, HIND. of Lahaul and Kulu, the ibex.

TANGUL, also Tanghula, MALAY. Ægle marmelos.

TANGUS. See India, p. 311.

TANHARI. HIND. Pistacia integerrima.

TANI. MALEAL. TAM. Terminalia bellerica, *Roxb.*

TANI. HIND. Oryza sativa.

TANI. TAM. Water. Tani-kacha, a waterwoman.

TANI-KAI. TAM. Myrobalan.

TANI KAIA MARAM. TAM. Terminalia bellerica.

TANI-KAI ENNAI. TAM. Oil of Terminalia bellerica. See Oil.

TANIKI, TEL. Adelia neriifolia, *Roxb.*

TANÍ MARAM. TAM. Jellam, MALAYALA, means water-wood. This tree grows to about two feet in diameter, and forty feet high. It is remarkably soft and porous, and contains a great quantity of water. It is one of the inferior kinds of jungle wood.—*Edye, Forests of Malabar and Canara.*

TANISHA. See Kuru-Khet.

TANJAT, p. 309. See India.

TANJONG. MALAY, a headland; Tanjong Batu Besayab, Tanjong Krassak, Tanjong Merrum, Tanjong Sumbuang, are headlands in the Banca Islands.

TANJONG AWAT, or Cape Caran, called also Mud Point, nine miles N. W. of Salangore.

TANJONG BASSO, or Baccoun Island in lat. 0° 20′ S., long. 103° 48′ E., distant 19 miles N. W. by W. from the Calantigas.—*Horsf.*

TANJONG BATO, or Point Pedro, 12 miles E. N. E. of Acheen Road, terminates in a gentle slope and is covered with large trees.—*Horsf.*

TANJONG SAMPAN MANGAIO, the north extreme of Borneo.

TANJORE, a town in the district of Tanjore in the south of the peninsula of India. It has a temple of Siva, considered the finest specimen of the pyramidal temples in India. The town is built on a branch of the river Cauvery. It was the capital of a province of that name ruled by a Mahratta prince till his death in 1855, and then annexed. He was descended from a brother of Sevaji. Tanjore was conquered by Shah-ji, father of Sevaji, about 1650. On the 16th September 1773, the capital was taken by storm by the nabob of the Carnatic and the British, but was restored to Tuljaji in 1775. The Tanjore collectorate has a population of 1,676,000. It has the river Cavery, and has been provided with the means of irrigation and good roads, and the revenue has risen in consequence from £300,000 to £500,000 sterling. See India, Mahratta, Narapati, Polygamy, Sevaji.

TANK, an artificial water reservoir.

TANK HIND. A small, brown, wild grain of Kangra.

TANK, a dry-measure averaging 240 grains in weight. In Bombay a weight for pearls of 72 grains.—*Simmonds' Dict.*

TANK. To the south of Bunnoo lies the Tank valley, connected with Murwut by the Kyzoo Pass, and with Bunnoo by that of Mulizye. In richness, beauty and political position, the Tank valley resembles Bunnoo. Above it rise the Wazeeree and Buttanee mountains, and as several passes afford a ready approach, the inhabitants are exposed to assault and encroachment from one of the most oppressive among the hill tribes. The Ghubber mountain is a large mountain mass between Tank and Bunnoo, protruding into the plains. It is infested by a predatory tribe named Mithani, who are perpetually at feud with the Waziri.—*Rec. of India, No.* 11. See Khyber, p. 508, 512.

TANKA. See Jakun.

TANKHUL, a rude tribe near the source of the Irawaddi.

TANK-NI. GUZ. HIND. A pin : Pins.

TANKOEBAU PRAHOE, a volcano in Java, with a crater from which the eruptions of 1829 and 27th May 1846 issued. Dr. Horsfield paid a visit to it in 1804.

TAN-LABET—? In Amherst, a heavy white timber, employed for house posts and other common purposes. It is not liable to injury from insects.—*Cat. Ex.* 1851.

TAN, MAN, DHAN. SANS. Body, mind and wealth. The hindu delivering himself up to his guru, his body, his mind and his property. See Rudra Sampradayi.

TAN-MOHR. MAHR. Sypheotides auritus, *Latham.*

TAN-MUH. CHIN. Sandalwood.

TANNA. BEN. BURM. Artocarpus, *species.*

TANNA. TAM. A tree of Malabar and Canara with a hard and heavy wood, used in house work and for implements of agriculture ; it is very scarce.—*Edye, Forests of Malabar and Canara.*

TANNAH. MALAY. White clay.

TANNAH MALAYU. MALAY. Malayland. See India, p. 354.

TANNAH SHAH, the last of the Kutub-Shahi dynasty in Hyderabad in the Dekhan.

TANNEER-VITTANG. Asparagus sarmentosus.

CHAKKILI. TAM. MAL. A currier, a tanner, a shoemaker, the village shoemaker ; known to Europeans as a chukler. The chakkili is one of the outcast races of India, and corresponds to the Mhang or Mang of the Mahratta country. They are held in great disesteem, and are the public executioners. The condition of the tanners is similar in Japan, whereas in India, they are restricted to a particular locality, and are similarly employed.—*Wilson.*

TANNERS CASSIA. ENG. Cassia auriculata, *Linn.*

TANNIC ACID. See Galls.

TANNIN. See Galls.

TANNING of leather is one of the manufactures where, with an unbounded quantity of raw material, the results are most unsatisfactory : with an unlimited supply of hides and first-rate barks, gums and extracts, the goods turned out by natives of India are of the worst possible description. The manufacture of leather in India generally, is by no means so thriving an art as it might be, considering the great abundance of tanning materials at command. Inferiority of Indian leather may be ascribed to want of skill on the part of the currier, and the use of quicklime. This is probably owing to the very low rank of the artisans *(chuckler)*, for the art of leather production is well understood and successfully practised by the European tanners at Pondicherry, Hoonsoor, Guntoor, Bangalore and Madras, the leathers made there being scarcely inferior to that made in Europe. In the usual native process, the raw hides on first being removed, are steeped in stone vats for four and five weeks in a strong pickle of salt and water—from ten to fifteen hides are placed in each vat. While steeping, a pint or quart of the milk bush, *Euphorbia tirucalli*, is thrown into each vat. This contains a considerable quantity of

elastic gum, and is used for water-proofing leather, and rendering cords elastic.

Goat skins, sheep skins, buffalo and bullock hides are much used and are generally procurable. Currying the leather is the province of the wife, while manufacturing it for the market belongs to the husband.

The basis of the skins of animals is composed of a substance to which the name of gelatine is given. One of the properties of this substance is, that when combined with tannin, it forms the compound of tannate of gelatine, or leather material. From time immemorial, the substance employed in Britain, to furnish the tannin to the hides of animals, in order to convert them into leather has been oak bark.

More than 672,000 cwts. of raw hides were imported into Britain in 1851, besides the hides of the cattle, &c. consumed in the United Kingdom, and the imports into England of bark for the use of tanners and dyers amounted yearly to the very large quantity of 380,674 cwt., besides what England obtains at home. Tannin obtained from various sources, differs materially in some of its characters. The tannin of gall-nuts, which is that generally employed for chemical purposes, is sometimes called gallo-tannic acid, to distinguish it from other species. The tanning materials best known in Europe are the oak bark, Peruvian bark, and the barks of some of the Acacias. Oak bark is powerfully astringent, and contains usually a large proportion of tannin, 8½ lbs of it being equal to 2¼ lbs of galls ; to 3 lbs of sumach ; to 7½ lbs of the Leicester willow ; to 11 lbs of the bark of the Spanish chesnut ; to 18 lbs of elm bark ; and to 21 lbs of common willow bark. The importance of oak bark has however been greatly diminished since the introduction of the sumachs as Rhus cotinus, the Venus sumach, and R. coriaria, the hide or elm leaved sumach ; also of the Divi-divi, or Cæsalpinia coriaria ; of Valonia, the acorn cups of Quercus Ægilops , of Catechu and Gambir, from the Acacia catechu and Uncaria Gambir ; of the Indian Myrobalans, the Mimosa or wattle bark of Australia ; the cork tree bark of Spain, and willow bark. Catechu has long been employed in India for tanning skins ; and its tanning properties are so great, that skins are tanned by it in five days. The Cæsalpinia coriaria, or Divi-divi, was introduced into India by Dr. Wallich in 1842. The produce of the kino tree (Pterocarpus marsupium) the catechu of the betel palm, are also employed. Dr. Heyne states that the Morocco manufactured at Hurryhur was treated with salt and a mixture of water, and the milk of wild cotton, *(Calotropis gigantea)*. The skins are put into vats till the epidermis is decomposed, and the hair comes freely away. The skin, being cleared of this, is next immersed in a decoction of mangrove, babool, or other tanning bark : after remaining some time in this they are taken out and sewed up, so as to form a sack, and are then suspended from the roof of the building, or from a crosspole and filled with fresh tanning solution. When the process is completed they are taken down, the stitches cut, and the skins dried. The leather is soft and flexible, and looks tolerably well—but it resists the rain indifferently, is easily penetrated by wet, and during the S. W. Monsoon becomes as moist and flexible as paper dipped in water. When set aside it becomes mouldy, and very easily rots. Buchanan gives the following as the method of tanning practised at Bangalore. For each hide of ox or buffalo take two seers of quicklime and six seers of water : in this keep the skins a week, when the hair may be rubbed off. Keep the hides four days in a solution of unpeeled sticks of Tangadu (Cassia auriculata,) in ten seers of water, for an equal length of time : add the same solutions as before—then stretch and dry the hides. The leather is very bad.

In many parts of India the hides are so removed as to form a bag, into which the tan is placed, and the filled bag kept suspended for several weeks. Divi-divi, Catechu, Tanghedu bark, &c., produce their effect rapidly, and the leather is durable. At the Madras Exhibition of 1855, a valuable series of tanning materials accompanied the leather prepared by Mr. Bowden at Guntoor, and some interesting samples were shown from the Government Tannery, Hoonsoor, with hides tanned by the different barks, to illustrate the practical application of these various substances. The extract procured from the bark of the Butea ; the bark of the Buchanania latifolia ; the Syzygium jambolana, &c., are of much consequence to tanners. Several species of Acacia, Conocarpus, the gum of the Butea or dhak are also used. The extract procured from the barkof the Butea, that of the Buchanania latifolia, the Syzygium (Calyptranthes), jambolana, &c., are likely to be of consequence to the tanners, and could be produced in India in large quantities. Specimens of these and of the barks of the Saul tree, of Nyctanthes arbortristis, Terminalia angustifolia, and of the "*gaub*" fruit (Diospyros glutinosa), were shown as tanning substances by the East India Company at the Exhibition of 1851.

The following are the principal of the tanning materials of Southern and Eastern Asia.

Acacia arabica. Babool bark.
Acacia catechu. Catechu, cutch.

Acacia vera. Its fruit.
Alnus, species.
Bauhinia variegata, Bark.
Bruguiera Rheedii. „
„ eriopetala. „
„ parviflora. „
Buchanania latifolia. „
Butea frondosa. Pulas kino.
Cæsalpinia coriaria. Divi divi.
Calotropis gigantea, Sap.
„ procera „
Cathartocarpus fistula, Bark.
Carallia lucida „
Careya arborea „
Cassia auriculata, Tarwur „
Conocarpus latifolia.
Diospyros glutinosa. Gab tree.
Eucalyptus species.
Hibiscus Rosa sinensis. Petals.
Garuga pinnata.
Glochidon, species.
Hymenodictyon excelsum.
Juglans regia.
Kandelia Rheedii. Bark.
Nyctanthes.
Nyctanthes arbortristis.
Pinus longifolia.
Pterocarpus marsupium. Kino.
Punica granatum. Pomegranate rind.
Quercus incana.
Quercus infectoria. Gall nuts.
Rhizophora conjugata Mangrove bark.
„ gymnorhiza. „ „
„ mangle. „ „
Rhus cotinus.
Rottlera tinctoria.
Shorea robusta.
Sysygium jambolanum.
Tamarix indica. Tamarisk galls, sumrut-ool-asl.
Terminalia, *several species.* Myrobalans.
Uncaria gambier. Gambier.
Zizyphus jujuba.

The bark of Bauhinia variegata is made use of as a tanning substance in Sind and other parts of Asia. The bitter astringent bark and the galls of several of the Tamarisk tribe are also well suited for the purpose.

The Tenasserim provinces are rich in materials for tanning. The bark of the Careya, and of half a dozen different species of mangrove, the fruit of the sea-cocoanut, and the peel of a species of ebony, all abound in tannic acid.

All attempts to hurry the leather-making process beyond a certain point by the use of concentrated solutions of tan, &c., are for the most part failures, as the manufacture of good leather, to a great extent, depends on the process being conducted in a slow and gradual, but—at the same time—thorough and complete manner.

The substance from which pure tannin is most frequently obtained for chemical purposes is nutgalls, for tannin constitutes above 40 per cent. of their weight. It is also procurable from several other sources, such as oak, horse chestnut, sumach, and cinchona barks, catechu, kino, &c.—*Tracts, Historical and Statistical on India, &c., vol. I., page* 46, *London*, 1814. *Tracts, Vol. I., p.* 228. *Simmond's Comml. Products, p.* 493 *and* 494. *Prof. Solly in Jury Reports of Great Exhibition*, 1851. *Madras Exh. Jur. Reports. Dr. J. L. Stewart.*

TANNIR VATTANG. TAM. Asparagus sarmentosus, *Willd.*

TANNSA, a river of the W. Ghauts, lat. 19° 41′ long. 73° 29′ S. W., W., W. S. W., W., empties into Indian Ocean; length 58 miles.

TANPING. There is imported into Shanghae from the north of China, a great quantity of a dry paste, known under the name of Tanping, the residuum or husk of a leguminous plant called "Teuss," from which the Chinese extract oil, and which is used after being pressed as manure for the ground.—*Simmonds.*

TANSA. See Hot Springs.

TANSALA, a smoky quartz stone, like the smoky topaz or "cairngorm" stone.

TANSEIN. A mountain in Nepaul 6,000 feet above the sea.

TANSEN, a celebrated musician, who went to Gwalior in the beginning of the 16th century and is buried there. He was a native of Patna, who had a great natural fondness for music, and had been attracted to Brindabun by the fame of Huree Doss. The emperor's persuasions and promises prevailed upon Tansen, and he followed in the train of Akbar to flourish in life, and acquire the celebrity of an incomparable musician in the annals of his nation. From a hindoo he became a convert to the mahomedan faith, and his remains lie buried at Gwalior, where the tomb is overshadowed by a tree, concerning which a superstitious notion prevails, that the chewing of its leaves will give an extraordinary melody to the voice. Dr. Hunter, writing in 1790 mentioned this, and thirty years later Lloyd found that it was still "religiously believed by all the dancing-girls." So strong was this belief, that the original tree died from the continual stripping of its leaves, and the present tree is only a degenerate seedling of the melody-bestowing tamarind.—*General Cunningham*, quoted in *Tr. of Hind.* Vol. II., p. 69.

TANSY. Tanacetum vulgaris, *var.* crispum. The young leaves cut small, are used in coloring and flavouring puddings, omelets, cakes, &c. The curled var. T. cripsum used in garnishing, succeeds on the plains of India, and grows freely in any good soil.—*Jaffrey.*

TAN TAE HOEY, a political union amongst the Chinese of Singapore. A description given of the initiation into this combination is as follows :—About 7 o'clock they had all arrived and commenced to eat and drink spirits, which they did with a noise like battle. In about an hour this finished,

when they commenced to play on drums, &c., the music of which was exceedingly loud. On this they all arranged themselves in order, sitting opposite the Datu (idol), but I observed that their faces were as red as the Bunga Rayah from drunkenness. Among them all there was one chief, who sat on a lofty chair, with two men standing at his right, and two at his left. After them came eight men, with drawn swords, who arranged themselves at the right and left; then came one man who burned paper in front of the idol (sacrifice), after him came eight men, with drawn swords, who guarded a man with dishevelled hair, and without any upper garment, in fact he had only a pair of trowsers. This man came in front of the chief, and bowed down till his head touched the ground, the armed men on the right and left now advanced, shouting, and laid their swords on his neck, they remained silently in this position, for a short time, when a man advanced to the candidate's side. The chief then spoke as follows in the Chinese language :—"Who are you, and from whence came you? Who are your father and mother? Are they still alive or are they dead?" These questions were explained to the candidate by the man who stood at his side, and were answered as follows :—"I am such a one, of such a country, and my father and mother are both dead;" even if his father and mother were alive he would be obliged to say they were dead, because no one whose father and mother are alive can be admitted into the society, as the existence of all those is as if they were dead to the world and its ties. The chief then said, "Will you swear that your father and mother are dead?" he answered, "I will," and performed the oath by burning paper in front of the idol, saying at the same time, "my father and mother are dead." The chief then said "what have you come here for?" answer, "I wish to join the Tan-Tae-Hoey." These words mean the sky, the earth, and man. The chief then said, "you are deceiving, your thoughts are not as your speech;" answer, "I will swear that I am in good faith" —"then swear." The candidate then taking paper, burned it while he repeated his assertion. The chief then said, "are you acquainted with the rules of the society?" answer, "yes, I understand that I am required to take an oath by drinking blood." The chief then said something to which the following answer was made :—"I promise not to divulge the secrets of the society to any one under penalty of death." The chief said, "truly?"—answer "truly." A vessel was then brought containing arrack and a little blood from each of the members of the society, and, with a knife, was placed in front of the idol. The candidate then taking up the knife made a slight cut in his finger, from which he allowed some blood to fall into the cup. The chief then said "drink in presence of Datu Peking." The candidate then drank a small cupfull, of which the chief, and all the confederates, drank a little each in his turn. The chief then said "to-morrow go to our secretary, and ask him for a book, in that book you will find all our rules and secret signs; you will pay one dollar for it." The chief then rose, and himself raised the candidate from his prostrate position, and now being initiated, he can take his place among those who, before, would have considered him an enemy.—*Statement of Abdoollah bin Abool Kadir Moonshee.*

TANTALINÆ, a sub-family of birds of the order Cultirostres, *Fam.* Ardeadæ: *Sub-fam.* Tantalinæ, 6 gen. 7 sp., viz. 1 Falcinellus; 1 Geronticus; 1 Threskiornis; 2 Tantalus; 1 Platalea; 1 Anastomus.

TANTARIK. HIND. Pistacia lentiscus; P. terebinthus, also Rhus parviflora.

TANTEPU CHETTU. TEL. Cassia tora, *Linn.* Senna tora, *Roxb.*

TAN-THE-AH. BURM. Hopea floribunda of Wallich. Very large, somewhat abundant, and a useful timber.—*Malcom, p.* 188.

TANTI, or weavers, are a prosperous class of cultivators, and own a good deal of land.—*Campbell, p.* 107.

TANTIA, a river near Kalapahar in Jeypore.

TANTRA. HIND. A set of works of the hindus in use as religious books in calculating mystical and impure rites in honour of different forms of the god Siva and goddess Durga. The principal of the Tantra books are the Syama Rahasya, Rudra Yamala, Mantra Mahodadhi, Sareda Tileka and Kalika Tantra. These are numerous, and of great extent, and are in the form of a dialogue between Siva and his bride, in one of her many forms, but principally in those of Uma and Parvati, in which the goddess questions the god as to the mode of performing various ceremonies, and the prayers and incantations to be used in them. The observances they prescribe have, in Bengal, almost superseded the original ritual of the Vedas. The followers of the Tantras profess to consider them as a fifth veda, and attribute to them equal antiquity and superior authority. Some of the Tantras are superior to some of the Puranas. It may be inferred that the system originated at some period in the early centuries of Christianity, being founded on the previous worship of the female principle, and the practices of the Yoga with the Mantra, or mystical formulæ of the Vedas. Tradition is silent as to the authors of the tantra; they are mythologically ascribed to Siva, and are generally in the form of a

colloquy between him and his wife Parvati. They are very numerous, and some are of considerable volume ; but they are not included in any of the ordinary enumerations of hindu literature, and were, no doubt, composed after that literature was complete in all its parts. They are specified in some of the puranas, to which they must be anterior. They have been but little examined by European scholars, but sufficient has been ascertained to warrant the accusation that they are authorities for all that is most abominable in the present state of the hindu religion.

The great feature of the religion taught by the Tantras is the worship of Sakti,—Divine power personified as a woman, and individualised, not only in the goddesses of mythology, but in every woman ; to whom, therefore, in her own person, religious worship may be and occasionally is addressed. The chief objects of adoration, however, are the manifold forms of the bride of Siva, Parvati, Uma, Durga Kali, Syama, Vindhyavasini, Jaganmata, and others. Besides the usual practices of offerings, oblations, hymns, invocations, the ritual comprises many mystical ceremonies and accompaniments, gesticulations and diagrams, and the use in the commencement and close of the prayers of various monosyllabic ejaculations of imagined mysterious import. Even in its least exceptionable division it comprehends the performance of magical ceremonies and rites, intended to obtain superhuman powers, and a command over the spirits of heaven, earth, and hell. The popular division is, however, called by the hindus themselves the left-hand Sakta-faith. It is to this that the bloody sacrifices offered to Kali must be imputed ; and that all the barbarities and indecencies perpetrated at the Durga Puja, the annual worship of Durga, and the Charak Puja, the swinging festival, are to be ascribed. There are other atrocities which do not meet the public eye. This is not an unfounded accusation, not a controversial calumny. Some of the books are in print, veiled necessarily in the obscurity of the original language, but incontrovertible witnesses of the veracity of the charge. Of course no respectable hindu will admit that he is vamachari, a follower of the left-hand ritual, or that he is a member of a society in which meat is eaten, wine is drunk, and abominations not named are practised. The imputation will be indignantly denied. If the tantra be believed, "many a man who calls himself a Saiva, or a Vaishnava, is secretly a Sakta, and a brother of the left-hand fraternity." No hindu of reason and right feeling can say anything vindicative of a system which has suffered such enormities to be grafted upon it. No explanation could afford any plea, any suggestion, any opening for abuses of which he admits, when he dares not avow them in his own case, he shame and the sin.—*Wilson's Religious Practices and Opinions of the Hindus, p.* 33.

TANTRA PALA. See Inscriptions, p. 375.

TANTRI. HIND. Rhus coriaria.

TANTYN, a nuddy in Jeypore.

TANUKU. or Tanuku Manu, TEL. Gyrocarpus Jacquini. G. Asiaticus, *Willd.*, also Cavallium urens, *Sch.* and *End.*

TANWERK. GER. Cordage.

TANYAN. The Tangun horse.

TANYU or ISLANDS. Low woody islands in the Java Sea, the southernmost of which is about lat. 5° 33′ S., long. 118° 36′ E.

TANZIMAT. The reformed system introduced into most provinces of Turkey.

TAOOS PACHI. TAM. Bat.

TAO-SSE. See Swastika.

TAPAN, a river on the N.East of Mandalay, on the bank of which the town of Bamo or Bhamo is built.

TAPAS, a Dutch settlement on the N. W. coast of Sumatra.

TAPAS, in hinduism, penance.

TAPAS and Dhyan, in buddhism, is abstinence and abstraction. The Tapas of the buddhists was not penance or self-inflicted bodily pain like that of the brahmins, but a perfect rejection of all outward things, (*pravrittika.*)—*Cunningham's Bhilsa Topes.* See Tapsi.

TAPASI GEDDA. TEL. Agati grandiflora, *Vahl.*

TAPEANTANA ISLAND, on the west of the Philippines, is in lat. 6° 14½′ N., long. 122° 8′ E.

TAPER-LEAVED DENDROBIUM. Dendrobium teretifolium.

TAPETE, *Sp.* Carpets.

TAPEWORM FERN. Tænis blechnoides.

TAPHOZOUS, a genus of mammals of the sub-family Taphozoinæ, family Notilionidæ. These bats inhabit the warmer regions of the Old World and Australia. T. Bicolor is said to be from the East Indies.

TAPHOZOUS LONGIMANUS. HARDW.

T. brevimanus.	T. fulvidus. *Blyth.*
T. Cantori.	Long-armed Bat.

Found throughout India, and common in large towns, frequenting dark out-houses.

TAPHOZOUS MELANOPOGON, TEMM. The black-bearded bat occurs in Canara, and is common in Malayana. It is about 3¼ inches long, and in colour is brownish, mouse gray above, light beneath.

TAPHOZOUS SACCOLAIMUS. TEMM.

T. crassus,	*Blyth.*	White bellied Bat.
T. pulcher,	*Elliot.*	

Inhabits Madras, Burmah, and Malay peninsula.

TAPIA. Hind. Cratæva nurvala, *Ham.* C. Roxburghii.

TAPIOCA is the farina deposited from the expressed juice of the Jatropha manihot. Tapioca is extensively cultivated in gardens. Great care is requisite in the preparation of the farina, as they contain a poisonous principle, which is only got rid of by the application of strong heat. The poorer classes use the tapioca flour, but none is exported. The plant will thrive in any soil, although a sandy loam is the best. It requires no cultivation whatever, and is occasionally met with in Aracan, growing wild in the jungle. At the Madras Exhibition of 1855, tapioca was exhibited by Mr. Rundall, of Razole, near Rajahmundry, which in respect of feel and taste was excellent. It was manufactured by him at the rate of Rs. 780 per maund. Various other samples of miscellaneous "Hill Tapioca" were exhibited—obtained from the roots of different species of Arum, Dioscorea, or Terrestrial Orchids : none of them appear important. Tapioca is prepared in S. America from two species of Janipha, or the bitter and sweet cassava or manioc roots. From the facility with which the bitter cassava can be rasped into flour, it is cultivated almost to the exclusion of the sweet variety, which contains in its centre a tough fibrous ligneous cord, which is absent in the bitter variety. The latter, however, contains a highly acid, and poisonous juice, which is got rid of by heat or by fermentation, so that the cassava bread is quite free from it. When the juice has been carefully expressed, the fecula or flour is washed and dried in the air without heat, and forms the Brazilian arrowroot of commerce; but when dried on hot plates it becomes granular and forms tapioca. An artificial tapioca is made with gum and potato starch. The granules of this are larger, whiter, and more brittle and more soluble in cold water than genuine tapioca.—*Tomlinson. On the Culture and Manufacture of Tapioca, Jatropha Manihot, J. P. Langlois. Journ. Agri. Hort. Socy. Vol. XII. p.* 175. See Janipha manihot. Food.

TAPIRUS MALAYANUS. Raffles.

Tapirus Indicus, *F. Cuv.*

Asiatic tapir.	Eng.	Tennu.	Malacca.
Malayan tapir.	,,	Kuda-ayer.	Malay.
Le Maiba.	Fr. Cuv.	Saladang.	Sumatra.
Babi-alu,	Bencoolen.	Gindol.	,,

The tapir is found in the Malay peninsula, in Sumatra, and other islands of the Eastern Archipelago. It exceeds the American tapir in size. Of all living animals the tapir comes nearest to the extinct Palæotherium.

TAPIS. Fr. Carpets.

TAPIYO. Malay. Hats.

TAPKE. Hind. Shooting up of stalks of maize.

TAPPA. Guz. Tam. Tel. A stage of a journey : the post, the tapal, post office.

TAPPADDAR. Hind. Elsholtzia polystachya.

TAPPAL. An Indian post office.

TAPPAL BUTI. Hind. Crozophora tinctoria.

TAPPANULI. Dryobalanops species.

TAPPETA. Tel. Asystasia Coromandeliana, *Nees.*

TAPPETI. It. Carpets.

TAPROBANE, an ancient name of Ceylon,—that used by Milton,

"From India and the golden Chersonese,
And utmost Indian isle Traprobane,
Dusk faces with white silken turbans wreathed."

See Megasthenes.

TAPSI. Sans. Tam. People who have renounced the world. If brahmans, they are burned with clothing. If sudras, sometimes seated on chairs and with limes in their mouths. See Tapas.

TAPSI MACH'HI. Hind. Mango fish.

TAPTA-KUND. The town and temple of Bhadri-Nath are situate on the west bank of the Alaknunda river, in the centre of a valley of about four miles long, and one mile in its greatest breadth. The east bank rises considerably higher than the west bank, and is on a level with the top of the temple. About the middle of the bank is a large cistern about twenty or thirty feet square, covered with a sloping roof of deal planks supported on wooden posts. This is called Tapta-kund, and is a warm bath, supplied by a spring of hot water issuing from the mountain by a subterraneous passage, and conducted to the cistern through a small spout representing a dragon's or a griffin's head. A little to the left of it is Surya-kund, another hot spring, running in a very small stream through a fissure in the bank. There is no basin or reservoir to receive the water. The principal idol, Bhadri-nath, is placed opposite the door at the farther extremity : above his head is a small looking-glass, which reflects the objects from the outside ; in front of him are two or three lamps (which give all the light the apartment receives, excepting from the door), diffusing such feeble glimmering rays, that nothing is clearly distinguished. The idol is dressed in a suit of gold and silver brocade. Below him is a table, or board, covered with the same kind of cloth, which, glittering through the gloom, might impress the beholder with the idea of splendor

and magnificence.—*Fraser's Himalay Mountains*, *p.* 373—375. See Badri-nath.

TAPTA MUKTI, or ordeal by hot clarified butter. In 1807, this was tried before 7,000 spectators on a young woman accused by her husband of adultery.—*Tr. of Hind.*, *vol.* 1, *p.* 46.

TAPTEE river rises in the Sautpoora mountains near Mooltye, in lat. 21° 46′, long. 78° 21′, runs generally west to the Gulf of Cambay: length, 441 miles. It receives the Poorna, 160; Girna, 160; Boree, 90; Panjar, 92 miles. About 25,000 square miles are drained. It can scarcely be deemed a navigable stream, as at Surat, 17 miles from its mouth, it is fordable when the tide is out. It is said to be navigable in the dry season for boats of light draught, through Candeish. The mouth is obstructed by numerous sands and a bar. The Ajunta caves,—the most complete series of buddhist caves in India without any mixture of brahmanism,—contain types of all the rest; they are in a ravine or narrow valley in the ghat south of the Taptee. At Baug, in a ravine or small valley in the ghat on the north side of the valley of the Taptee, are three ancient buddhist caves.

TAPUNG; Pular lumat. MALAY. Flour of wheat.

TAPURI. See Koh.

TAPURIA. HIND. Physalis peruviana.

TAPYTEN. DUT.

TEN. DUT. Carpets.

TAR TALGACH. BENG. and HIND. Borassus flabelliformis.

TAR of Spiti, wheat.

TAR. HIND. Dioscorea deltoidea, Marsdenia Royleana.

TAR. HIND. A drill.

TAR. PERS. A wire.

TAR. HIND., the palmyra tree, Borassus flabelliformis. Tari, palmwine, toddy, from the palmyra tree. Tadmor, the city of the palmyra tree is Baalbec or Heliopolis.

TAR, in Calicut, on the Malabar coast, a petty silver money, the 16th part of the fanam, and worth rather more than the third of a penny, the fanam being valued 6*d*.—*Simmonds' Dict.*

TAR. ENG.

Goudron	FR.	Smola gesta	POL.
Theer	GER.	Degot, Smola;	
Catrame	IT.	Shitkaja,	RUS.
Pix liquida	LAT.	Tjara	SW.

Tar is obtained by burning pine and fir trees in a close smothering heap, with a channel through which the tar exudes. Applied to wood, rope, iron, it is extensively used for resisting moisture, and is consequently in great request as a marine store. It is largely made in Russia, the United States, and Sweden. Tar water was long a celebrated remedy in the treatment of some chronic diseases of the lungs.—*Faulkner. O'Shaughnessy, page* 618. *McCulloch's Com. Dic. p.* 1112.

TARA. BENG. Corypha taliera, *Roxb.*

TARA. SANS. Alpinia albugas, *Roscoe.*

TARA. HIND. Brassica eruca.

TARA, in buddhism, the volumes of the sacred law. The two tables of Moses is, in Hebrew, Torah.

TARA BAI, daughter of Rao Soortan, a Solanki rajput chief of Bednore in Rajputana. Rao Soortan was the lineal descendant of the Balhara kings of Anhilwara. Stimulated by the reverses of her family and its ancient glory, Tara Bai learned military exercises, and joined in an unsuccessful attempt to wrest Thoda from the Affghans. Jai Mul, the third son of Rana Rai Mul, a Sesodia Rajput, proposed for her in person, and Tara Bai promised to be his if he redeemed Thoda, but, before accomplishing this, he rudely attempted access to her, and was slain by her indignant father. His brother Prithiraj accepted the gage, and relying on his honour she accepted him in anticipation. She accompanied her husband in an attack on the mahomedans, when celebrating the Mohurram; the lance of Prithi and arrow of Tara Bai, slew the mahomedan chief, and their followers, rushing on, regained Thoda. Prithiraj had been engaged in the war from the age of 14 to 23, when he was poisoned in revenge of an insult by his brother-in-law. He died at Komulver; and Tara, too late to see him in life, burned herself with his remains. Their ashes are in a lonely gorge opposite the temple of Mama Devi, where the road leads to Marwar.

TARA DEVI, a mountain near Simla, composed of coralline magnesian limestone of fantastic shape, overhanging the road, and full of fissures and caverns.

TARAI, outer arid tracts, or else miasmatic swamps at the skirts of the lowest Sub-Himalayan hills.

TARAI. See Samangarba.

TARAKAI. See Kurilian.

TARAMBA SHIRIN. Kashmir buck wheat.

TARAMIRA. HIND. Raphanus raphanistrum, also Brassica eruca, and Sinapis eruca.

TARAMONI. BENG. Serissa fœtida.

TARANG-GILING. MALAY. Ant-Eater, the Pangolin.

TARANTARRA, in the Manja territory, the chief city of the Akali Sikhs, armed fanatics. See Akali.

TARANTULA MUSTARD. Sinapis sinensis.

TARAR. Dioscorea deltoides, a wild yam.

TARAR PATTR. HIND. Dioscorea deltoidea.

TAR-ASUN a kind of beer of China, made

from barley or wheat, a prepared hop being added to the wort in brewing.—*Simmonds.*

TARA-TEZAK. Lepidium sativum.

TARAXACUM OFFICINALE, Dandelion. Leontodon taraxacum. This plant is a native of Europe and the Himalayas. The inspissated juice of the plant, the infusion, decoction, and extract of the root, are strongly bitter, and prove tonic and diuretic, in large doses aperient. It is a favourite and useful remedy in the old hepatic diseases of persons who have long resided in India, and returned to a cold climate. The dose of the extract is 3 to 10 grains, thrice daily.—*O'Shaughnessy, p.* 407.

TARBAGATAI. See Kirghis.

TAR-BAN. HIND. a palmyra grove. Sandarban, HIND. a forest of the Sandar or Acacia sundra.

TARBUSH, a red cap worn by the Turk. It is a corruption from the Persian Sar-posh, head covering, head dress. The Anglo-Saxon further debases it to Tarbrush. Fez, the other name for the Tarbush, denotes the place where the best were made. Some Egyptians distinguish between the two, calling the large high crimson cap Fez, the small one Tarbush. —*Burton's Pilgrimage to Meccah, Vol. II. p.* 275.

TARBUZ. HIND. PERS. Cucurbita citrullus, the water melon.

TARCICE. POL. Deals.

TARDAVEL. Spermacoce hispida.

TARDI. HIND. Dioscorea deltoidea.

TAREAQ FARUQ, or Theriaca Veneta, the modern representative of the mithridatum of the ancients, is sold in little canisters in the bazars of India, on the paper wrapper are printed in Persian, "the Theria of Andromachus, an invention of Theron the Presbyter." It is prepared, measured and made public by me, John Baptest Sylvester, in the Rialto, by authority of the excellent Government Physicians of ancient Righteousness and of the Council of Apothecaries and learned physicians."

TAREE, the juice or toddy of the palmyra tree, Borassus flabelliformis.

TAREE MARA. CAN. Yehela, MAHR. Terminalia bellerica.

TAREMOOK, known as Bail Kambar in Canarese, Ghassari in the Dekani, Lohar in the Mahratti, is a wandering blacksmith of the peninsula of India.

TARENNA ZEYLANICA. GÆRTN. syn. of Stylocoryne Webera, *A Rich.*

TARFA. See Kurdistan.

TARI. HIND. Palm wine fromthe palmyra tree.

TARIAT. BENG. Corypha taliera, *Roxb.*

TARIKAT. ARAB. path. In the Mahomedan religion, tarikat means the path or way which leads, or is supposed to lead, to heaven.—*Burton's Pilgrimage to Meccah, Vol. I. p.* 22.

TARIKH. AR. A date, a history. Gibraltar is Jabl-tarikh, the mountain of the date.

TARIKH-I-BADAUNI, or Muntakhab-ut-Tawarikh, written by Mulla Abdul-Kadir Maluk-Shah of Badaun, and finished in 1595. It is a general history of India from the time of the Ghaznevides to the 40th year of Akbar. It contains a copious notice of the reign and character of Akbar, under whom the author lived.—*Thomas Elliot's Hist. of India. Muller's Lectures, p.* 143.

TARIKH-I-HIND, a History of India written by Abu Rihan a translation from an old Arabic history, made about A.D. 1216 (A.H. 613) by Mahomed, then residing at Uch in Sind. The ancient Arabic seems to have been written before A.D. 753. It is largely drawn upon by Nizam-ud-din, Ferishta, Mir Masum and others. Chach-nama is a Persian work descriptive of the Arab conquest of Sind. The Arab occupation of Sind was only temporary. On their retreat, the territory reverted to the rule of native princes, and was practically independent until its absorption into the empire during the reign of Akbar, in A. D. 1592, for the successes of Mahmud of Ghazni made no permanent impression on them. Up to the time of Mahomed, the races in Arabia had been quarrelling with and robbing their neighbours. But immediately on his demise, his followers and disciples, whom his teachings had made brothers, moved with a spirit of unanimity.—*Elliot's Hist. of India, p.* 9.

TARIKH-I-WASAF, composed, as appears by different dates, at the end of the thirteenth and beginning of the fourteenth century, by Abdullah, Shirazi. The style of this work is much admired by the Persians, although in many places so obscure and difficult, that to most copies of it marginal explanations have been added. It contains the history of Hula'ku Khan and Chengiz Khan.—*Ouseley's Travels, Vol.* I., *p.* 170.

TARINGI. CAN. Calysaccion longifolia, *Roxb. Wight.*

TARINGAL of Spiti, &c., the ibex.

TARINE. A hard, fine, close-grained, rather heavy Ceylon wood, much resembling English birch.

TARISA PALLI. See Jews.

TARWAI. PUSHT. Ipomea turpethum.

TARIYAT, TARA, TALIER. BENG. Corypha taliera.

TARIZHA. HIND. Microrhynchus nudicaulis.

TARJI. See Kelat, p. 491.

TAR-KA-GUR. Duk. Sugar from Borassus flabelliformis.

TAR-KA-JHAR. Hind. Borassus flabelliformis, Palmyra tree.

TARKARI. Hind. Vegetables generally.

TAR-KA-PATTA. Hind. Olay or palm leaves, on which the Asiatic peoples write with a style of steel.

TARKHA. Hind. Artemisea Indica.

TAR-KHAN, a title bestowed by Chengiz Khan on two youths, Bata and Kashlak, who overheard Aung or Prester John making arrangements to destroy Chengiz Khan. From these are said to have descended the Tar Khan dynasties of Khorasan and Turkistan.

The Tar Khan dynasty of Sind are said to have been so denominated by Timur having sprung from Eku Timur; when Tuktamish Khan was advancing against Timur, he was gallantly opposed by the great grandson of Arghun Khan, Eku Timur, who fell in the unequal conflict. Timur, who witnessed the conflict, bestowed the title of Tar Khan on his surviving relatives. The origin of this titular term seems however doubtful, but it is an ancient one, as Tar Khan of Farghana, hospitably entertained the last monarch of Persia in A. D. 703. Tar Khans are mentioned as officers under the Khakan of the Khazar, to the west of the Caspian Sea. Their rule extended to A.D. 1591-2, and with them expired the independence of Sind as a kingdom; its history from that date merging into that of the empire of Timur. Scions of the Tar Khan family still reside at Nasrpur and Thatta.—*Elliot Hist. of India, p.* 500.

TARMUJ, also Tarbuz. Beng. Cucurbita citrullus, *Linn.*

TARNI. Hind. Edwardsia mollis.

TARO. Colocasia macrorrhiza. Taro of South seas, Colocasia antiquorum, *Schott*; C. esculenta, *Sch.*

TAROMI. See Inscriptions, p. 391.

TAROOSEE. Mal. Green copperas, or green vitriol.

TARRU. Hind. Hippophae rhamnoides.

TARSHISH. Heb. Beryl.

TARSHISH. of sacred history, is supposed by Sir J. E. Tennent to be Galle. But Tarshish seems to have been a name given to several places, one of them in India, as the Dante, Kapi and Togai of the Hebrew Bible are Indian names for ivory, apes, and peacocks, dant, Hindi, a tooth; kapi, Tamil, a monkey; Togai, a peacock.

TARSIUS SPECTRUM. Geoff.

Tarsius bancanus, *Horsf.*	Lemur tarsier, *Raffles.*
Lemur spectrum, *Pallas.*	Tarsier, *Buffon.*
Didelphis macrotarsus *Schr*	

The Tarsier inhabits Sumatra, Banca, Borneo, Macassar, Salayer: its habits are nocturnal. It is mild, gentle, and easily domesticated. It lives on the tops of trees in the large damp forests; it eats fruits and small animals. The inhabitants have a superstitious dread of it.

TARSUS, on the river Cydnus, was situated at the foot of the wooded slopes of Mount Taurus, and it guarded the great pass in that range between the Phrygian tribes and the Phenician tribes. It was a city half Greek and half Asiatic, and had from the earliest days been famed for ship-building and commerce.—*Sharpe's History of Egypt, Vol. 2*, p. 55.

TARTAR.

Wynstin,	Dut.	Roher Weinstein,	Ger.
Crude tartar	Eng.	Tartaro volgare,	It.
Argol	,,	Tartarus,	Lat.
Tartre-cru, blanc et rouge,	Fr.	Tartaro	Port. Sp.
		Winnui kamen,	Rus.

A salt formed by deposit in wine casks.

TARTAR, Tatar, or Tahtah, a term variously applied. The Manchu of China are called a Tartar dynasty. The Bhot of the Himalayan frontier of Tibet are called Tartars, as also are the Turks of Khoten and Yarkand or Little Bokhara. The Tartars of China are Manchurian Tangus. The peoples who inhabit the vast regions of high Asia, bounded on the south by India, China and Persia; on the east by the Sea of Japan; on the west by the rivers which disembogue into the Caspian Sea and Black Sea, and on the north by the Frozen Ocean, are all known in Europe by the collective name of Tartar; whatever may be the origin of this name, it is applied to numerous half civilized nations, who greatly differ from each other, to—

The Tartars of the Oxus, the king's guard,
First, with black sheep skin caps and with long spears;
Large men, large steeds; who from Bokhara come,
And Khiva, and ferment the milk of mares.
Next, the more temperate Toorkmuns of the south
The Tukas and the lances of Salore
And those from Attruck and the Caspian sands;
Light men, and on light steeds, who only drink
The acrid milk of camels and their wells.
And then a swarm of wandering horse who came
From far, and a more doubtful service own'd;
The Tartars of Ferghana from the banks
Of the Jaxartes, men with scanty beards,
And close-cut scull caps; and those wilder hordes
Who roam over Kipchak and the northern waste,
Kalmuks and unkempt Kuzzaks, tribes who stray
Nearest the Pole, and wandering Kirghizzes
Who came on shaggy ponies from Pamere.

It was from Tatary those people came, who, under the successive names of Cymbrians, Kelts, and Gauls, possessed all the northern part of Europe. The Goths, Huns, Alans, Swedes, Vandals, and Franks, were but swarms of the same hive? The name of Tatar, the terror of Asia and Europe, was applied promiscuously to all the nomadic warriors whom Asia in bygone years poured forth over Europe. Origi-

nally Tatar was a name of the Mongolic races, but, through their political ascendency in Asia, after Chengis Khan, it became usual to call all the tribes which were under Mongolian sway by the name of Tatar. In linguistic works, Tataric is now used in two several senses. Following the example of writers of the middle ages, Tataric, like Scythian in Greek, has been fixed upon as the general term comprising all languages spoken by the nomadic tribes of Asia. Hence it is used sometimes in the same sense in which we use Turanian. Secondly, Tataric has become the name of that class of Turanian languages of which the Turkish is the most prominent member. While the Mongolic class—that which in fact has the greatest claims to the name of Tataric—is never so called, it has become an almost universal custom to apply this name to the third or Turkic branch of the Ural-Altaic division, and the races belonging to the branch have in many instances themselves adopted the name. These Turkish, or as they are more commonly called, Tataric races, were settled on the northern side of the Caspian Sea, and on the Black Sea, and were known as Komanes, Pecheneg, and Bulgar, when conquered by the Mongolic army of the son of Chengis-khan, who founded the Kapchakian empire, extending from the Dniester to the Yemba and the Kirgisian steppes. Russia, for two centuries, was under the sway of these Khans, known as the Khans of the Golden Horde. This empire was dissolved towards the end of the fifteenth century, and several smaller kingdoms rose out of its ruins, among which Krim, Kasan, and Astrachan were the most important. The princes of these kingdoms still gloried in their descent from Chengis-khan, and had hence a right to the name of Mongol or Tatar. But their armies and subjects also, who were of Turkish blood, received the name of their princes; and their languages continued to be called Tataric, even after the tribes by whom they were spoken had been brought under the Russian sceptre, and were no longer governed by khans of Mongolic or Tataric origin.

It would perhaps be desirable to use Turkic instead of Tataric, when speaking of the third branch of the northern division of the Turanian family, did not a change of terminology generally produce as much confusion as it remedies. The recollection of their non-Tataric, i. e., non-Mongolic origin, remains, it appears, among the so called Tatars of Kasan and Astrachan. If asked whether they are Tatars, they reply no; and they call their language Turki or Turuk, but not Tatari. Nay, they consider Tatar as a term of abuse, synonymous with robber, evidently from a recollection that their ancestors had once been conquered and enslaved by Mongolic, that is, Tataric tribes. All this rests on the authority of Klaproth, who during his stay in Russia had great opportunities of studying the languages spoken on the frontiers of this half Asiatic empire.—*Muller's Lectures, p.* 284-85. Though the word is very vaguely used, the populations to whom it is applied belong to one of three great groups, stocks, or families, the Turk, the Mongol, or the Tungus. It is necessary to insist upon this; because, whatever may be the laxity with which the term Tartar is used, it is, in Russian ethnology at least, a misnomer when applied to a Mongol. It is still worse to call a Turk a Kalmuk. This is because the populations under consideration are the fragments of four Turkish kingdoms or khanats, the khanats themselves being the fragments of the great Mongol empire of the Kipchak. But this great empire itself was, more or less, the consolidation of at least two older kingdoms compressed into one. There were the Mongols of Temudzhin or Chengiz Khan. There were the Chagatai Turk of Timur and his successors, whose origin was in the parts beyond the Oxus, Bokhara and Ferghana. There were the three denominations of the Khazar, the Petsheneg, and the Gumanian, the Chagatai being the Turk of the dynasty to which Timur belonged.

According to Mountstuart Elphinstone, the Tartar are divisible into Turk, Mongol, and Manchus. The greater part of Timur's army was Turk; and the Uzbek, who now possess Transoxiana; the Turkoman, who reside both on the Oxus and in Asia Minor; the wandering tribes of the north of Persia, and the Othmanli or Turk of Constantinople, are all Turk. The ruling tribe, and the greater part of the army of Chengiz Khan, was Mongol. The Tartar dynasty, which now reigns in China and the adjoining part of Tartary, is Manchu.

In India, the term Tartar is applied to designate the tribes north of the Himalaya, and Mr. Hodgson regards the Tamil as the more ancient Tartar immigrants, in contradistinction to the Tibetan and Himalayan stock, who are more recent Tartars.

Tartars occupy Ladak, except in the Dras valley. In all Tartar families there, the second son is made a lama, and the third a tola, both being forbidden to marry; in a manner obliged to renounce the world, having no interest in their father's property at his death. Tartars, met with by Mountaineer, looked on fish as unfit for food. They ate the flesh of the wild horse.

Of the black Tartars, who had come from Tartary with Timur, he had settled part in Turkey, and part in Khorassan. After his death they had dispersed. Nadir Shah had desired to reassemble them, and seven or eight thousand families had been brought together under Najuff Ali Khan, the chief in whose service Isaak Khan and his father were employed.

The Tzeremish resemble the Tartars in their external appearance, and they also wear their hair short; but their language is totally distinct, and they spring from a different origin. They are the original inhabitants of the province of Cazan and O-se-ta-our-han. After the Russians had made themselves masters of all these places, this people still continued to occupy the country to the left of Cazan, and they have now been in subjection to the Russians for many years.—*Latham Nationalities of Europe, Vol. I. p.* 249. *Recherches sur les Langues Tartares, p.* 1, 3. *Kennedy on the Origin of Languages, p.* 57. *Malcolm's History of Persia, Vol. II., p.* 226.

TARTARIAN LAMB. ENG. Aspidium barometz, so enthusiastically described by Darwin in his Botanic Garden, has long been celebrated in China. The ingenuity of Chinese gardeners, taking advantage of the natural habits of the plant, form it into a shape resembling a sheep or other object.—*William's Middle Kingdom, p.* 275.

TARTARIAN FURZE. Caragana Gerardiana.

TARTARIAN WHEAT. Hordeum ægiceras.

TARTARIN. See Simiadæ.

TARTARO. PORT. SP. Tartaro volgare. IT. Tartar.

TARTRE-CRU, BLANC ET ROUGE. FR. Tartar.

TARUK, also Taru. BENG. Alpinia allughas. also Corypha taliera.

TARTARY is a term applied in Europe to an innumerable multitude of nations, by whom the rest of Asia and all Europe has in different ages been overrun, and their countries are denominated, as various images have presented themselves to various fancies, the great hive of the northern swarms, the nursery of irresistible legions, and, by a stronger metaphor, the foundery of the human race. Sir William Jones defines their boundaries by a line drawn from the mouth of the Oby to that of the Dnieper, and bringing it back eastward across the Euxine, so as to include the peninsula of Krim, extend it along the foot of Caucasus, by the rivers Cur and Aras, to the Caspian lake, from the opposite shore of which follow the course of the Jaihun and the chain of Caucasian hills as far as those of Imaus: whence continue the line beyond the Chinese wall to the White Mountain and the country of Retso, skirting the borders of Persia, India, China, Corea, but including part of Russia, with all the districts which lie between the Glacial Sea, and that of Japan. The Grand Tartary of the ancients may thus be said to have extended from the Volga to the ocean, and from the Gihon to Siberia. Ptolemy divided this vast region into Scythia beyond, and this side the Imaus. North of the sources of the Ganges, a range of mountains extends to Kashgar, where it turns to the north-east towards the river Ili; this chain was called by Ptolemy the Imaus. That part of Scythia on this side the Imaus, which lies between the Oxus and Jaxartes was known to Roman geographers as Transoxiana, and to the Arabs as Mawur-ul-Nahar.

The tract formerly styled Chinese Tartary lies east of Affghanistan and north of the British dependency of Cashmere; from the former it is separated by the Pamere steppe, and from Cashmere by the almost impassable barrier of the Kuen Lin mountains. It is a vast level valley, irrigated by rivers and canals, and rich in various minerals, including gold and coal. It contains four provinces, Kashgar, Yarkand, Aksoo and Khoten. The general population is a mixed breed, half Persian and half Kirghis, but there are likewise the Kalmuk, Chinese, and a race called Tunghani, who, though by extraction Chinese, are by religion mahomedan. These all, as a rule, occupy fixed habitations and follow agricultural pursuits. In 1863, the Tunghani rose on their Chinese masters whom they overcame and compelled to adopt mahomedanism. Kashgar, in 1865, fell to a party of Kipchak refugees from Kokand, driven out by the king of Bokhara; Khoten became independent.

The great Turanian or Tartar family of languages, is spoken by all the tribes from the Himalaya to Okotsk and to Lapland, and includes the Hungarian, Krimean, and Turkish In India, there are three or four distinct branches of this family of languages, and consequently of the Turanian race:—in the North are the Himalayan dialects and tribes, from Upper and Lower Kanawar on the Sutlej to the Butani of the extreme east; then we have the Lohitic class, comprising, with the Burmese and others of the eastern peninsula, the dialects of the Naga and Mikir tribes in Assam, and of the Boda, Kachari, Kuki and Garo in Eastern Bengal. Nearly related to this class is the Kol or Munda family, including the Kol, Sonthal and Bhumij of Singhbhum and Western Bengal, and the Mundala of Chota Nagpur. The fourth class is the Tamulic or Dravidian, to which belong the Brahui of Baluchistan, the Gondi, the Tuluva of Kanada, the Karnata of the S. Mahratta

country, the Toda of the Nilgiris, the Malayalam of Travankur, the Tamil and Telugu. The Kur or Muasi, and the Korku in Hushangabad, and westward in the forests on the Tapti and Narmada, until they come in contact with the Bhil of the Vindhya hills, and the Nahal of Khandesh belong to this Kol family; indeed Mr. Hislop held that the word Kur is identical with Kol.—*M. De Guignes, Sir W. Jones's Works, Vol. 3, p. 72.*

TARUKA. HIND. SANS. Alpinia alhugas.

TARUKESHWARA. SANS., from tarākă, a saviour, and ēēshwără, a god.

TARAKA-JIT. SANS., from tarākă, and jee, victory.

TARUM. MALAY. Indigofera tinctoria. Indigo.

TARUM. BENG. HIND. Aloe perfoliata.

TARUM of Pliny, LAT. Eagle wood.

TARUSI. MAL. Sulphas ferri. Green copperas. Green vitriol; Sulphate of iron.

TARW. DUT. Wheat.

TARWAAD, on the Malabar coast, a family community living according to the Marumakatayam rule of inheritance, or descensus a matrice with a karnaven or head. See Polyandry, p. 108.

TARWAR. Cassia auriculata, *Linn.*

TARU OR KHO-THU. See Karen, p. 466.

TASMAH BAZEE. A term applied in Hindustan to a class of Thugs, professional murderers, who destroyed their victims by means of a tasmah or belt.

TA-SOUNG-LET-WAH. BURM. Juglans tricocca.

TASSADUQ. AR. an offering, a sacrifice.

TASAR. HIND. Sambucus ebulus.

TASBIH. AR. HIND. PERS. a rosary. A mahomedan rosary consists of 99 beads, sometimes more, to stand for certain prayers. All mahomedans usually carry a chaplet of this description. Amulets are also worn on the person as a protection from evil; these are portions of the Koran, or the whole book, written exceedingly small, enclosed in cases and bound on the arm. Cornelians, and bits of coloured glass having the names of God, and his family, and verses of the Koran engraved on them.

TASH. Cloth interwoven with gold or silver thread.

TASHHIR. HIND. A public disgraceful punishment in the time of the emperors of India; the culprit had his face blackened, and was made to ride, with his face to the tail, on a donkey through the streets of the city.

TASHKEND, in Central Asia, has been a Russian advanced post.

TA-SOUNG. BURM, a pavilion.

TAT. BENG. Corchorus olitorius. Gunny Coarse matting made of "san" and other materials.

TAT. HIND. Saccharum semidecumbens.

TATA. SANS. Borassus flabelliformis, the palmyra tree.

TAT AKU. TEL. Olay. Leaf of palmyra used for writing on with a style.

TATA KURA. TEL., also Perugu Tata Kura, TEL. Amarantus oleraceus.

TATA NELA VEMU, TEL. Radhidospora glabra, *Nees.* Justicia glabra, *Roxb.*

TATAUR. HIND. Impatiens, *sp.* also Artemisia Indica.

TATA-YOUBA. Caryocar.

TATCHAWARI—? A stable or coach factory.

TATI-AKU. TEL Cadjan. ANGLO-MALAY.

TATI BELLAM. TEL. Sugar from Borassus flabelliformis, palmyra sugar.

TATI CHETTU. TEL. Borassus flabelliformis, *Linn.*

TATI GEDDA. TEL. Root of Borassus flabelliformis.

TATI KALLU. TEL. Palm wine from Borassus flabelliformis.

TATI KELANGU. TEL. root of Borassus flabelliformis.

TATI NAR. TEL. Fibre of Borassus flabelliformis.

TATI PANDU. TEL. Fruit of Borassus flabelliformis.

TAT MORANG, also Tat-palanga, HIND. Bignonia Indica, *Linn.*

TATOO. See Semang.

TATOW. See Kyans, p. 5678.

TATRI. HIND. Rhus buckiamela, R. succedanea.

TA-TSIAN-LOO, the border town and customs station of Western China. Beyond this point, a handful of tea, a few needles, or a few yards of white or blue thread, are of more value than gold, silver, or copper coin; indeed the latter are useless, while sycee silver and rupees are only exchanged at a considerable loss. Leaving behind the magnificent gorge of Ta-tsian-loo, with its perpendicular walls of mountains, travellers follow up the stream, which, flowing through it, joins the Tatowho at the foot of the gorge; by noon they can reach the summit of the Jeddo range of mountains, which may be said to form the great natural wall of Western China. From this point two days journey brings them to the little town of Hokow, situated on the left bank of the river Yarlong, a tributary of the Kin-char or Yang-tsze River—*Geog. Soc. Pro.* 1870.

TATTA, a city of Hyderabad in Sind, at the head of the delta of the Indus. The population in 1828 was 40,000. Maurice states

that Tatta is the Daibul of the Persian tables of Sir William Jones. The statement is made by Ferishta, who was probably followed by Maurice, but Elphinstone shows (Book V. Chap. 1) that Tatta cannot be Dival or Dewal, celebrated for the siege by the Arabs under Mahomed Qasim in A.D. 711. The point has been discussed also by Rennell, Burton, and many other writers, but with no satisfactory result.—*Cal. Rev. Jan.* 1871. *Burnes' Sindh.*

TATTAN. Tulu. See Kummaler. Polyandry, p. 109.

TATTA PYER, Tam. Lablab vulgaris.

TATTARAN and LANAWAN, two small islands of the Philippine group, of middling height.

TATTI, Hind. a matted screen, kept wet to cool the wind entering a house.

TATTI CHETTU, Tel. Palmyra tree, Borassus flabelliformis.

TATTOO ? Hind. a pony.

TATOOING the body with various figures of animals or plants, or with scrolls, has been in use from the most ancient times. It was forbidden by Moses in the Levitical law, it was not known among the Copts, but must always have been in use among the Lower-Egyptians. It was used by the Arab prisoners of Rameses, and is practised by the Egyptian Arabs of the present day. On the return of Philpator to Egypt, he showed his hatred of the Jewish nation by his treatment of the Jews in Alexandria. He made a law, that they should lose the rank of Macedonians, and be enrolled among the class of Egyptians. He ordered them to have their bodies marked with pricks, in the form of an ivy-leaf, in honour of Bacchus; and those who refused to have this done were outlawed, or forbidden to enter the courts of justice. The king himself had an ivy-leaf marked with pricks upon his forehead, from which he received the nickname of Gallus. The Fellahin or country women of Palestine generally tatoo stars and dots, with gunpowder, on their foreheads, lips, chins, breasts, arms, hands and feet. The tatooing of women is a practice very prevalent amongst several of the races in Persia. The mahomedans of India do not tattoo or mark their skins in any way, neither men nor women, but most of the women of the Dravidian races mark their fore arms, from the wrist to the elbow with scrolls. The Kheriah, Juanga, Mundah, and Oraon girls have lines tattooed on the forehead and temple, and dots in the chin and nose. The Singhbum girls have a tattooed arrow. Oraon boys have severely tattooed arms. Every male Burman is tattooed in his boyhood from the waist to the knees: in fact he has a pair of breeches tattooed on him: the pattern is a fanciful medley of animals and arabesques, but it is scarcely distinguishable save as a general tint, excepting on a rather fair skin, tracing on various parts, the figures of animals or plants, in a manner so pleasing that British officers have often been attracted to submit to the painful and barbarous process. Tattooing of the Burmans is not unfrequently followed by sloughing and death. In Fiji this practice is confined to the women, the operation being performed by members of their own sex, and applied solely to the corners of the mouth, and those parts of the body covered by the scanty clothing worn by them. The skin is punctured by an instrument made of bone, or by the spines of the shaddock-tree, whilst the dye injected into the punctures is obtained chiefly from the candle-nut. They believe that the custom was commanded by Degei, their supreme deity. Neglect of this divine commandment is believed to be punished after death. In Polynesia the practice seems to have attained its culminating point in the Society Islands and the Marquesas, where both men and women submitted to it; in Samoa and Tonga, it is restricted to the men, in Fiji to the women, and altogether ceasing in the new Hebrides. Tradition however asserts that the custom was known in Fiji before its being adopted in Samoa or Tonga. Two goddesses, Taema and Tilafainga, swam from Fiji to Samoa, and on reaching the latter group, commenced singing, "Tatoo the men but not the women." Hence, the two were worshipped as the presiding deities by those who followed tatooing as a trade.—*Galton's Vacation Tourists, V.* 259, 260. *Sharp's History of Egypt. Vol. I. p.* 344. *C. A. DeBode's Travels in Luristan and Arabistan, p.* 85.

TATTU AMMAVARU. See Hindu.

TATTUR. Hind. Datura stramonium.

TATUA. Hind. Prinsepia utilis.

TATUA. Hind. Calligonum polygonoides.

TATUN. Ar. Tobacco.

TATURA. Turk. Thorn apple.

TATWAM. See Hindu.

TATWEN. Hind. Artemisia sacrorum.

TAU. Hind. Grislea tomentosa.

TAU of the Egyptians, a cross, anciently a symbol of the generative power, was transformed into the Bacchic mysteries. Such a cross was found on the wall of a house in Pompeii in juxta position with the Phallus with symbols embodying the same idea.

TAU BOKE. Burm. Diospyros *sp.*

TAUHID. See Kalamah.

TAU-KYET-THWON. Burm. Allium porrum, *W.*

TAU-MA-GYEE. BURM. a species of Elæocarpus, tree generally very large. Grain clear and straight; timber highly prized.—*Malcom.* vol. I. p. 188.

TAN MUNGHSEE. BURM. Cassia *sp.*.

TAUNPOONI. MALAY. Artocarpus echinata, *Roxb.*

TAUP-SHA. An Amherst wood, employed for house posts, and would answer for common carpentry, but it is liable to split; the bark is supposed to be medicinal.—*Cat. Ex.* 1851.

TAUR. HIND. Bauhinia racemosa, B. vahlii.

TAURA. HIND. Machilus odoratissimus, Pennisetum cenchroides.

TAURIS, the modern Tabriz was the capital of more than one dynasty, and throughout the middle ages was a chief point of contact and trade between the Latin and Oriental worlds. It has been identified not only with Shushan of Esther, and the Achmetha of the Apocrypha, but with the northern Ecbatana and half a dozen other ancient cities of fame. Rawlinson, however, considers it not to be older than the third century.—*Chardin, Amsterd.*, 1735, *I.* 258; *Journ. Asiat.*, *S. II. IV.* 117; *J. R. G. S.*, *X.* 109, *in Yule Cathay I. p.* 48. *Mignan's Travels, p.* 334.

TAURUS. See Koh, Kurdistan, Mesopotamia.

TAUTANG. The name of a tribe whom the Heuma populations describe as living beyond their boundary. See Mowtu.

TAUT'H, SANS. father, supposed to be the Teuthes and Tot'h, the mercury of Egypt.—*Tod.*

TAUWERK. GER. Cordage.

TAU-YEW. BURM. Inga bigemina.

TAVADU, a dry measure in Mysore, of 1 lb. 2 solas of 8 oz.—*Simmonds'* Dict.

TAVAKANCHANAM TEL. Bauhinia, species. Perhaps a clerical error for Deva-kanchanam.

TAVAKU, TAM. Cochlospermum gossypium, *DC.*

TAVALAM, a term which, substituting bullocks for camels, is equivalent to a caravan. The class of persons engaged in the traffic in Ceylon, of carrying light loads on pack oxen, who resemble in their occupations the Banjari of Hindustan.—*Tennent Ceylon, p.* 53.

TAVATIKI. TEL. Schmiedelia serrata, *DC.*

TAVERNIER, a traveller in India, and the history written by him merits mention, for the fidelity of his description of countries little known. He was by birth a Swiss, and the son of a very able geographer: he himself was the greatest traveller of his age. Besides his European travels in the early part of his life, he spent forty years in six journeys into Turkey, Persia, and India, and entered deeply into commerce, chiefly in that of jewels. He determined on a seventh voyage, but died on the road, at Moscow, in 1689, aged 84.—*Pennant's Hindoostan, Vol. II. p.* 5, 6.

TAVITI-CHETTU. TEL. Caralluma adscendens, *R. Br.*

TAVIZ, PERS. A charm. The practice of binding sentences of the Koran on the arm would seem to be alluded to in Deut. xi. 18. Therefore shall ye lay up these my words in your heart and in your soul, and bind them for a sign upon your hand that they may be as frontlets between your eyes. The extract is usually a slip of paper with a quotation from Holy Writ, some curious spell to avert the evil eye, or a song to some dead saint. These are the "characts" of ancient days, commonly used in different parts of Europe.—*Burton's Scinde, Vol. I. p.* 280.

TAVOLE. IT. also Piane, IT. Deals.

TAVON. BURM. Baskets.

TAVOY TOWN, in lat. 14° 5′ N. and long. 98° 13′ E., is built on the east bank of a river of the name. The river is rendered intricate by numerous shoals and low islands, the rise and fall on springs is 18 feet, and velocity of tide is 3½ knots per hour.

Tavoy town is on the left bank of the Tavoy river in the Tenasserim provinces, and was taken by the British on the 15th September 1824. In the neighbourhood of Tavoy are two sacred lakes, two small currentless basins in the Pagaya river at the foot of pagoda crowned precipices, one to two hundred feet high. A fish, a species of barbel, (Barbus mortonius) is held sacred to the pagodas by the buddhists, and come in shoals for rice thrown to them by passers bye, as fearless of man as the barking deer that drinks their waters. Tavoy province is 1,200 square miles and has 50,000 people.

TAVOY ISLAND, extends from lat. 13° 13′ to 12° 55′ N. long. 98° 14′. It is of middling height, about two miles in breadth and six leagues in length. It is the most northern of the group called the Mergui Archipelago. It has Port Owen, a good harbour, on its east side.

TAVOY POTATO. Dioscorea fasciculata.

TAWA. HIND. See Tuwa.

TAWAF, or circumambulation of the Kaaba at Meccah, must never be performed at the tomb of Mahomed. See Tayf.

TAWAI of Trans-Indus. Fragaria vesca, *Linn.*

TAWALLY, a large island fronting the S. W. part of Gillolo.

TAWAR, or Tor, HIND. the elephant creeper, Bauhinia racemosa.

TAWAS, Mal. Jav. Alum.

TAWEE-TAWEE ISLANDS, forming the south-west part of the Sooloo Archipelago, extend nearly to the peninsula of Usang, the extremity of which forms the north-east point of Borneo. They consist of an extensive chain of islands very imperfectly known. See Leegetan islands.

TAWI. Hind. Grislea tomentosa. *Roxb.*

TAWIZ. Ar. Hind. Pers. Charms.

TAWMARA, properly Tamarai. Tam. Nelumbium speciosum.

TAWMARA DARUM, properly Tamara Darum. Tel. Nelumbium speciosum.

TAWMARAI KALANGU, Tam. Root of Nelumbium speciosum.

TAWMARAI NULU. Tam. Nelumbium speciosum.

TAWNI, in Tamil, TANIKI MARUM in Malayala. This tree grows to about three and a half feet in diameter, and from thirty to forty-five long; wood is of a whitish colour, and is used by the natives for catamarans, canoes, &c. It produces a fruit which the native medical men of India use as a purgative in cases of fever, &c.; the timber is not durable or of much use.—*Edye, M. and C.*

TAW-SHOUK. Burm. Limonia carnosa.

TAW-THE-DIN-BIN. Burm. Ricinus diococa.

TAWURI, T'hori, or Tori, a race dwelling in the desert of Rajputnah. These engross the distinctive epithet of Bhoot, or 'evil spirits,' and the yet more emphatic title of 'sons of the devil.' Their origin is doubtful, but they rank with the Bawuri, Khengar, and other professional thieves scattered over Rajpootana, who will bring you either your enemy's head or the turban from it. They are found in the thuls of Daodpotra, Beejnote, Noke, Noakote, and Oodur. They are proprietors of camels, which they hire out, and also find employment as convoys to caravans.

TAXIDIA LEUCURUS, the Tibetan Badger, Thumphà of the Tibetans, inhabits the plains of Tibet; total length 37 inches, whereof the tail, with the hair, is 10 inches, and without it 7. The head is 5½ inches, the palm and nails 3⅛, the planta or rest of the hind foot, from heel to end of the nails, 4, the longest claw or nail 1¼, the ear 1¼, the longest hair of the body 4½. The aspect is entirely that of a long-tailed Badger, with somewhat smaller head and longer finer fur than usual. The small head is conico depressed with remote ears and eyes, and sharp elongated face. The muzzle or nude extremity of the nose is clearly defined, rounded, prolonged beyond the teeth, and has an abrupt oblique termination in front. The oval nostrils are opened entirely to the front, their lateral prolongation being merely linear and very much curved. The lips are thin and almost void of moustaches, and there is a still fainter indication of the tufts proper to the cheeks, chin, and eyebrows. The small pig-like eyes are situated midway between the ears and tip of the snout. The ears are oval, well developed and tending to a point.—*Mr. Hodgson in Jour. Ben. As. Soc.*

TAXILA, the country between the Indus and Hydaspes, frequently mentioned in the history of Alexander. See Bactria, p. 284. Chandragupta. Greeks of Asia. Iran.

TAXUS BACCATA. The Himalayan Yew.

Birmi	Jhelam.	Rakbai	Sutlej.
Tung	Kashm.	Nyamdal	,,
Thuuu	Jhelam.	Thona	,,
Tuno	Kulu.	Kadenru	,,
Sungal	Kashm.	Sarap	Trans-Indus.
Postil	,,	Badar	,,
Barma	Chenab.	Caves Birmi	,,
Kautu	,,	Thoono	Hind.
Burmi	Ravi.	Thuneer	,,
Dhnui Kunt'h	Ravi.	Zurnub	Hind.
Chogu	,,	Tuna	Panjab.
Rakbal	Beas.		

This tree occurs in many parts of the Punjab Himalaya, up to the Indus, at from 5,000 to 10,000 feet, but sparingly in almost all except in parts of Hazara, where it is pretty common. It is a hard, heavy, strong wood, is tolerably elastic, and is used for making native bedsteads, and in some parts for jampan poles, buggy shafts, and on the Sutlej for bows. The wood of an old tree is of a fine red colour and polishes well, and seems adapted for upholstery purposes, it is well fitted for turning, and Vigne states that in Kashmir it is used for making clogs. The leaves of this tree are sold in the bazaars of the N. W. Provinces of India, under the name of "Burmee" or Zurnub. Taxus baccata or "Tingschi," is the yew whose timber is red. It is comparatively scarce in Sikkim. It is found, however, in the Sutlej valley between Rampur and Sungnam, at an elevation of 9,000 to 10,500. Its appearance and form of growth vary much, when it grows in the higher latitudes, and when growing in deep forests. It is a large tree with naked trunk. It is often of great thickness, but seldom attains any great height; the thick trunk generally dwindles away or divides into branches at a few feet above the ground. On the skirts of the forests, it is almost a prostrate bush, while on open slopes it becomes a stout, dense, and tabular branched tree. *Hooker, Vol. 1, p. 45. Lt. Col. Lake. Com. Jhullundur. Cleghorn Punjab Report, p. 63.*

TAXUS CUSPIDATA. S. and Z. and Taxus adpussa, *Knight*, are trees of Japan.

TAY. Burm. Ebony. Diospyros ebenum.

TA-YA. BURM. A constellation. See Astronomy.

TAYA ISLANDS, separated from the island of Hainan, consists of two groups of six, or seven high barren islands.

TAYANI. See Resins.

TAYA. TAM. Father. Tya-pan, father and other.

TA-YAN. BURM. Grewia floribunda, *Wall.* also Excœcaria agallocha, *Linn.*

TAYET KHYEE. BURM. This timber tree, of maximum girth, 2 cubits, and maximum length, 15 feet, is abundant all over the Tenasserim provinces. When seasoned it floats in water. It yields a pretty wood in grain, but one which rots readily when it dies. It is of no durability.—*Captain Dance.*

TAYF is the participle of the Arabic verb Tafa, which signifies to go round; it is especially applied to the religious ceremony of mahomedan pilgrims of going round the Ca'aba at Mecca. It is the encircling of holy places so often alluded to in the Old Testament, and still practised by the budd'hists, the hindus christians and mahomedans. Psalm xxvi. 6 says, I will wash mine hands in innocency, so will I compass thine altar O Lord. Hindu women often compass their husbands as in Jeremiah xxxi. 22. Hindus and buddhists circle from right to left. Romish priests and mahomedans from left to right. The Persian couplet says: Tuaf-i-Kaaba-i-dil kun, gar dili dari, circle the holy place of your heart if you have a heart.—*Hamilton's Sinai Hedjaz, Soudan, p.* 152, 153. See Tawaf.

TAYF. At a short distance, near one of the gates, the Bab-ul-Yemen, outside the town of Tayf to the west, a five sided block of granite, rising in a slant from the ground, is pointed out as the idol "lat." In its greatest length, it measures about twelve feet, and four feet and a half to its highest edge. Another of the idols of the old Arabs, El Izzah, is within the town; like the lat it is an unhewn stone, with a depression or hollow on the north side, resembling a water-worn boulder. Whether any well authenticated tradition, or merely popular love for assigning sites to well known names, be the origin of these appellations, Burton could not learn. They are mentioned in the chapter of the Koran, called the Star, liii. 19,23. "What think you of El Lat and Izzah and Marrat, the third? They are but names you and your fathers have given them." El Lat was adored at Tayf, but there is not only, he believes, no ancient authority for placing the worship of El Izzah here, but it does not even seem to have been a stone, but rather the trunk of a tree or a wooden image which was burned by Mahomed's order. The dimensions of the stones pointed out as El Lat correspond to the description given by Herodotus and his commentator of the idol Alilat Αλιλατ, or Αλλατ, whom he compares to Urania. Lat may not improbably have been such a stone as that pointed out to Hamilton. That it was this identical one, Burton cannot help doubting, notwithstanding the tradition of the place. Herodotus mentions another deity, Urotalt, Ουροταλτ, whom he identifies with the great Bacchus, but this can hardly be other than a slight corruption of the title of the Supreme God (Allah taalah) the *r* and *l* being easily convertible sounds.—*Hamilton's Sinai Hedjaz, Soudan, p.* 150, 51. *Burton's Pilgrimage.*

TAYING. See Mishmi. Muttak. Singhpo.

TAYLI-MARAM. TAM. One of the sand-binding plants.

TAYLOR, DR. JAMES. Author of Topography of Dacca, Calcutta, 1840.

TAYLOR, CAPTAIN MEADOWS, rose in the Nizam's service. He wrote Memoirs of a Thug, 3 vols. 1840; also on Celtic remains near Ferozabad, Deccan, in Bom. As. Trans. 1851, 52. also Tara.

TAYLOR, Revd. W., of Madras. Author of an account of the seven pagodas, in Mad. Lit. Trans. 1844, I. 50. On supposed early Celtic and Scythian vestiges in various parts of the Carnatic.—*Ibid,* 1847-48.

TAYL-KODOKHOO. Tiaridium Indicum.

TAY-LAK-YOUK. BURM. Sulphuret of Antimony.

TAYMUNUS. See Jews. Kalmuck.

TAYN. TAM. Honey.

TAYNAM. See Tin.

TAYNDAUNG. BURM. The basket measure, by which rice is sold in Rangoon, equal to 56 lbs. nominally, but in reality often but 53¼ lbs.—*Simmond's Dict.*

TAYNGAY. TAM. Cocoa-nut palm.

TAYNGAY YENNAI. TAM. Cocoa-nut oil, &c.

TAYAR TAYZEE, a mahomedan domestic ceremony.

TAYSAAN. CHINESE. Raw silk of Nanking the Tat-san of the Chinese, inferior in quality to Tsat-lie, but superior to Canton silk.—*Simmond's Dict.*

TAY-THA. BURM. A timber tree of Amherst, Tavoy and Mergui, maximum girth 3 cubits, and maximum length 15 feet. Scarce in Amherst, but abundant towards Tavoy, and found inland also along the sea coast all over the provinces. When seasoned it floats in water. It is subject to the dry rot when seasoned; is a useless wood, and not recommended.—*Captain Dance.*

TAY THEE. BURM. Diospyros kaki.

TAYUM. TANGALA. Indigofera tinctoria.

TAYUMAN, of Java, a wood resembling Kamuning, and very much esteemed.

TAYUNG. BISAYA. Indigofera tinctoria.

TAY YO THA. BURM. A timber tree of Amherst, Tavoy and Mergui, of maximum girth 2 cubits, and maximum length 18 feet. It is very abundant on the sea coast and adjacent islands of these provinces. When seasoned it floats in water. It is used for oars and masts of boats. When this wood is cut, a very acrid caustic juice or sap flies from it, which will destroy sight if it touch the eye; or, if it fall on the face, it raises blisters. A wood dangerous to work, and not durable.—*Captain Dance.*

TAYZEE, a date of the moon, so called only in the month Suffer.

TAZAO, an affluent of the Kabul river.

TAZAK TSUN. HIND. Rhododendron anthropogon.

TAZEEA or Taboot, the representation of the tomb of Hussan and Hoossein.

TAZEEA KHANA, the house of mourning or Ashoor khana

TA ZEEN BAN. BURM. Bolbophyllum sunipia, *Lind.*

TAZIAH, Tazia Khanah. See Ashura. Tazeeah; Tabut.

TA-ZOUNG. BURM. An ornamented shed, or roof, over an image of Gautama.

TCHA. See Kangue.

TCHAI. RUS. TURK. Tea.

TCHERKESS. See Kabarda.

TCHERMALA. See Karadagh.

TCHING-TOU-FOU, the capital of the province of Ssetchouen, is one of the finest towns in China. It is situated in the middle of an admirably fertile plain, watered by beautiful streams, and bounded towards the horizon by hills of graceful and varied forms. The principal streets are of a good width, paved entirely with large flagstones, and so clean that you can scarcely, as you pass through them, believe yourself to be in a Chinese town.—*Huc. Chinese Empire, Vol.* I., *p.* 79.

TCHITREA MELANOGASTER. SWAINSON. An Abyssinian bird in plumage like some specimens of Tch. affinis, Blyth, but the bill and feet much smaller.

TCHOKPO——? Juniperus recurva.

TCHOU-MA. CHIN. China grass, Rheea.

TEA.

Chai, AR. KASH. PERS. RUS. TURK. | Cha, CHIN. GUZ. HIND. PORT.
Te, CHIN. DUT. IT. MALEAL. SP. | Tsja, JAP.
The, FR. | Black T. itam, green T. putch, Teh.
Thi, GER. | Chah, MALAY.

Tea is the leaf of a species of the genus Thea, a native of China, Japan and Assam, and cultivated in Brazil, and other places. The Honorable Mr. Morrison says that the total exportation of tea from China, was put down at 350,000 peculs or forty millions of pounds, but it was probably nearer 427,500 peculs, or fifty-seven millions of pounds; viz. to England, 40,000,000 lbs.; to the United States 14,000,000 lbs.; and to all other countries, 3,000,000 lbs. which at 25 taels per pecul, amounts to 10,687,500 taels or 14,500,000 dollars. The present duty of 25t. exclusive of all shipping and other charges, which were before included in the total sum of 5 tael paid the hong-merchants as duty. The immense traffic in the produce of this simple shrub, affords one of the most remarkable illustrations of the enterprise and energy of modern commerce. The trade in tea now gives employment to upwards of 50,000 tons of British shipping, and about ten millions sterling of British capital, producing a revenue to Great Britain of nearly six millions sterling.

Articles of such vast consumption as tea and coffee (amounting together to more than 343,500 tons annually), forming the chief liquid food of whole nations, must exercise a great influence upon the health of the people. There is scarcely any country in the world in which a dietetic drink or beverage resembling tea is not prepared, and in general use from some exotic or indigenous shrub. The two chief plants laid under contribution are, however, the Chinese tea-plant, and a species of holly peculiar to South America producing the Paraguay tea. *Astoria theiformis* is used at Santa Fe as tea. The leaves of *Canothus Americanus*, an astringent herb, have been used as a substitute, under the name of New Jersey tea. Tea by many is looked on more as a luxury than of use to the human system, but Liebig without entering minutely into the medical action of caffeine, theine, &c., says it will surely appear a most striking fact, even if we were to deny its influence on the process of secretion, that the substance, with the addition of oxygen and the elements of water, can yield taurine, the nitrogenised compound peculiar to bile:—

	Carbon.	Nitrogen.	Hydrogen.	Oxygen.
1 atom caffeine or theine =	8	2	5	2
9 atoms water =	..	..	9	9
9 atoms oxygen =	..	..	..	9
= 2 atoms taurine..	8	2	14	20
=	2	4	9	10

The first tea imported into England was a package of two pounds, by the East India Company, in 1664, as a present to the king; in 1667, another small importation took place, from the Company's factory at Bantam. The directors ordered their servants to "send home by their ships 100 pounds weight of best tea they could get." In 1678 were imported 4,713 lbs.; but in the six following years the entire imports amounted to no more than 410 lbs. According to Milburn's "Oriental Commerce," the consumption in 1711 was 141,995 lbs.; 120,595 lbs. in 1715; and 237,904 lbs. in 1720. In 1745 the amount was 730,729 lbs. For above a century and a half, the sole object of the East India Company's trade with China was to provide tea for consumption of the United Kingdom. The Company had the exclusive trade, and were bound to send orders for tea, and to provide ships to import the same, and always to have a year's consumption in their warehouses. The teas were disposed of in London, where only they could be imported, at quarterly sales. The Act of 1834, however, threw open the trade to China. From a parliamentary return, showing the quantity of tea retained for home consumption in the United Kingdom, in each year, from 1740 to the termination of the East India Company's sales, and thence to the present time, it appears that in 1740, 1,493,695 lbs. of tea were retained for home consumption. Two years afterwards the quantity fell to 473,868 lbs., and in 1767 only 215,019 lbs. were retained. Next year the amount increased to 3,155,417 lbs.; in 1769 it was 9,114,854 lbs.; in 1790, 21,342,845 lbs.; in 1836, 49,842,236 lbs. The return in question also specifies the quantity of the various kinds of tea, with the average sale prices. According to the annual tea reports of Messrs. W. J. Thompson and Son, and Messrs. W. E. Franks and Son, the total imports into Britain of tea during the fifteen years 1838-1852 were as follows, reckoned in millions of lbs.:—

Years.	Black.	Green.	Total	Home Consumption.
1838	26,786	8,215	35,001	36,415
1839	30,644	7,680	38,324	36,351
1840	21,063	7,161	28,224	31,716
1841	24,915	6,303	31,218	36,811
1842	31,915	9,729	41,644	37,554
1843	39,513	7,340	46,853	39,902
1844	39,644	8,749	48,393	41,176
1845	39,518	11,790	51,338	44,127
1846	44,017	12,486	56,503	47,534
1847	46,887	8,368	55,255	46,247
1848	37,512	7,611	45,123	48,431
1849	43,234	9,156	52,400	50,100
1850	39,873	8,427	48,300	51,000
1851	62,369	9,131	71,500	54,000
1852	55,525	9,175	64,700	54,724

In Great Britain, duty on tea was gradually raised from 9*d.* per lb. in 1787, to 3*s.* a lb. in 1806. It was 2*s.* 2*d.* per lb. until May 1852, when 4*d.* per lb. was taken off, and further annual reductions were to be made. Down to the year 1834 the duty was an *ad valorem* one of 96 per cent. on all teas sold under 2*s.* a lb., and of 100 per cent. on all that were sold at or above 2*s.*, charged on the prices which they brought at the East India Company's sales. The *ad valorem* duties ceased on the 22nd of April 1834, and under the Act 3 and 4 William IV. c. 100, all tea imported into the United Kingdom for home consumption was charged with a customs duty as follows:—

	per lb.
Bohea	1*s.* 6*d.*
Congou, twankay, hyson skin, orange pekoe and campoi	2 2
Souchong, flowery pekoe, hyson, young hyson, gunpowder, imperial, and other teas not enumerated	3 0

In 1836, the uniform duty of 2*s.* 1*d.* per lb. on all descriptions of tea was imposed, which, with the additional 5 per cent. imposed in 1840, made the total duty levied per lb. 2*s.* 2*d.* and a fraction.

The average cost of tea in China at the ship's side is 10*d.* per pound, but it is confidently asserted that it could be produced in many parts of America at 5*d.* the pound. The great cost in China is owing to the expensive transportation, the cultivation of the fuel used, the absence of all economy of machinery, &c. It is only by adulteration that tea is sold in China as cheap as 10*d.* In America the heating and rolling of the leaves (one half of the labor) could be done by the simplest machinery, fuel could be economised by flues, &c. The Russian teas brought by caravans, are the most expensive and best teas used in Europe. The Chinese themselves pay 7½ dollars per pound for the "Yen Ponchong" teas. Full chests were exhibited in 1851 by Mr. Ripley of various Pekoe teas, some of which fetch 50*s.* per lb. in the China market; whilst 7*s.* is the very highest price any of the sort will fetch in England, and this only as a fancy article. The plain and orange-scented Pekoes now fetch little in Great Britain, but all caravan teas are purchased by the wealthier Russian families. The finest, however, never leave China, being bought up by the Mandarins: for though the transit expenses add 3*s.* to 4*s.* per lb. to the value when sold in Russia, the highest market price in St. Petersburg is always under 50*s.* Among these scented teas are various caper teas flavoured with Chloranthus flowers and the buds of some species of plants

belonging to the orange tribe, Magnolia fuscata, Olea flowers, &c. The Cong Souchong, or Ning-young teas, are chiefly purchased for the American market. Oolong tea is the favourite drink in Calcutta, though less prized in England, its delicate flavor being injured by the length of the voyage. For delicacy, no teas approach those usually called "Mandarin teas," which being slightly fired and rather damp when in the fittest state for use, will bear neither transport nor keeping. They are in great demand among the wealthy Chinese, and average 20*s.* per lb. in the native market.

The consumption of tea in the United Kingdom may now be fairly taken at fifty-four million pounds yearly, and sold at an average price to the consumer of 4*s.* 6*d.* per pound. The money expended for tea is upwards of twelve millions sterling. The population of the Chinese provinces, as quoted by Dr. Morrison from an official census taken in 1825, was 352,866,012, and we may fairly conclude that during the last twenty-eight years this population has extensively increased. If we multiply the population of China by four, we have—

	lbs.
Consumption of tea in China	1,411,464,048
Export to Great Britain and Ireland for the year ending June 30, 1851	64,020,000
Export to United States do	28,760,800
Exported to Holland, returned at 2,000,000 in "Davis's China."	3,000,000
Inland trade to Russia ...	15,000,000
Export to Hamburg, Bremen, Denmark, Sweden, &c., seven cargoes, about	3,000,000
Export to Sydney and Australasian Colonies, at least ...	6,000,000
Export to Spain and France, four cargoes	2,000,000
Total lbs.	1,533,244,848

The above is exclusive of the heavy exportation in Chinese vessels to all parts of the east where Chinese emigrants are settled, such as Tonquin, Cochin China, Cambodia, Siam, the Philippines, Borneo, and the various settlements within the Straits of Malacca. In comparison with such an enormous quantity, the 64 million lbs. consumed in the United Kingdom sink into insignificance.

	£.
The cost of tea to America, at the ship's side in China, say 29,000,000 lbs., at an average of 1*s.* per lb, would be.........	1,450,000
The cost to England, 64,000,000, at the same price...............	3,200,000
The cost to other places, say 25,000,000......	1,250,000
Russia, 15,000,000...............	750,000
Total...	£6,650,000

In China, tea is grown over an immense region, in small farms, or rather gardens, no farm producing more than 600 chests. The tea merchant goes himself, or sends his agents to all the small towns, villages, and temples in the district, to purchase tea from the priests and small farmers; the large merchant, into whose hands the tea thus comes, has to refire it and pack it for the foreign market. This refiring is the only additional process of manufacture for the foreign market. Mr. Fortune states that the small farmer and manipulator is not overpaid, but that great profits are received by the middlemen.

Thunberg informs us that the tea-plant grows plentifully in Japan, both in a wild and cultivated state, and Dr. Wallich says that it is found in Cochin China. I have met with it, says Fortune, in cultivation in China, from Canton in the south up to the 31st degree of north latitude; and Mr. Reeves says it is found in the province of Sham-tung, near the city of Sang-chow-foo, in latitude 36° 30' north. The principal tea districts of China, however, and those which supply the greater portion of the teas exported to Europe and America, lie between the 25th and 31st degrees of north latitude, and the best districts are those between 27° and 31°.

Kæmpfer says it is cultivated in Japan as far north as 45 degrees. It seems to succeed best on the sides of mountains, among sandstone, schistus, and granite.

The green-tea shrub is cultivated very extensively in the interior of the island of Chusan.

Mr. Boyer, director of the museum at Port Louis, Mauritius, succeeded in rearing 40,000 tea-trees, and expressed an opinion that if the island of Bourbon would give itself up to the cultivation, it might easily supply France with all the tea she requires; but in saying this he seems to have overlooked the need for many hands to pick the leaves and the expense of manufacture. The culture has also been tried on a small scale in St. Helena and the Cape Colony. The cultivation of the tea-tree might be tried with probability of success in Natal in South Africa. The plant grows in every soil, even the most ungrateful; resists the hurricanes, and requires little care. The picking of the leaves, like the pods of cotton, is performed by women, children, and the infirm, without much expense.

Cochin China tea is considered inferior to that of China, being less strong and pleasant in flavour.

An inferior sort of tea, with a leaf twice or thrice as large as that of Bohea, grows wild in the hilly parts of Quang-si, and is sold at from 12*s.* 6*d.* to 40*s.* the picul of 133 lbs.

In Java, the Dutch have devoted much attention to tea cultivation, and the plantations are in fine order. Nearly a million lbs. of tea were shipped thence in 1848; but the tea is said to be of inferior quality, and grown and manufactured at considerable expense.

Japan produces both black and green tea. The black tea is very bad. The Japanese tea-tree is an evergreen, growing in the most sterile places to the height of about six feet. It is described by Kæmpfer as having leaves like the cherry, with a flower like the wild rose; when fresh the leaves have no smell, but a very astringent taste. Tea grows in all the southern provinces of Japan, but the best green is produced in the principality of Kioto, where it is cultivated with great care.

In *Ceylon,* Messrs. Worms attempted the cultivation of tea, but the island lies too far within the tropics to offer a climate like Assam, which is situate without them.

In *Penang* the tea-plant has reached upwards of six feet in height, and in as healthy a state as could be desired, but the leaf had no flavor, and although thousands of Chinese husbandmen cultivated spices and other tropical productions on that island, no one thought it worth while to extend the cultivation of the tea-plant in Penang. The Chinese there laugh at the idea of converting the leaf into a beverage.

Dr. Wallich mentions it in Cochin-China in N. lat. 17°, and in China in the southern provinces of Yunan and of Qung-tung. Mr. Reeves informed Dr. Royle that, in a Chinese Herbal, tea is said to be produced, among other places to the northward of 31°, in nine places, in Hoo-Quang, three places in Ho-nan, one place in Shensi, and two places in Shantung; one of these latter, and the most northward of the whole, is Tangchow-Foo, in 36° 30' N. lat.; and in the Japan islands, which extend from 30° to 41° of N. lat. Dr. Abel states having found it in an apparently wild state at See-chou, in the province of Kiang-see, about N. lat. 26°, where the hills were covered with pines. An excellent specimen in flower in the British Museum, was collected by Mr. Cunningham near Chusan, which is in 30° of N. lat., and where, he says, it delights in the tops of mountains like the pine. The note attached to it in the hand-writing of Mr. Cunningham, is Thea frutex flore albo rosaceo summitatibus montium gaudens uti pinus."—*(Herb. Mus. vol.* xciii., *fol.*, 146.*)* Dr. Royle further informs us that "a plant was given to him at Suddiya, which he had reason to suppose was a genuine tea tree." Lieut. Charlton writes, on the 17th May 1834, that he had been informed three years previously of the tea plants growing wild near Bheesa, whence, indeed, he obtained three or four young trees, which he gave to Dr. John Tytler, to be planted in the Government Botanical Garden. On the 8th November, he sent to Calcutta some seeds and leaves of the tea trees of Assam, which were forwarded on the 24th December to the Government by the Tea Committee, who announced that "the tea shrub is beyond all doubt indigenous in Upper Assam, being found there, through an extent of country of one month's march within the Honourable Company's territories, from Suddiya and Bheesa to the Chinese frontier province of Yunnan, where the shrub is cultivated for the sake of its leaf." So far back, however, as 1826, Mr. D. Scott sent from Munnipore, to Mr. G. Swinton, then Chief Secretary to the India Government, specimen of the leaves of a shrub which he insisted was a real tea. These we find were first discovered by Mr. Bruce, who was then in command at Suddiya. He sent tea seeds and plants to Mr. Scott, having been previously informed of their existence by his brother, the late Major Bruce; and he subsequently, in 1833, brought it to the notice of Capt. Jenkins. Descriptions have been published by these gentlemen of the several tea tracts which they had at that time an opportunity of examining. These, according to Dr. Wallich, were five in number,—Koojo and Niggroo, among the Singpho, Nuddooa (Noadwar) and Tengrae, in the Muttuck country, and Gubroo, at the foot of the Naga Hills, in the territories of rajah Purrendur Singh. The last, Dr Wallich supposed to be connected with others to the southward, and with the tea plant originally announced as existing in Munnipore, and this, he says, may have originated from the plant at Hookum, and that all may have "originally travelled from the frontiers of China," where we know that a kind of tea is cultivated in the province of Yunnan. Mr. Bruce, in his latest account, published in August 1839 in the Journal of the Asiatic Society, gives an account of the discovery of other tea tracts, which then amounted to no less than "one hundred and twenty, some of them very extensive, both on the hills and in the plains." The hills on which tea had been found by Mr. Bruce, are the Naga Hills and those of Gubroo and Tipum. These discoveries were not lost sight of, and the Calcutta

Daily News thus notices the half yearly report of the Assam Tea Company:—"The crop of tea which in 1855 was 588,379 lb., and in 1856 638,789 lb., is expected in 1857 to reach 700,000 lb., or nearly twenty times as much as the produce of the Government establishments in the north west in the fifteenth year of their existence. It thus has been shown to thrive equally well in the vicinity of Canton, and the milder climate of Nankin, as in the northern latitudes of Pekin and Japan; embracing, therefore, a distribution over twenty degrees of latitude. The knowledge of this fact led to an inquiry in India, so long since as 1827, as to the practicability of introducing the culture of the tea-plant into the northern regions of that vast country; and the result was an opinion from Dr. Royle, that it might be successfully grown in the north-western portion of the Himalaya districts. He pointed out some localities particularly suited to the experiment in the district of Kumaon, a portion of the province of Delhi, and situated between the 29th and the 30th degrees of north latitude, to the north-west of Nepaul. This opinion was afterwards backed by the investigations of others, who agreed in the belief that there was no impediment to the successful introduction of the tea culture in the Himalayan regions, beyond the difficulty of obtaining a supply of plants, and some details relative to the Chinese mode of cultivation and curing of the article. In 1834 Lord William Bentinck formed a committee with the view of adopting measures for attempting this cultivation in India; and the first step taken was the dispatch of agents to the tea districts of China, whence a supply of seeds and plants, and much valuable information, was brought. Nurseries were formed in Calcutta, and some ten thousand plants were reared, the greater portion of which were dispatched to Kumaon, though but a small fraction of them reached the Himalayas; whilst a quantity was forwarded to the hill districts of the Madras presidency, but without any immediate commercial results. The plants dispatched northwards were distributed in several directions, and so well did they thrive, that in the year 1838 many of them had produced seed, which was at once sown, and thus formed fresh nurseries. In the meantime the existence of the plant in a wild state had been ascertained in the upper districts of Assam, one of the north-eastern provinces of the Bengal presidency; and inquiries having been directed to it, evidence was not long wanting to shew that the plant was growing in not less than a hundred different tracts amongst the dense jungles of that country. In 1837, samples of tea, prepared from the wild plants of the Assam district, were forwarded to Calcutta, and favourably reported on. Observations and researches instituted in the Assam country went to show that the district really possessed most of the requisites of soil, position, altitude, and climate. Some valuable reports upon the peculiarities of this district, and the results of a number of experiments in the culture of the indigenous plants, were published at intervals between 1837 and 1840; and from these it appears that the best seasons for the manipulation of the tea-crop are in March, May, and July. Every inquiry goes to prove that the greatest success has been attained whenever the culture has been attempted on hilly slopes, or in the vicinity of rivers, with a temperature ranging from 27° to 80°; indeed it appears certain that the latter consideration is of far more importance than that of soil. The China tea-plants introduced into Upper Assam by the instrumentality of the Company's servants have not only thriven remarkably well, but attained a size and vigour unknown to them in their native soil. The first parcels of tea from these districts were highly approved of on their arrival in England, and realised enormous prices, partly owing, in all probability, to their novelty. The result of these sales, however, placed it beyond a doubt that the cultivation of tea could be profitably carried on in that part of India; and in consequence a public company, entitled the "Assam Company," was formed for the purpose of carrying on the culture and manufacture of British Indian tea on an extensive scale. The East India Company having thus acted the part of pioneers, handed over their experimental plantations and establishments to the new company, who have since greatly enlarged the plantations and work, and have succeeded in producing a tea superior to any imported into Great Britain from China, and equalled only by the fewer samples which, under the old Company's system, used to be occasionally obtained. During the first years of their operations, the Assam Company encountered many obstacles,arising from the difficulty of procuring labour in sufficient quantity, from the want of skill of their first managers, and, above all,from the extreme remoteness of their property from all supervision. The crop in 1853 was calculated at 300,000 lbs, which has hitherto realised fully a third above the China teas. The produce of the company's tea-crop of 1847 realised 9,728*l.* nett; that of 1848, 12,552*l.*; that of 1849, 16,628*l.*; that of 1850, 18,153*l.*; and that of 1851, 22,151*l.* The nett average price per pound in those

years was, for 1847, 1s. 4d.; 1848, 1s. $51\frac{1}{16}$d.; 1849, 1s. $6\frac{2}{16}$d.; 1850, 1s. $6\frac{13}{16}$d.; and 1851, 1s. $8\frac{1}{2}$d.

In the Himalayan districts the labours of the tea experimentalists have been equally successful with those carried on in the more easterly province of Assam. About the year 1842, the aid of some of the Chinese cultivators, who had been introduced on the Assamese plantations, was obtained for tea-farms in the Kumaon district of the Himalayan country; and by their instrumentality a quantity of black tea was produced and dispatched to Calcutta, whence it was shipped to Great Britain, and pronounced superior in strength and flavour to the generality of Souchongs. By the end of the year 1844 these experimental plantations contained upwards of a hundred thousand plants; and two years later covered nearly two hundred acres at various altitudes, varying from 2500 to 6500 feet above the sea-level. In the year 1848 this cultivation was still further extended, reaching to an extent of 1000 acres, not in one immediate neighbourhood, but stretching through many miles of country, and in some parts reaching the recently acquired Sikh territories on the north-west frontier. So deeply impressed was the local government with the importance of this new branch of industry, that a grant of ten thousand pounds sterling a year was voted to carry out the experiment until it should, as in Assam, be taken up by private enterprise. In 1850, the East India Company, determined to lose no opportunity of fully testing the value of this cultivation, dispatched Mr. Fortune to China to glean all possible information regarding the tea-plant, its natural history, and the manipulation of its leaves; and, if possible, to bring away from the Chinese dominions a fresh supply of plants and seed of the best varieties, as also some experienced cultivators and work-people. In all these objects their agent was singularly fortunate, and he returned to India with a supply of all that was desired; in plants, seed, work-people, and, better still, in accurate data regarding the various processes of the cultivation and manufacture of this article. The number of acres in cultivation by the Assam Company, in 1849, was about 12,000: 1,010 chests of the produce were sold in London on the 13th of March 1850, at a gross average of 1s. $11\frac{1}{2}$d. per lb. The produce of 1847, sold in England, was 141,277 lbs., at a gross average of 1s. 8d. per lb.: that of 1848 was 176,149 lbs., which sold at the average of 1s. $8\frac{1}{2}$d. The exact amounts obtained for the company's tea in the five years, ending with 1851, will be seen from the following figures:—

	Nett produce, lbs.		Average price.	£.
1847 ...	144,164	at per lb. ...	1s. 7d.	11,513
1848 ...	182,953	,, ...	1s. $8\frac{1}{4}$d.	15,436
1849 ...	216,000	,, ...	1s. $9\frac{1}{2}$d.	19,350
1850 ...	253,427	,, ...	1s. $6\frac{1}{2}$d.	18,163
1851 ...	271,427	,, ...	1s. $8\frac{1}{2}$d.	22,152
1852 estme.	280,000			

This exhibits a progressive increase in the aggregate value of the company's produce, also a rise in the value of the tea, 157,942 lbs. having been sold at the high average price of 1s. $11\frac{1}{4}$d. Of Assam tea, the sales in the London market in 1851 amounted to 2,200 packages against 1,900 packages in 1850, and all were freely taken (on account of their great strength) at very full prices.

Kumaon.—Seventy-six packages of Kumaon tea, both black and green, grown by the East India Company in the Himalayas as an experiment, were, in 1851, also brought to sale. They were teas of high quality; but being of the light flavored class, and not duly esteemed in the English market, they realised only about their relative value as compared with China teas of similar grade. The Souchong and Pouchong sold at 1s. $1\frac{1}{4}$d. to 1s. $3\frac{1}{2}$d.; the Hyson, Imperial, and Gunpowder realised 1s. $7\frac{3}{4}$d. to 2s. $6\frac{1}{2}$d.

Punjab.—In the British portion of the Punjab, it was at first resolved to expend £10,000 a year on the cultivation of the tea plant on the banks of the Beas, as well as at Anarkullee, and Kotghur in the Simla jurisdiction. Beyond the Beas is a series of valleys on the Noonpoor, viz. the Palklun, Kangra, Rillo, &c., from 3,000 to 4,000 feet above the level of the sea, separated from each other by small ranges of hills. The valleys are from three to four miles in breadth, and from sixty to seventy in length: they are sheltered on the north by high mountains.

On plucking the leaves.—This very important part of the business of tea cultivation requires to be carefully studied, for it is easy to render a plant unhealthy, or to destroy it altogether, by continually depriving it of its leaves. For the first two or three years, the leading shoots only should be topped, in order to *form* the plants and make them *bushy.* If too many leaves are annually taken from them, they will soon become sickly, stunted in appearance, and covered with dead branches. In China every child seems to possess intuitively the knowledge necessary to enable it to pluck leaves in the right way, and hence in that country the proper leaves only are taken, and the plants are rarely injured by over-plucking. The object the Chinese have in view is to obtain as large a quantity of leaves

as the bushes are capable of yielding, not in any given year, but during the period of their existence; and although not vegetable physiologists, no one knows better than the Chinese that the way to accomplish this is by allowing the bushes to become fully developed, and to keep them in high health and vigour. The natives of India, at present, seem to have no idea of the importance of this principle, and consequently they do much harm to the bushes by over plucking and by plucking in the wrong way. Instead of nipping off the upper part of the young shoot with its leaves, as the Chinese do, they strip the leaves from it and leave the bare stems. These bare stems generally die down to the nearest leaves, and then the plants get covered with dead stems and present a sickly appearance. Besides the injury this system inflicts on the plants, a great loss is sustained at the same time. About an inch and a half, and some times more, of the top of the young shoots is soft and succulent, and makes just as good tea as the leaves themselves. The Chinese know this well, and hence they always nip off this portion with the leaves.—*Fortune 25th October* 1856. *Report in No.* 23 *Selections from the Report of the Government of India.*

Tea plants :—The plant in cultivation about Canton, from which the Canton teas are made, is known to botanists as the Thea bohea, while the more northern variety, found in the green tea country, has been called Thea viridis. The first appears to have been so named upon the supposition that all the black teas of the Bohea mountains were obtained from this species, and the second was called T. viridis because it furnished the green teas of commerce. These names seem to have misled the public, and hence many persons, until a few years back, firmly believed that black tea could be made only from Thea bohea, and green tea only from Thea viridis. In Fortune's "Wanderings in China," published in 1846, he made some observations upon the plants from which tea is made in different parts of China; while he acknowledged that the Canton plant, known to botanists as Thea bohea, appeared distinct from the more northern one called Thea viridis, he endeavoured to show that both black and green teas could be made from either, and that the difference in the appearance of these teas, in so far as colour was concerned, depended upon manipulation, and upon that only. In proof of this he remarked that the black tea plant found by him near Foo-chow-foo, at no great distance from the Bohea hills, appeared identical with the green tea plant of Che-kiang. It is now well known that the fine Muning districts near the Poyang Lake, which are daily rising in importance on account of the superior character of their black teas, formerly produced nothing else but green teas. At Canton green and black teas are made from the Thea bohea at the pleasure of the manufacturer, and according to demand.

Preparation of Green tea.—When the leaves are brought in from the plantations they are spread out thinly on flat bamboo trays, in order to dry off any superfluous moisture. They remain for a very short time exposed in this manner, generally from one to two hours; this, however, depends much upon the state of the weather. In the mean time the roasting-pans have been heated with a brisk wood fire. A portion of leaves are now thrown into each pan and rapidly moved about and shaken up with both hands. They are immediately affected by the heat, begin to make a crackling noise and become quite moist and flaccid, while at the same time they give out a considerable portion of vapour. They remain in this state for four or five minutes, and are then drawn quickly out and placed upon the rolling table. The rolling process now commences. Several men take their stations at the rolling table and divide the leaves amongst them. Each takes as many as he can press with his hands, and makes them up in the form of a ball. This is rolled upon the rattan worked table, and greatly compressed, the object being to get rid of a portion of the sap and moisture, and at the same time to twist the leaves. These balls of leaves are frequently shaken out and passed from hand to hand until they reach the head workman, who examines them carefully to see if they have taken the requisite twist. When he is satisfied of this the leaves are removed from the rolling table and shaken out upon flat trays, until the remaining portions have undergone the same process. In no case are they allowed to lie long in this state, and sometimes they are taken at once to the roasting-pan. Having been thrown again into the pan, a slow and steady charcoal fire is kept up, and the leaves are kept in rapid motion by the hands of the workmen. Sometimes they are thrown upon the rattan table and rolled a second time. In about an hour or an hour and a half the leaves are well dried and their colour has become *fixed*, that is, there is no longer any danger of their becoming black. They are of a dullish green colour, but become brighter afterwards. This does not allude to teas which are coloured artificially. The most particular part of the operation has now been finished, and the tea may be put aside until a larger quantity has been made. The second part of the process consists in winnowing and passing

the tea through sieves of different sizes, in order to get rid of the dust and other impurities, and to divide the tea into the different kinds known as twankay, hyson skin, hyson, young hyson, gunpowder, &c. During this process it is refired, the coarse kinds once, and the finer sorts three or four times. By this time the colour has come out more fully, and the leaves of the finer kinds are of a dull bluish green. It will be observed, then, with reference to green tea—1st, that the leaves are roasted almost immediately after they are gathered; and 2nd, that they are dried off quickly after the rolling process.

Black tea.—When the leaves are brought in from the plantations they are spread out upon large bamboo mats or trays, and are allowed to lie in this state for a considerable time. If they are brought in at night they lie until next morning. The leaves are next gathered up by the workmen with both hands, thrown into the air and allowed to separate and fall down again. They are tossed about in this manner, and slightly beat or patted with the hands for a considerable space of time. At length, when they become soft and flaccid, they are thrown in heaps and allowed to lie in this state for about an hour or perhaps a little longer. When examined at the end of this time, they appear to have undergone a slight change in colour, are soft and moist, and emit a fragrant smell. The next part of the process is exactly the same as in the manipulation of green tea. The leaves are thrown into an iron pan, where they are roasted for about five minutes and then rolled upon the rattan table. After being rolled, the leaves are shaken out, thinly, on sieves, and exposed to the air out of doors. A framework for this purpose, made of bamboo, is generally seen in front of all the cottages amongst the tea-hills. The leaves are allowed to remain in this condition for about three hours: during this time the workmen are employed in going over the sieves in rotation, turning the leaves and separating them from each other. A fine dry day, when the sun is not too bright, seems to be preferred for this part of the operation. The leaves, having now lost a large portion of their moisture, and having become reduced considerably in size, are removed into the factory. They are put a second time into the roasting-pan for three or four minutes, and taken out and rolled as before. The charcoal fires are now got ready. A tubular basket, narrow at the middle and wide at both ends, is placed over the fire. A sieve is dropped into this tube and covered with leaves, which are shaken on it to about an inch in thickness. After five or six minutes, during which time they are carefully watched, they are removed from the fire and rolled a third time. As the balls of leaves come from the hand of the roller, they are placed in a heap until the whole have been rolled. They are again shaken on the sieves as before and set over the fire for a little while longer. Sometimes the last operation, namely, heating and rolling, is repeated a fourth time: the leaves have now assumed their dark colour. When the whole has been gone over in this manner, it is then placed thickly in the baskets which are again set over the charcoal fire. The workman now makes a hole with his hand through the centre of the leaves, in order to allow vent to any smoke or vapour which may rise from the charcoal, as well as to let the heat up, and then covers the whole over with a flat basket. Previous to this the heat has been greatly reduced by the fires being covered up. The tea now remains over the slow charcoal fire until it is perfectly dry; it is, however, carefully watched by the manufacturer, who every now and then stirs it up with his hands, so that the whole may be equally heated. The black colour is now fairly brought out, but afterwards improves in appearance: the after processes, such as sifting, picking, and refiring, are carried on at the convenience of the workman. It will be remarked, therefore, with reference to the leaves which are to be converted into black tea,—1st, that they are allowed to lie for some time spread out in the factory after being gathered and before they are roasted; 2d, that they are tossed about until they become soft and flaccid, and then left in heaps, and that this also is done before they are roasted; 3d, that after being roasted for a few minutes and rolled, they are exposed for some hours to the air in a soft and moist state; and 4th, that they are at last dried slowly over charcoal fires. The differences in the processes of manufacture of black and green teas are therefore most marked, and fully account for the difference in colour, as well as for the effect produced on some constitutions by green tea, such as nervous irritability, sleeplessness, &c. as shown in observations made by Mr. Warrington, of Apothecaries' Hall.—*Balls' Cultivation and Manufacture of Tea. Fortune, Tea Districts*, p. 281.

Raw tea leaves, just as they are plucked from the bushes, and unmanufactured, are exposed for sale in the markets of China. They are sold at from three farthings to five farthings a pound; and as it takes about four pounds of raw leaves to make one pound of tea, it follows that the price paid is at the rate of threepence to fivepence a pound, but to this must be added the expense of manipulation. In this

manner the inhabitants of large towns in China who have no tea-farms of their own can buy the raw leaves in the market and manufacture the beverage for themselves and in their own way.

Tea, Caper.—This description of tea is produced near a place called Taishan, in the Canton province, a few miles inland from the city. Here it undergoes only the first process of manipulation; that is, it is fired, rolled, and dried, and the colour fixed, but nothing further is done to it. It is then packed up in mat-bags or baskets and sent down to Canton to be made up in the approved manner, and scented for exportation. On examining this tea at Canton, it has a very rough appearance, and in the state in which it was, seems unsuited for the foreign markets. The workmen in remaking it go to work in the following manner: A convenient quantity, about twenty or thirty pounds, is thrown into the drying-pan, which had been heated for the operation. Here it is sprinkled with a basinful of water, and rapidly turned over with the hands of the workman. The dry leaves immediately imbibe the moisture and become soft and pliable. This softening process prevents them from breaking down into dust, and fits them also to take any form which is considered desirable by the manipulator. The water used on the occasion stands in a large basin adjoining the drying-pans and has a yellow dirty appearance, which Mr. Fortune was rather at a loss to account for. At first sight he thought it was mixed with some ingredient which was intended to give a peculiar tint or colour to the tea, but on inquiry it turned out that his conjecture was wrong. Our guide, on being appealed to for information on the subject, coolly informed us that "there was nothing in the water, it was quite clean, but that the workmen were in the habit of washing their hands in it!" As soon as the leaves had become softened by the moisture and heat in the pan, they were taken out and put into a strong canvas bag, and twisted firmly into a round form, resembling a football. This bag was then thrown down on the floor, which had been covered with a mat, and a man jumped upon it with both feet, supporting himself at the same time by laying hold of a bamboo pole, which had been erected in a horizontal position for the purpose. The heel, sole, and toes of his feet were now kept in perpetual motion, in turning and twisting the ball while the weight of his body compressed it gradually into a smaller size. As the bulk of the ball is thus reduced by pressure, the canvas slackens, and it is necessary for the workman from time to time to jump off it and tighten its mouth by giving it an extra twist with his hands. The balls by this process of rolling and twisting, become at last very hard and solid, and are then thrown on one side, and allowed to be in this state for several hours: if this work has been done in the evening, they remain all night. By this system of pressing, twisting, and rolling, the greater portion of the moist leaves take a circular form, which goes on to perfection during the subsequent drying which the leaves have, of course, to undergo, and ends in the production of the round shot-like appearance by which this kind of tea is known. It is a most curious sight to a stranger who sees the mode of making this tea for the first time. A whole row of these men, nearly naked when the weather is warm, each with a large ball under his feet, which he is twisting and rolling with all his might, is so unexpected a sight in tea-making. The best kind of caper takes the round form naturally during the manufacture of souchong or congou, but only a very small quantity, about five per cent. could be procured in this way. By far the greatest portion of the caper exported is manufactured in the manner just described. But there is another mode of making caper which is scarcely as legitimate as the former. In one corner of the factory he observed a quantity of tea exceedingly coarse in quality, in fact the refuse of that which he had been examining. All the art of the manipulator, in so far as heating and pressing and rolling in the usual way, was not equal to make a good-looking "caper" out of this. The leaves were too old, too large and coarse in their present state. But although there might be some difficulty even to a Chinese in making small leaves into large ones, there was none whatever in making large leaves small, and their mode of doing this was as follows. These coarse leaves were first of all heated and moistened as the others had been, in order to make them soft and pliable. They were then thrown into square boxes and chopped up for some time until the size of the leaves was reduced. When this was accomplished to the satisfaction of the operator, they were then made into nice-looking round "caper" suitable for the market. The origin of the name this tea bears is no doubt from its resemblance in form to the flower buds of the caper-bush of the south of Europe, and yet it is rather a curious coincidence that the greater part of caper tea finds its market in the Cape of Good Hope. His Chinese guide informed him with a peculiar grin on his countenance, that when there is a large demand for green teas, caper is converted into imperial and gunpowder by dyeing it with prussian blue and gypsum. The "orange pekou" of commerce, which is produced in the same district as the

caper, is somewhat like congou in make but the leaf is much more wiry and twisted, and is of a lighter complexion. The infusion produced by this tea has a yellow or orange tint, and hence the name of orange pekoe which it bears. Like hyson pekou amongst green teas this is made from the young leaves soon after they unfold themselves in spring, and hence many of the leaves are covered with white hairs which are formed at this season of the year. These hairy leaves are called pekoe ends by the trade. A large quantity of this tea is gathered and dried by itself, while another portion is taken out of that of which the "caper" is ultimately made."

Black Tea.—During the days of the East India Company's Charter all the best black teas were produced in the province of Fokien. The towns of Tsin-tsun and Tsong-gan in the vicinity of the far-famed Woo-e hills were then the chief marts for the best black teas exported by the Company. At that period the districts about Ning-chow, in the Kiangse province, were known only for their green teas. Now, however, and for many years past, although the Fokien black teas are, and have been, largely exported, those produced in the Ning-chou districts have risen in the public estimation, and generally fetch very high prices in the English market. If there be any one now who still clings to the old idea that green teas can be made only from the plant called Thea viridis, and black ones only from Thea bohea, he will find a difficulty in giving credit to the account of the manner in which the Ning-chou districts have changed their green teas into black. Many years ago a spirited Chinese merchant, who no doubt saw well enough that black and green teas could be made easily enough from the same plant, had a crop of black teas made in the Ning-chow district and brought to Canton for sale. This tea was highly approved of by the foreign merchants at that port, and was bought by the great house of Messrs. Dent and Company and sent to England. When it got home it found a ready sale in the market, and at once established itself as a black tea of the first class. Year by year after this the demand for this tea steadily increased and was as regularly supplied by the Chinese. At the present time the Ning-chow districts produced black teas only, while in former days they produced only green. If proof were wanting, this would appear sufficient to show that black or green teas can be made from any variety of the tea plant, and that the change of colour in the manufactured article depends entirely upon the mode of the manipulation.

Brick tea of Thibet.—A sample of this curious product was shown by the East India Company in 1851. It is formed of the refuse tea-leaves and sweepings of the granaries, damped and pressed into a mould, generally with a little bullock's blood. The finer sorts are friable masses, and are packed in papers; the coarser sewn up in sheep's skin. In this form it is an article of commerce throughout Central and Northern Asia and the Himalayan provinces; and is consumed by Mongols, Tartars, and Tibetans, churned with milk, salt, butter, and boiling water, more as a soup than as tea proper. Certain quantities are forced upon the acceptance of the western tributaries of the Chinese Empire in payment for the support of troops, &c.; and is hence, from its convenient size and form, brought into circulation as a coin, over an area greater than that of Europe.

Tea; the varieties manufactured.—Sir John Francis Davis, in his work, "The Chinese," says tea has always held a principal place in our intercourse with China, and that the fineness and dearness of tea are determined by the tenderness and smallness of the leaf when picked. The various descriptions of the black diminish in quality and value as they are gathered later in the season, until they reach the lowest kind, called by us Bohea, and by the Chinese (Ta-cha) 'large tea' on account of the maturity and size of the leaves. The early leaf buds in spring, being covered with a white silky down, are gathered to make pekoe, which is a corruption of the Canton name Pak-ho 'white down.' A few days' longer growth produce what is here styled 'black leaved pekoe.' The more fleshy and matured leaves constitute souchong; as they grow larger and coarser they form congou; and the last and latest picking is bohea. Tea-farmers, who are small proprietors or cultivators, give the tea a rough preparation, and then take it to the contractors, whose business it is to adapt its farther preparation to the existing nature of the demand. The different kinds of tea may be considered in the ascending scale of their value.

1. Bohea, which in England is the name of a quality, is in China the name of a district where various kinds of black tea are produced. The coarse leaf brought under that name to Great Britain is distinguished by containing a larger proportion of the woody fibre than other teas; its infusion is of a darker colour, and as it has been more subjected to the action of fire, it keeps a longer time without becoming musty than the finer sorts. Two kinds of bohea are brought from China: the lowest of these is manufactured on the spot, and there-

fore called "Canton Bohea," being a mixture of refuse Congou with a coarse tea called Woping, the growth of the province. The better kind of Bohea comes from the district of that name in Fokein, and, having been of late esteemed equally with the lower Congou teas, has been packed in the same square chest, while the old Bohea package is of an oblong shape.

2. Congou, the next higher kind, is named from a corruption of the Chinese Koongfoo, 'labour or assiduity.' It formed for many years the bulk of the East India Company's cargoes; but the quality gradually fell off, in consequence of the partial abandonment of the old system of an annual contract, by which the Chinese merchants were assured of a remunerating price for the better sorts. The consumption of Bohea in Great Britain has of late years increased, to the diminution of Congou, and the standard of the latter has been considerably lowered. A particular variety, called Campoi, is so called from a corruption of the general name Kiew-peo, 'Selection—choice;' but it has ceased to be prized in Great Britain, from absence of strength, a characteristic which is stated to be generally esteemed beyond delicacy of flavour.

3. Souchong (Seaou-choong, 'small, or scarce sort') is the finest of the stronger black teas, with a leaf that is generally entire and curly, but more young than in coarser kinds. What is called 'Padre Souchong' is packed in separate paper bundles, of about half a pound each, and is so fine as to be used almost exclusively for presents. The probability is that its use in that way by the Catholic missionaries first gave rise to the name. The finest kinds of Souchong are sometimes scented with the flowers of the Chloranthus inconspicuus, and Gardenia florida; and they cannot be obtained even among the Chinese except at high prices. A highly crisped and curled leaf called Sonchi, has lately grown into disrepute and been much disused, in consequence of being often found to contain a ferruginous dust, which was probably not intended as a fraud, but arose from the nature of the ground, where the tea ha been carelessly and dirtily packed.

4. Pekoe being composed mainly of the young spring-buds, the gathering of these must, of course, be injurious in some degree to the future produce of the shrub, and this description of tea is accordingly both dear and small in quantity. With a view to preserving fineness of flavour, the application of heat is very limited in drying the leaves, and hence it is, that Pekoe is more liable to injury from keeping than any other sort of tea. There is a species of Pekoe made in the Green tea country from the young buds in like manner with the black kind; but it is so little fired that the least damp spoils it; and for this reason, as well as on account of its scarcity and high price, the Hyson-pekoe, as some call it, has never been brought to England. The mandarins send it in very small canisters to each other, or to their friends, as presents, under the name of Loongtsing, which is probably the name of the district where the tea is made.

Green teas may generally be divided into five denominations, which are—1. Twankay; 2. Hyson-skin; 3. Hyson; 4. Gunpowder; 5. young Hyson. Twankay tea has always formed the bulk of the green teas imported into England, being used by the retailers to mix with the finer kinds. The leaf is older and not so much twisted and rolled as in the dearer descriptions: there is altogether less care and trouble bestowed on its preparation. It is, in fact, the Bohea of green teas; and the quantity of it brought to England has fully equalled three-fourths of the whole importation of green. Hyson skin is so named from the original Chinese term, in which connection the skin means the refuse or inferior portion of anything; in allusion, perhaps, to the hide of an animal or the rind of fruit. In preparing the fine tea called Hyson all those leaves that are of a coarser yellow and less twisted or rolled appearance are set apart and sold as the refuse or skin tea at a much inferior price. The whole quantity, therefore, depends on, and bears a proportion to, the whole quantity of Hyson manufactured, but seldom exceeds two or three thousand chests in all. The word Hyson is corrupted from the Chinese name which signifies flourishing spring, this fine sort of tea being of course gathered in the early part of the season. —*Fortune's Wanderings, pages* 219, 220, 221 and 222.

Mr. Williams, writing on the tea plant, says its botanical affinities ally it to the Camellia, and both have the same name among the Chinese; botanists call it Thea, and it is still a matter of dispute whether the different sorts are distinct species or mere varieties. Mr. Fortune found them growing together, and Loureiro, a medical missionary in China, regards all the varieties as ascribable to these causes, though De Candolle divides them into three species, Thea bohea, Thea viridis, and Thea cochinsinensis. The plant is from three to six feet high, and usually presents a dense mass of foliage on an infinite number of small twigs, a result of the practice of cutting it down. In Assam, where it has been found wild, it reaches the height of thirty feet. The leaf is a dark green color, of an oblong oval shape, and the flowers are white, inodorous, and single; the seeds are like hazel-nuts in

size and colour, three of them being inclosed in a hard husk, and so oily as to corrupt soon after ripening; this oil is rather acrid and bitter, but is useful for various purposes.

The Chinese names given to the various sorts of tea, the produce of these varieties, are derived for the most part from their appearance or place of growth; the names of many of the best kinds are not commonly known abroad. Bohea is the name of the Wu-i hills (or Bu-i as the people on the spot call them), where the tea is grown, and not a term for a particular sort among the Chinese, though it is applied to a very poor kind of black tea at Canton; Sunglo is likewise a general term for the green teas produced on the hills in Kiangsu. The names of the principal varieties of black tea are as follows: Pecco, "white hairs," so called from the whitish down on the young leaves, is one of the choicest kinds and has a peculiar taste; Orange Pecco, called shang hiang, or "most fragrant," differs from it slightly; Hungmuey, "red plum blossoms," has a slightly reddish tinge; the terms prince's eyebrows, carnation hair, lotus kernel, sparrow's tongue, fir-leaf pattern, dragon's pellet, and dragon's whiskers, are all translations of the native names of different kinds of Souchong or Pecco. Souchong, or sian chung, means little plant or sort, as Pouchong, or folded sort, refers to the mode of packing it; Campoi is corrupted from kan pei, i. e., carefully fired; Chulan is the tea scented with the chulan flower, and applied to some kinds of scented green tea. The names of green teas are less numerous: Gunpowder, or ma chu, i. e., hemp pearl, derives its name from the form into which the leaves are rolled: ta chu, or "great pearl," and chulan, or "pearl flower," denote two kinds of Imperial; Hyson or yu tsien, i. e., before the rains, originally denoted the tenderest leaves of the plant, and is now applied to the young Hyson; as also another name, mei pien, or "plum petals;" while hi-chun, "flourishing spring," describes Hyson; Twankay is the name of a stream in Chehkiang, where this sort is produced; and Hyson skin or pi cha, i. e., skin tea, is the poorest kind, the siftings of the other varieties; Oolung, "black dragon," is a kind of black tea with green flavor. Ankoi teas are produced in the district of Nganki, not far from Tsinenchan fu, possessing a peculiar taste, supposed to be owing to the ferruginous nature of the soil. De Guignes speaks of the Pu-'rh tea, from the place in Kiangsu where it grows, and says it is cured from wild plants found there, the infusion is unpleasant, and used for medical purposes. The Mongols and others in the west of China prepare tea by pressing it when fresh into cakes like bricks, and thoroughly drying it in that shape to carry in their wanderings. The poorer natives substitute the leaves of a species of Rhamnus or Fallopia, which they dry; Camellia leaves are perhaps mixed with it, but probably to no great extent. The refuse of packing houses is sold to the poor at a low rate.—*Williams' Middle Kingdom, Vol. II, p.* 135.

Manufacture.—The questions have been often discussed whether black or green teas are made from the same plant, and whether they can be made from each other. Chinese account ascribes the difference in the color of black and green tea wholly to the mode of preparation; green tea is cured more rapidly over the fire than the black, and not dried in baskets afterwards; but throwing the leaf into red hot pans, and subsequently exposing it to the sun and drying it over a covered fire makes it black. Green tea can therefore be changed into black, but the contrary cannot be done, because the leaf is already black. Green tea is made by simply drying the leaves, "young ones over a gentle heat and old ones over a hot fire, for about half an hour or while two incense-sticks can burn out." By this mode more of the essential oil remains in the leaf, and is one reason, perhaps, why a greater proportion of green tea spoils or becomes musty during the long land journey to Canton. The tea cured for home consumption is not as carefully or thoroughly fired as that intended for exportation, and consequently probably retains more of its peculiar properties.

Testing of Tea.—Both kinds are repeatedly tested during the various stages of manufacture by pouring boiling water on a few leaves, to observe the color, aroma, taste, strength and other properties of the infusion. As many as fifteen drawings can be made from the best leaves before the infusion runs off limpid. In the usual manner of Chinese writings ten things are specifically mentioned by the native author to be observed in selecting green tea; such as, that the leaf must be green, firmly rolled, and fleshy; there must be no petioles adhering, no dirty or broken leaves of twigs; and the infusion should be greenish, aromatic, and oily. In selecting all kinds of tea, the color, clearness, taste, and strength of the infusion are the principal criteria; the weight of the parcels, taste and color of the dry leaf, and its smell when strongly breathed upon, are also noticed. Some Ankoi teas are tried by a lodestone to detect the presence of minute particles of iron.

Soil suitable for its Cultivation.—The soil most favourable for the growth of tea is a rich sandy earth, with a large proportion of vegetable mould in it, and situations on the

sides of hills, where there is a good exposure and supply of water, produce the best flavoured leaves. The patches above the rice grounds are favorite situations, but the plant is seldom cultivated on the plains or lowlands. A loamy subsoil, with a sandy loose covering, produces a good crop of leaves and in the plantations visited in the Ankoi hills in Fuhkien, much of it is colored with iron. The greater part of the tea exported is grown in the provinces of Fuhkien, Chehkiang, and Kiangsu, but all the eighteen produce it, except in the northern regions lying along the base of the table-land in Chihli and Shansi, though the eastern parts, between the parallels of 25° and 35° north, afford it in the greatest perfection and abundance. With the increased demand its cultivation has extended, and perhaps that of cotton has diminished in a corresponding degree, the southern hills of Fuhkien, the western parts of Kwangtung, and districts in Kwangsi, also afford it for foreign markets. Russia is supplied from Szchuen and the adjoining region, while Birmah gets a part from Yunnan.

Cultivation.—Tea is usually raised by individuals, who cultivate a few dozen or scores of shrubs upon their own lands, and either cure the leaves themselves, or sell them to their neighbours, after assorting them according to their quality. There are very few large plantations under the care of rich landlords, but each little farmer raises tea as he does cotton, silk, or rice upon his own premises. The seeds are thickly planted in nursery beds, because many of them fail from their oily nature, and when the nurslings are a foot or more high they are transplanted into rows about four feet apart; sometimes they are put in the spot designed for them, and if more than one seed in a hole succeeds, it is removed. No preparation of the ground is necessary, nor is much care taken to keep the shrubs in a healthy state; those near Canton are usually covered with lichens, and when thus neglected worms attack the wood. The leaves are picked from the plant when three years old, but it does not attain full size before six or seven, and thrives according to circumstances and care from fifteen to twenty years, being in fact gradually killed by constantly depriving it of its foliage. Pruning the twig to increase the quantity of leaves develops the branches laterally, so that large, healthy shrubs resemble a collection of plants rather than a single bush. The interspaces are frequently sown with vegetables, and the practice is to spread them as much as possible in order to prevent their being shaded. In the Bohea-hills, where the best tea is produced, there is, according to the Chinese, considerable difference in the quality of the leaves from gardens not very far apart, and connoisseurs are as particular to inquire the name of the place whence their tea comes as western wine drinkers are to learn the names of the vineyards producing the best brands. The produce of old and celebrated nurseries is carefully connected and cured by itself, and one native authority states that the prices of these particular lots vary from 15 to 100 dollars per pound.

The annual produce of a single plant of large size is said to be from 16 or 18 to 24 ounces; but an English visitor to the Aukoi hills ascertained that the common average yield was not far from six ounces, and that a thousand square yards contained between 300 and 400 plants. Three crops of leaves are gathered during the season. The first picking is about the middle of April, or whenever the tender leaf buds begin to open, and while the leaves are still covered with a whitish down; these, though not very numerous, produce the finest tea, and the notion that some of the delicate sorts of tea are made from the flowers has originated from the whitish appearance this down imparts to them; for no tea can be made from the thin, scentless petals of the tea blossom. The second gathering is about the first of May, when the shrubs are covered with full-sized leaves. Chinese writers say that the weather has great influence upon the condition of the leaves, and that an excess or want of rain mildews or withers them, so as materially to affect the quality and quantity of the crop. When the proper time has arrived, a large number of hands should be employed to gather the leaves rapidly, and at this period the whole population, men, women, and children, find employment. Each person can on an average pick 13 lbs. of leaves in a day, for which the wages are about six cents. The third crop is collected about the middle of July, and there is also a fourth gleaning in August, called tsiu-lu, i. e., autumn dew, from the name of the season in which it takes place; the three previous ones called first, second, and third springs. The two last crops afford only inferior kinds, seldom exported.

Cultivation in China.—The tea shrub is cultivated every where and often in the most inaccessible situations; such as on the summits and ledges of precipitous rocks. Mr. Ball states that chains are said to be used in collecting the leaves of the shrubs growing in such places; and the greatest quantity is grown on level spots on the hill-sides, which have become enriched, to a certain extent, by the vegetable matter and other deposits which

have been washed down by the rains from a higher elevation. Very little tea appeared to be cultivated on the more barren spots amongst the hills.

Soil.—The soil of the tea-lands about Woomshan seemed to vary considerably. The most common kind was a brownish-yellow adhesive clay. This clay, when minutely examined, is found to contain a considerable portion of vegetable matter mixed with particles of the rocks above enumerated. In the gardens on the plains at the foot of the hills the soil is of a darker colour, and contains a greater portion of vegetable matter, but generally it is either brownish yellow or reddish yellow. As a general rule the Chinese always prefer land which is moderately rich provided other circumstances are favourable. By far the greatest portion of the tea in this part of the country is cultivated on the sloping sides of the hills. He observed a considerable quantity also in gardens on the level land in a more luxuriant state even than that on the hill-sides ; but these gardens were always a considerable height above the level of the river and were consequently well drained.

Cultivation and management of plantations.—In the black-tea districts as in the green, large quantities of young plants are yearly raised from seeds. These seeds are gathered in the month of October, and kept mixed up with sand and earth during the winter months. In this manner they are kept fresh until spring, when they are sown thickly in some corner of the farm, from which they are afterwards transplanted. When about a year old they are from nine inches to a foot in height, and ready for transplanting. They are planted in rows about four feet apart. Five or six plants are put together in each hole and these little patches are generally about three or four feet from each other in the rows. Sometimes, however, when the soil is poor, as in many parts of Woo-e-shan, they are planted very close in the rows, and have a hedge-like appearance when they are full grown. The young plantations are always made in spring, and are all well watered by the rains which fall at the change of the monsoon in April and May. The damp, moist weather at this season enables the young plants to establish themselves in their new quarters where they require little labour afterwards, except in keeping the ground free from weeds. A plantation of tea, when seen at a distance, looks like a little shrubbery of evergreens. As the traveller treads his way amongst the rocky scenery of Woo-e-shan, he is continually coming upon these plantations, which are dotted upon the sides of all the hills. The leaves are of a rich dark green, and afford a pleasing contrast to the strange and often barren scenery which is every where around. The natives are perfectly aware that the practice of plucking the leaves is very prejudicial to the health of the tea-shrubs, and always take care to have plants in a strong and vigorous condition before they commence gathering. The young plantations are generally allowed to grow unmolested for two or three years, or until they are well established and are producing strong and vigorous shoots : it would be considered very bad management to begin to pluck the leaves until this is the case. Even when the plantations were in full bearing Fortune observed that the natives never took many leaves from the weaker plants, and sometimes passed them altogether in order that their growth might not be checked.

The Tea plant.—Mr. Fortune makes the following observations upon the tea plant itself. It has already been remarked that two tea plants considered to be distinct varieties, are met with in China, both of which have been imported into Europe. One, the Canton variety, is called Thea bohea, the other, the northern variety, is called Thea viridis. The former produces the inferior green and black teas which are made about Canton, and from the latter are made all the fine green teas in the great Hwuy-cho country and in the adjoining provinces. Until a few years back it was generally supposed that the fine black teas of the Bohea hills were also made from the Canton variety, and hence its name. Such, however, is not the case. When he visited Foo-chow-foo for the first time in 1845, he observed that the tea-plant in cultivation in that neighbourhood was very different from the Canton variety, and apparently identical with the Thea viridis of Chekiang. Foo-chow-foo was not a very great distance from the Bohea hills, and he had good reasons for believing that the Bohea plant was the same as the Foo-chow one ; but still he had no positive proof. The tea-plant is multiplied by seed like our hawthorns, and it is perfectly impossible that the produce can be identical in every respect with the parent. Instead therefore of having one or two varieties of tea-plant in China, we have in fact many kinds, although the difference between them may be slight. Add to this, that the seeds of this plant are raised year after year in different climates, and we shall no longer wonder that in the course of time the plants in one district appear slightly different from those of another, although they may have been originally produced from the same stock. For these reasons he is of opinion that the plants of Hwuy-chow and Woo-e are the same species, and that slight differences observed are the

results of reproduction and difference of climate. With regard to the Canton plant—both in constitution and habit, it too may have originally sprung from oneand the same species.

These changes, however, do not alter the commercial value of those plants found cultivated in the great tea-countries of Fokien and Hwuy-chow, where the finest teas are produced; for, while the tea shrub may have improved in the course of reproduction in these districts, it may have become deteriorated in others. For this reason seeds and plants ought always to be procured from these districts for transmission to other parts of the world where it is desirable to grow tea.

Cultivation at Hwuy-chow.—In the green-tea district of Hwuy-chew, and he believes in all other parts where the shrub is cultivated, it is multiplied by seeds. The seeds are ripe in the month of October. When gathered they are generally put into a basket, and mixed up with sand and earth in a damp state, and in this condition they are kept until the spring. If this plan is not pursued only a small portion of them will germinate. Like the seeds of the oak and chesnut, they are destroyed when exposed to sudden changes in temperature and moisture. In the month of March the seeds are taken out of the basket and placed in the ground. They are generally sown thickly, in rows or in beds, in a nursery, or in some spare corner of the tea-farm, and sometimes the vacancies in the existing plantations are made up by sowing five or six seeds in each vacant space. When the young plants are a year old they are in a fit state for transplanting. This is always done at the change of the monsoon in spring, when fine warm showers are of frequent occurrence. They are planted in rows about four feet apart, and in groups of five or six plants in the row. The distance between each group or patch is generally about four feet. The first crop of leaves is taken from these plants in the third year. When under cultivation they rarely attain a greater height than three or four feet. When the winters are very severe the natives tie straw bands round the bushes to protect them from the frost, and to prevent it and the snow from splitting them.

Tea picking or Tea Harvest.—Mr. Fortune says he made Ayukas temple his head-quarters for several days after the events took place which he has related in the previous chapter. His time was now fully occupied in visiting all the tea farms in the neighbourhood, and in getting information concerning the cultivation and manufacture of tea. It was the harvest-time for the principal crop of the season, and the natives were observed on every hill-side busily engaged in gathering the leaves. These tea gatherers were generally seen in small groups consisting from eight to twelve persons. One old man was usually at the head of each group, the others being women and children. Each had a small stool formed like the letter T, but broad of course at the top, for sitting on while gathering the leaves on the lower sides of the bushes. The foot stool being pointed, it was easily forced into the ground in order to render it steady, and as easily drawn out and carried to a different spot. When these tea gatherers are hired they are not paid by the day, but by the quantity of leaves they bring in to their employers. In making inquiries on the point he found they were paid at the rate of four and five cash a catty, and that they were able to gather from thirty to forty catty a day. In other words, each was able to gather from forty to fifty-three pounds of raw leaves per day, for which was received from 6*d.* to 9*d.*, or thereabouts. But it is only very expert and well trained hands that can make such a sum as this, children and very old people make, of course, something considerably less. Wages of labourers in the tea districts of China range from 2*d.* to 3*d.* per day with their food, which is almost always furnished by the farmers, and which may cost about 3*d.* or 4*d.* more, making the whole day's labour amount to 6*d.* or 7*d.* The food of this people is of the simplest kind—namely, rice, vegetables, and a small portion of animal food, such as fish or pork.

Scenting of Tea.—Having taken a passing glance at all the objects on entering the building, I next, says Fortune, directed my attention to the scenting process, which had been the main object of my visit, and which I shall now endeavour to describe. In a corner of the building there lay a large heap of orange-flowers, which filled the air with the most delicious perfume. A man was engaged in sifting them to get out the stamen and other smaller portions of the flower. This process was necessary, in order that the flowers might be readily sifted out of the tea after the scenting had been accomplished. The orange-flowers being fully expanded, the large petals were easily separated from the stamens and smaller ones. In 100 parts 70 per cent. were used and 30 thrown away. When the orange is used, its flowers must be fully expanded, in order to bring out the scent; but flowers of jasmine may be used in the bud, as they will expand and emit their fragrance during the time they are mixed with the tea. When the flowers had been sifted over in the manner described they were ready for use. In the meantime the tea to be scented had been carefully manipu-

lated, and appeared perfectly dried and finished. At this stage of the process it is worthy of observing that, while the tea was perfectly dry, the orange-flowers were just as they had been gathered from the trees. Large quantities of the tea were now mixed up with the flowers, in the proportion of 40 lbs of flowers to 100 lbs. of tea. This dry tea and the undried flowers were allowed to lie mixed together for the space of twenty-four hours. At the end of this time the flowers were sifted out of the tea, and by the repeated sifting and winnowing processes which the tea had afterwards to undergo, they were nearly all got rid of. Sometimes a few stray ones are left in the tea, and may be detected even after it arrives in England. A small portion of tea adheres to the moist flowers when they are sifted out, and this is generally given away to the poor who pick it out with the hand. The flowers, at this part of the process, had impregnated the tea leaves with a large portion of their peculiar odours, but they had also left behind them a certain portion of moisture which it was necessary to expel. This was done by placing the tea once more over slow charcoal-fires in basket sieves prepared for the purpose of drying. The scent communicated by the flowers is very light for some time, but like the fragrance peculiar to the tea leaf itself, comes out after being packed for a week or two. Sometimes this scenting process is repeated when the odour is not considered sufficiently strong, and the head man in the factory informed me he sometimes scented twice with orange-flowers and once with the "Mo-le" (Jasminum sambac). The flowers of various plants are used in scenting by the Chinese, some of which are considered better than others, and some can be had at seasons when others are not procurable. I considered it of some importance to the elucidation of this subject to find out not only the Chinese names of these various plants, but also by examining the plants themselves, to be able to give each the name by which it is known to scientific men in all parts of the world. The following list was prepared with great care, and may be fully relied upon. The numbers prefixed express the relative value of each kind in the eyes of the Chinese, and the asterisks point out those which are mostly used for scenting teas for the foreign markets in the order in which they are valued. Thus the "Mo-le" and the "Sieu-hing" are considered the best and so on :—

1 Rose scented (Tsing moi-qui-hwa).
1 or 2 plum double (Moi-hwa)
2 *Jasminum sambac (Mo-le-hwa)
2 or 3 *Jasminum paniculatum. (Sieu-hing hwa.)
4 *Aglaia odorata, (Lan-hwa-or you-chulan).
5 Olea fragrans (Kwei-hwa).
6 *Orange (Chang-hwa).
7 *Gardenia florida (Pak-sema-hwa).

It has been frequently stated that the Chloranthus is largely used. This appears to be a mistake, originating, no doubt, in the similarity of its Chinese name to that of Aglaia odorata. The Chloranthus is called "Chu-lan," the Aglaia "Lan" or "Yu-chulan." The different flowers which I have just named are not all used in the same proportion. Thus of orange flowers there are 40 lbs to 100 lbs. of tea ; of Aglaia there are 100 lbs to 150 lbs ; and of Jasminum sambac there are 50 lbs. to 100 lbs. The flowers of the Sieu-hing (Jasminum paniculatum) are generally mixed with those of the mo-le (Jasminum sambac) in the proportion of 10 lbs. of the former to 30 lbs. of the latter, and the 40 lbs. thus produced are sufficient for 100 lbs. of tea. The "Kwei-hwa" (Olea fragrans) is used chiefly in the northern districts as a scent for a rare and expensive kind of Hyson Pekoe—a tea which forms a most delicious and refreshing beverage when taken a la Chinoise without sugar and milk. The quantity of flowers used seemed to be very large ; and I made particular inquiries as to whether the teas that are scented were mixed up with large quantities of unscented kinds. The Chinese unhesitatingly affirmed that such was not the case, but, notwithstanding their assertions, I, he says, had some doubts on this point. The length of time which teas thus scented retain the scent is most remarkable. It varies, however, with the different sorts. Thus the Olea fragrans tea will only keep well for one year, at the end of two years it has either become scentless, or has a peculiar oily odour which is disagreeable. Teas scented with orange blossoms and with those of the Mo-le will keep well for two or three years, and the Sieu hing kinds for three or four years. The Aglaia retains the scent longer than any, and is said to preserve well for five or six years. The tea scented with the Sieu hing is said to be most esteemed by foreigners, although it is put down as second or third rate by the Chinese. Scented teas for the foreign market are nearly all made in Canton and are known to merchants by the names of "scented Orange," "Pekoe," and "scented Caper." They are grown in and near a place called Tashan, in the Canton province. Mr. Walkinshaw informed him that other descriptions of tea, both black and green, have been scented for the English market, but have been found unsuitable. True caper is to black tea

what the kinds called "imperial" and "gunpowder" are to green: it assumes a round, short looking form during the process of manipulation, and it is easily separated from the other leaves by sifting or by the winnowing machine. It is a common error to suppose that "imperial" or "gunpowder" amongst green teas, or "caper" amongst black ones, is prepared by rolling each leaf singly by the hand. Such a method of manipulation would make them much more expensive than they are. One gathering of tea is said to yield 70 per cent. of orange pekoe, 25 of souchong, and 5 of caper. The quantity of true caper would therefore appear to be very small; but there are many ways of increasing the quantity by peculiar modes of manipulation, as I shall afterwards show. In a large factory, such as at Canton, there is, of course, a considerable quantity of dust and refuse tea remaining after the orange pekoe, caper, and souchong have been sifted out of it. This is sold in the country to the natives at a low price, and no doubt is often made up with paste and other ingredients into those lie teas which now-a-days find a market in England. Nothing is lost or thrown away in China. The stalks and yellow leaves which have been picked out by women and children are sold in the country; while the flowers which have done their duty in the scenting process are given to the poor, who pick out the few remaining tea-leaves which had been left by the sieve or winnowing machine. Some flowers, such as those of the Aglaia for example, after being sifted out from the tea, are dried and used in the manufacture of the "fragrant Joss-stick," so much used in the religious ceremonies of the country. It appears from these investigations that many kinds of fragrant flowers besides those used by the Chinese would answer the purpose equally well, and therefore in places like India, where tea is likely to be produced upon an extensive scale, experiments in scenting might be made with any kinds of fragrant jasmines, daphnes, aurantiaceous or other plants of a like kind indigenous to the country. It will be observed from the description just given that the method of scenting teas, like most of the arts in China, is exceedingly simple in its nature and most efficient. It used to be said by those who knew nothing about the matter, that "the flowers were put over a slow fire, with the tea in a separate basket above them, and so the fire drove the scent from the flowers into the tea." Knowing the immense capacity which dry tea has for moisture of any kind, how much more simple and beautiful is the process of allowing it to lie for a space of time mixed up with undried flowers! A few years ago was published a description of the Chinese mode of yielding green teas to suit the depraved tastes in Europe, and particularly in America, where they are largely consumed. Scenting teas is a very different thing, and nothing can be urged against the taste for them. That this is so in the eyes of the Chinese may be gathered from the fact that, while they dye their teas, not to drink, but only to sell, they consume and highly appreciate these scented ones. The price paid for flowers used in the scenting process varies, like everything else according to the demand or supply in the market. In 1854 and 1855, it was about seventeen dollars per pecul, but sometimes as much as thirty dollars are paid for the same quantity. In former years, about the year 1840, as much as sixty dollars per pecul used to be paid for flowers. This information was given me, he says, some time after I had been examining the method of scenting in the Honan factory, and by another manufacturer, and confirmed me in the opinion I had then formed, namely, that after the tea is once scented with the proportions of flowers mentioned above, it is mixed up with large quantities of unscented tea. Were this not so, the large quantity of flowers used would render the tea much more expensive than it really is. Upon making further inquiries, of different individuals and at different times, I found, says he, that my surmises were correct. The results of the information thus obtained were, that sixty pounds of this highly-scented mixture were capable of scenting one hundred pounds of unscented tea, and no doubt it is sometimes used in even smaller proportions. The kinds called "Caper" and Orange Pekoe are quite different in appearance from teas made in the great black-tea provinces of Fokien and Kiang-si as large quantities of these teas—indeed, the whole which are exported—are made up near Canton.

Tea is well known to the natives of Lahore and Cashmere; but the latter are the more fond of tea, and prefer the Thibetan product to the English or even Chinese, notwithstanding the absence of aroma and perfume. The Bokharians and Russians are also fond of tea, and use generally the genuine Chinese production. The former make a soup of tea, by boiling the leaves, and then adding milk, salt and butter; a great cupful of this with bread, forms their daily breakfast. Both Russians and Bokharians drink tea generally without sugar, and chew the leaves afterwards, so that nothing is lost.

Adulterations.—Before noticing these, Dr. Hassall repeats some of the information

previously given. He tells us that the tea plant is a hardy evergreen and leafy shrub which attains the height of from three to six feet and upwards. It belongs to the natural family Columniferæ (Ternstrœmiaceæ of Lindley,) which includes the Camellias. It is generally propagated from seed and the plant comes to maturity in from two to three years, yielding in the course of the season three and in some cases four crops of leaves. The first gathering takes place very early in the spring, a second in the beginning of May, a third about the middle of June, and a fourth in August. The leaves of the first gathering are the most valuable, and from these Pekoe tea, which consists of the young leaf buds as well as black teas of the highest quality, are prepared. Those of the last gathering are large and old leaves and consequently inferior in flavour and value. The leaves vary considerably in size and form; the youngest leaves are narrow convoluted and downy; the next in age and size have their edges delicately serrated with the venation scarcely perceptible: in those of medium and large sizes the venation is well marked, a series of characteristic loops being formed along each marginof the leaf, and the serrations are stronger and deeper and placed at greater intervals.

Varieties of Tea.—The principal varieties of black tea are Bohea, which is of the commonest and coarsest description, Congou, Souchong, Caper, and Padry Souchong and Pekoe, which are of the highest quality, the last consisting of the very young and unexpanded leaves, and which when clothed with down constitute flowery Pekoe.

The principal varieties of green tea are Twankay, Hyson-skin, young Hyson, Hyson Imperial, and Gunpowder, which in green tea corresponds with flowery Pekoe in black. Imperial Hyson, and young Hyson consist of the second and third gatherings, while the light and inferior leaves,separated from Hyson by a winnowing machine, constitute Hyson-skin, a variety in considerable demand amongst the Americans.

Tea plant.—There is according to most writers but one species of the tea-plant from which the whole of the above and many other varieties of tea are obtained, the differences depending upon oil, climate, weather, age of the leaves, and mode of preparation. The plants from which black teas are prepared are grown chiefly on the slopes of hills and ledges of mountains, while the green tea-shrubs are cultivated in manured soil. Upon this circumstance many of the differences between the two varieties depend. Other differences are occasioned by the processes adopted in the preparation and roasting of the leaves. Thus while black tea is first roasted in a shallow iron vessel called a "kuo," and secondly in sieves over a bright charcoal fire, green-tea does not undergo the second method of roasting but only the first that in the "kuo."

An important part of the manufacture of tea consists in the rolling the leaves, so as to impart to them their characteristic twisted shape. This is effected by subjecting the leaves to pressure and rolling by the hands in a particular manner. The first effect of the application of heat to the leaves in the Kuo is to render them soft and flaccid. When in this state, they are removed from the vessel and submitted to the first rolling, an operation which, after the renewed action of the Kuo on each occasion, is three or four times repeated with superior teas before the process is considered to be complete.

Scenting of Tea.—The following observations on the scenting of tea are extracted from Mr. Ball's "Account of the Cultivation and Manufacture of Tea in China."

The Chinese seem universally to agree in ancient as in modern times that no factitious scent can be given to tea which at all equals its natural fragrance: in short they say that only common tea requires scenting. Those persons who have had the opportunity of drinking some of the finest kinds of Souchong tea will perhaps agree with the Chinese in these opinions. There are however many scented teas which so far from being inferior are even costly and much esteemed both in China and in Europe. Of these the Chu Lan, or Cowslip Hyson, may be considered the best. "The tea about to be scented must be taken hot from the last roasting (which immediately precedes the packing, and poured into a Hyson chest so as to form a layer of two inches in height from the bottom, a handful or more of the fresh flowers (already separated from the stalks) is then strewed over the tea. In this manner the tea and flowers are placed in layers until the chest is quite full. The mouth of the canister is then closed and thus the tea remains for twenty-four hours. The proper proportion is three catties of flower to one hundred catties of tea. The next day the the chest is emptied when the tea and flowers are mixed together, they then undergo the process of "Poey," about three catties being put into one sieve. The Poey Song is completely closed that the tea and flowers are thus roasted about from one to two hours or rather until the flowers become crisp. The flowers are then sifted out and the tea packed. If the tea require any further scenting, fresh flowers must be used and the process repeated as before. The tea thus prepared is then mix-

ed with other tea in the proportion of one part of scented tea to twenty of plain. The whole is then slightly heated in a kuo (chao), and when packed constitutes the description of tea denominated in England Cowslip Hyson. Tea may be scented at any time with this kind of tea, but it must be previously heated or roasted about two hours. "The mode of scenting black tea differs from that of green, and so far as is understood, there are two or three methods of performing this process. The Souchong or Caper teas, the Tetsioug and other teas of the Cowslip flavour, are also scented with the Chu Lan flower, Chloranthus inconspicuus. "After gathering, the flowers are separated from the stalk as before when some people dry them in the sun: but the best mode is to dry them in a Poey Song over a slow fire, taking care not to change the yellow colour of the petals. When dried they are put aside to cool and are afterwards reduced to powder. If this powder, the scent of which is very powerful, be sprinkled over the leaves previously to the last or two last roastings and rollings in the process of Poey, the tea will be highly scented, but this is an expensive mode, on account of the additional quantity of flowers required, and therefcre is seldom practised. The usual mode is by sprinkling a small quantity of this powder over the tea during the last process of Poey, which takes place previous to packing. 'A small white powder frequently found in black teas of the caper flavour, cannot have escaped the observation of the tea dealer in England; this powder is that of the Chu Lan flower, whose colour has been changed to white in the process of Poey. There is another scented tea of excellent flavour, which is made in small quantities and occasionally sent to foreigners as presents. This is a Souchong tea, scented with the flower of the 'Pae sheem' (Gardenia florida.) There are two other scented teas, also of fine flavour, both Souchong teas, the one scented with the Quy-fa, or Kuey-hoe (Olea fragrans) and the other with the Moo-Ly-Hoa (Jasminum sambac). Some people say that the three last tea are mixed with the flowers, as the Hyson tea is mixed with the Chu Lan and are scented in the same manner. But others say that two sieves are placed in the Poey Song, the lower one containing the flowers and the upper one the tea. The latter is the mode in which the Pae Sheem tea to which I have previously alluded is scented. These are all the flowers with which I am acquainted which are employed to scent tea, but in the Keun Fang Pu, and Quang Tong Chy, or Canton Geographical History, many others are enumerated as eligible for that purpose. These works also observe that flowers so used should be full blown." McCulloch, in his "Commercial Dictionary," draws an interesting parallel between the vine and the tea plant. "Considered as an object of agricultural produce, the tea plant bears a close resemblance to the vine. In the husbandry of China it may be said to take the same place which the vine occupies in the southern countries of Europe. Like the latter its growth is chiefly confined to hilly tracts not suited to the growth of corn. The soils capable of producing the finest kinds are within given districts limited and partial. Skill and care both in husbandry and preparation are quite as necessary to the production of good tea as to that of good wine. The best wine is produced only in particular latitudes as is the best tea, although perhaps the latter is not restricted to an equal degree. Only the civilised nations of Europe have as yet succeeded in produeing good wines, which is also the case in the East with tea, for the agricultural and manufacturing skill and industry of the Chinese are there unquestionably pre-eminent. These circumstances deserve to be attended to in estimating the difficulties which must be encountered in any attempt to propagate the tea-plant in colonial and other possessions. These difficulties are obviously very great and perhaps all but insuperable. Most of the attempts hitherto made to raise it in foreign countries were not indeed of a sort from which much was to be expected. Within the last few years, however, considerable efforts have been made by the Dutch government of Java to produce tea on the hills of that island, and having the assistance of Chinese cultivators from Fokien, who form a considerable part of the emigrants to Java, a degree of success has attended them beyond what might have been expected in so warm a climate. The Brazilians have made similar efforts, having also, with the assistance of Chinese labourers, attempted to propagate the tea shrub near Rio de Janeiro, and a small quantity of tolerably good tea has been produced; but owing to the high price of labour in America, and the quantity required in the cultivation and manipulation of tea, there is no probability, even were the soil suitable to the plant, that its culture can be profitably carried on in that country. It may perhaps succeed in Assam, where its culture is now being attempted, for labour is there comparatively cheap, and the hilly and table lands are said to bear a close resemblance to those of the tea districts of China; but we are not sanguine in our expectation as to the result." "All the black teas" says McCulloch, "exported (with the exception of a part of the Bohea grown in Woping, a district of Canton) are grown in Fokien, a hilly, maritime, populous and indus-

trious province, bordering to the north east on Canton. Owing to the peculiar nature of the Chinese laws as to inheritance, and probably, also, in some degree to the despotic genius of the government, landed property is much sub-divided throughout the empire, so that tea is generally grown in gardens or plantations of no great extent. The leaves are picked by the cultivator's family and immediately conveyed to market, where a class of persons who make it their particular business purchase and collect them in quantities and manufacture them, in part, that is, expose them to be dried under a shed. A second class of persons commonly known in the Canton market as the tea merchants, repair to the districts where the tea is produced and purchase it in its half prepared state from the first class and complete the manufacture by garbling the different quantities, in which operation women and children are chiefly employed. A final drying is then given and the tea packed in chests and divided according to quality in parcels of from 100 to 600 chests each. These parcels are stamped with the name of the district grower, or manufacturer, exactly as is practised with the wines of Bordeaux and Burgundy, the indigo of Bengal and many other commodities; and from this circumstance get the name of chops, the Chinese term for a seal or signet." "The greater part of the tea is brought to Canton by land carriage, or inland navigation, but chiefly by the first, it is conveyed by porters, the roads of China in the southern provinces not generally admitting of wheel carriages, and beasts of burden being very rare. A small quantity of black tea is brought by sea, but probably smuggled, for this cheaper mode of transportation is discouraged by government, which it deprives of the transit duties levied on inland carriage. The length of land-carriage from the principal districts where the green teas are grown to Canton, is probably not less than 700 miles; nor that of the black tea over a mountainous country, less than 200 miles. The tea-merchants begin to arrive in Canton about the middle of October, and the busy season continues until the beginning of March, being briskest in November, December and January." There is another particular to which the comparison between the vine and tea plant made by Mr. McCulloch may be extended, namely, the not less general use of the infusion made from the leaves of the tea plant by the people of various nations of both the old and new worlds. In China, as appears from the following extract, tea is the common beverage of the people. The late Sir George Staunton informs us that "tea, like beer in England, is sold in public-houses, in every town, and along public roads and the banks of rivers and canals, nor is it unusual for the burdened and weary traveller to lay down his load, refresh himself with a cup of warm tea, and then pursue his journey." The wealthy Chinese simply infuse the leaves in an elegant porcelain cup, which has a cover of the same material; the leaves sink to the bottom of the cup, and generally remain there without inconvenience, though occasionally some may float or rise to the surface. To prevent this inconvenience sometimes a thin piece of silver, of filagree, or open work, is placed immediately on them. Where economy is necessary to be studied the teapot is used. The wealthy Japanese continue the ancient mode of grinding the leaves to powder; and after infusion in a cup, it is whipped with a split bamboo, or denticulated instrument, till it creams, when they drink both the infusion and powder, as coffee is used in many parts of Asia.

Analysis of Tea.—The infusion made from tea contains gum, glucose or saccharine matter, a large quantity of tannin, and a peculiar nitrogenised principle called theine; this is identical with caffein, and upon its presence many of the properties of tea depend. The amount of gum and tannin contained in a given sample of tea afford data by which its quality may to some extent be determined.

Properties of Tea.—Lo Yu, a learned Chinese, who lived in the dynasty of Tang, A. D. 618 to 906, gives the following agreeable account of the qualities and effects of the infusion of the leaves of the tea plant.

"It tempers the spirit and harmonises the mind; dispels lassitude and relieves fatigue; awakens thought and prevents drowsiness; lightens or refreshes the body and clears the perceptive faculties." In Pereira's "Materia Medica" we find the following remarks relating to the properties of tea:—Its astringency is proved by its chemical properties. Another quality possessed especially by green tea, is that of diminishing the tendency to sleep. Tea appears to possess a sedative influence with regard to the vascular system. Strong green tea taken in large quantities, is capable in some constitutions of producing a most distressing feeling and of operating as a narcotic.

Adulteration of Tea. On the Use and Detection of Leaves other than those of the Tea plant.— It has been stated that the Chinese not unfrequently make use of the leaves of other plants besides those of tea, and in particular the leaves of Camellia sasanqua and Chloranthus inconspicuus.

La Veno Beno.—This is an article which may be noticed in this place, being now very commonly sold under the above attrac-

tive title, to mix with tea. La Veno Beno consists of a coarse powder, of a reddish brown colour, intermixed with small fragments of a leaf which is stated to be that of sumach; to the taste the powder is astringent and bitter, and on analysis, it is ascertained to be composed in great part of coarsely powdered catechu.

Chinese Botanical Powder.—Like La Veno Beno, it is put up in packages, and sold at the same price; it consists of a coarse powder, of a reddish-brown colour and astringent taste, and is made up of a mixture of catechu and wheat flour, the latter ingredient being added to reduce the strength of the catechu. Its use is open to the same objections, sanitary and others, as La Veno Beno.

From a consideration of the analysis of tea made by Dr. Hassall it appears

1st. That not one of thirty-five samples of black tea, as imported into England, contained any other leaf than that of the tea-plant.

2nd. That out of the above number of samples, twenty-three were genuine and twelve adulterated. The genuine teas were the Congous and Souchongs, &c., and the adulterated teas samples of scented Pekoe and scented Caper Chulan or black gunpowder, as well as imitations of these made from tea-dust.

3rd. That the adulterations detected consisted in facing, so as to improve the appearance of the teas, the surfaces of the leaves with black lead, an iridescent powder resembling mica, indigo, and turmeric, and in the manufacture of imitation tea out of tea dust, sand, &c.

The second table which he framed affords conclusive evidence

1st. That fabrication of spurious black tea was extensively carried on at that time in the British metropolis, and in other towns of that kingdom.

2nd. That two processes of fabrication were adopted. In the first, the exhausted tea-leaves are made up with gum, and re-dried; black lead, and the mica-like powder, rose-pink, and carbonate of lime being sometimes added to bloom or face the leaves as well as sulphate of iron to darken the colour of the leaves and to give astringency. In the second, leaves other than those of tea (the kind matters but little) are used. These, after being dried, are broken down mixed with gum, catechu and made into a paste; the leaves are then re-dried and further broken down, and sometimes coated with gum. The spurious tea made from exhausted leaves is seldom sold alone, but is used either for mixing with genuine black, or is converted into green tea, in the manner to be described hereafter; while that made from British leaves and catechu is either mixed with black tea in the form of dust, or else is faced and bloomed until it is made to resemble green tea.

From the third table it appears

1st. That out of twenty-four samples of black tea purchased of tea dealers and grocers resident in the British metropolis, twenty were genuine and four adulterated, the former being Congous and Souchongs, and the latter samples of scented Pekoe and scented Caper. It thus appears, that while the great bulk of the black tea used in England—viz., Congou and Souchong—as delivered to the consumer, is in a genuine state, the scented teas—viz., the Pekoes and Capers—are invariably adulterated. Lastly, that from the extensive fabrication of spruious black tea in Great Britain, it is necessary that the purchaser should be constantly on his guard.

Adulteration by artificial colouring in China.—The superintendent of the workmen managed the colouring part of the process himself. Having procured a portion of Prussian blue, he threw it into a porcelain bowl, not unlike a chemist's mortar, and crushed it into a very fine powder. At the same time a quantity of gypsum was produced and burned in the charcoal fires which were then roasting the teas. The object of this was to soften it in order that it might be readily pounded into a very fine powder in the same manner as the Prussian blue had been. The gypsum, having been taken out of the fire after a certain time had elapsed, readily crumbled down and was reduced to powder in the mortar. These two substances, having been thus prepared, were then mixed together in the proportion of four parts of gypsum to three parts of Prussian blue, and formed a light blue powder, which was then ready for use. This colouring matter was applied to the teas during the last process of roasting. About five minutes before the tea was removed from the pans—the time being regulated by the burning of a joss-stick, the superintendent took a small porcelain spoon, and with it he scattered a portion of the colouring matter over the leaves in each pan. The workmen then turned the leaves rapidly round with both hands, in order that the colour might be equally diffused. One day an English gentleman in Shanghae, being in conversation with some Chinese from the green-tea country, asked them what reasons they had for dyeing the tea, and whether it would not be better without undergoing this process. They acknowledged that tea was much better when prepared without having any such ingredients mixed with it, and that they never drank dyed teas themselves, but justly remarked that, as foreigners seem to prefer

having a mixture of Prussian blue and gypsum with their tea, to make it look uniform and pretty, and as these ingredients were cheap enough, the Chinese had no objection to supply them, especially as such teas always fetched a higher price. Mr. R. Fortune took some trouble to ascertain precisely the quantity of colouring matter used in the process of dyeing green teas,not certainly with the view of assisting others, either at home or abroad, in the art of colouring, but simply to show green tea drinkers in England, and more particularly in the United States of America, what quantity of Prussian blue and gypsum they imbibe in the course of one year. To 4½ lbs. of tea were applied 8 mace 2½ candareens of colouring matter, or rather more than an ounce. In every hundred pounds of coloured green tea consumed in England or America, the consumer actually drinks more than half a pound of Prussian blue and gypsum. And yet tell the drinkers of this coloured tea that the Chinese eat cats, dogs, and rats, and they will hold up their hands in amazement, and pity the poor celestials. Two kinds of Prussian blue are used by the tea manufacturers—one is the kind commonly met with, the other is to be seen only in the north of China. It is less heavy than common Prussian blue, of a bright pale tint and very beautiful. Turmeric root is frequently employed in Canton, but I did not observe it in use in Hwy-chow. I procured samples of these ingredients from the Chinamen in the factory, in order that there might be no mistake as to what they really were. These were sent home to the Great Exhibition of 1851, and a portion of them submitted to Mr. Warrington, of Apothecaries' Hall, whose investigations in connexion with this subject are well known. In a paper read by him before the Chemical Society, and published in its "Memoirs and Proceedings," he says, "Mr. Fortune has forwarded from the north of China, for the Industrial Exhibition, specimens of these materials (tea dyes,) which, from their appearance there can be no hesitation in stating are fibrous gypsum (calcined), turmeric root, and Prussian blue; the latter of a bright pale tint, most likely from admixture with alumina or porcelain clay, which admixture may account for the alumina and silica found as stated in my previous paper, and the presence of which was then attributed possibly to the employment of Kaolin or agalmatolite"

Green tea and its Adulterations.—According to most writers, there is but one species of tea plant from whicht he whole of the numerous varieties of both black and green are obtained, the differences in colour, quality, &c., resulting from soil, climate, age of the leaves and mode of preparation. We have already pointed out in a very brief manner the principal difference in the cultivation and preparation of black and green teas. The plants from which black teas are prepared are grown chiefly on the slopes of hills and ledges of mountains, the leaves are obtained in three and in some cases even four gatherings, those of medium size and age being chiefly used for the great bulk of the black tea, viz. the congous and souchongs. They are dried either under covered sheds open at the sides, which is the best method, or else by exposure to the sun. This process is a somewhat lengthened one, and during it a degree of fermentation is set up which is intimately associated with the colour, scent and flower of the leaves. Lastly, the leaves are subjected to a double process of roasting, first in a shallow iron pan termed a kuo, an operation which is repeated two or three times as may be necessary, and second in sieves called "poey long" over a bright charcoal fire. The shrubs which furnish the leaves from which green tea is prepared are cultivated in manured or garden soils, the leaves are greener, more tender, and juicy, and two gatherings of them only are made, the first begins between the 20th of April and the 5th of May, and lasts for about ten or fifteen days, and the second at the summer solstice. After gathering, the leaves should be dried and roasted as soon as possible, in fact the same day, that is, before the slightest fermentation has had time to set in, all exposure to the air being unnecessary and to the sun injurious. During the roasting, which is repeated once or twice in the "kuo," only the second method, viz., that in the poey long, not being practised, the leaves are at the same time fanned to hasten the drying by dissipating the moisture which rises during the operation. The principal varieties of green tea are Twankay, an inferior description of Hyson, young Hyson; Hyson Skin, Gunpowder and Imperial; all these, except the Twankay, are obtained from unsorted Hyson or Mao Cha in the manner described by Mr. Ball.

In the analysis of black tea, several substances were found to be employed either for the purposes of facing and colouring the surface of the leaves or to impart a stringency to the exhausted leaves. The substances ascertained were

Starch,	Black Lead,
Gum,	Talc,
Catechu,	China Clay,
Sulphate of Iron,	Soap Stone,
Rose Pink,	Indigo,
Log wood,	Turmeric.

In addition to the above it has been ascer-

tained that many other substances are employed. The colours used in the facing of green tea are usually three, yellow, blue, and white. The yellow and blue colours, when mixed, form a green, and white is added, either to lessen the intensity of the former colours, or else to give polish to the surface of the leaves. The following is a recapitulation of the more important results arrived at by Dr. Hassal in the course of his investigations. The chief points ascertained with regard to Black tea are—

1st. That the principal black teas, namely, the Congous and Souchongs, arrive in England, for the most part, in a genuine state.

2nd. That certain descriptions of black tea, as scented Orange, Pekoe and Caper, are invariably adulterated, the adulteration in general consisting in the glazing of the leaves with plumbago or black lead; the Caper likewise being subject to admixture with other substances; as paddy husk, Lie tea and leaves other than those of tea.

3rd. That several varieties of a spurious Caper, or black gunpowder, are prepared, which consist of tea dust, and sometimes the dust of other leaves and sand made up into little masses with gum, and faced or glazed with plumbago, Prussian blue, and turmeric powder. In some cases these imitations are sold separately, but most frequently they are used to mix with, and adulterate the better qualities of Caper; viz., those which are made of tea faced with plumbago only. With respect to green tea, the principal conclusions are—

1st. That these teas, with the exception of a few of British growth and manufacture from Assam, are invariably adulterated, that is to say, are glazed with colouring matters of different kinds.

2nd. That the colouring matters used are in general Prussian blue, turmeric powder, and China clay, other ingredients being sometimes but not frequently employed.

3rd. That of these colouring matters, Prussian blue, or ferro-cyanide of iron, possesses properties calculated to affect health injuriously.

4th. That in Great Britain, there is really no such thing as a green tea—that is, a tea which possesses a natural green hue.

5th. That green teas, and more especially the gunpowders, in addition to being faced and glazed, are more subject to adulteration in other ways than black teas, as by admixture with leaves, not those of tea, with paddy-husk, and particularly with Lie tea.

6th. Lie tea is prepared so as to resemble green tea, and is extensively used by the Chinese themselves to adulterate gunpowder tea; it is also sent over to Great Britain in vast quantities, and is employed for the same purpose by English tea-dealers and grocers.

The above are the more important conclusions as to the condition of black and green teas, as imported, but these articles undergo further deterioration in Great Britain.

Thus evidence has been adduced to show,

1. That exhausted tea leaves are frequently made up with gum, &c., and resold to the public as genuine black tea, and, when artificially coloured and glazed, even as green tea.

2. That the substances employed in the colouring are in many cases very much more objectionable and injurious than those used by the Chinese, being often highly poisonous.

3. That it is no uncommon thing for tea, both black and green, to be fabricated from leaves not those of tea, and possessing no properties in common with the leaves of that plant.

4. That black Lie tea is often coloured and extensively employed by English dealers and grocers for the adulteration of green tea.

Shevaroy Hills, Madras.—The experiment of growing tea in the Madras Presidency has been often tried on a small scale. A number of plants supplied by Government through Dr. Wallich, were planted in the Shevaroy hills about the year 1844, and had thriven well: but though no doubt was entertained of the ease with which they could be propagated over a wide extent of country, no attempt was made to give the cultivation a practical turn, or to make a cup of tea from the southern India tree.

Coorg.—In Coorg, too, the experiment has been tested with like results, so that sufficient warranty exists to justify trials on the largest scale.

Java.—The Dutch have introduced the tea plant in their rich and fruitful colony of Java. That island lies between the sixth and eighth degrees of south latitude. In 1828, the first experiment in the cultivation of tea was made in the garden of the Chateau of Burtenzorg, at Java, where 800 plants of an astonishing vigor, served as an encouragement to undertake this culture, and considerable plantations were made in many parts of the island. The first trials did not answer to the expectations, as far as regards the quality of the article, the astringent taste and feeble aroma of which caused the conjecture that the preparation of the leaf, and its final manipulation, had not been exactly according to the process used in China. At present tea is cultivated in thirteen Residencies; but the principal establishment, where the final manipulation is made, is in the neighbourhood of Batavia. The tea

which Java now furnishes yearly to the markets of the mother country, may be stated at from 200,000 to 300,000 pounds. It is intimated that the Government intends to abandon this culture to the industry of private individuals, under the guarantee of equitable contracts. The mountain range, which runs through the centre of the island, is the most productive, because the tea gardens, extending from near the base high up the mountains, reach an atmosphere tempered by elevation. The plant escapes the scorching heats of the torrid zone, and finds a climate by height rather than by latitude, adapted to its nature. But the plant is not confined to lofty ridges. In the plains, the hedges and fences, if one may so call them, are all planted with the tea shrub, which flourish in greater or less perfection throughout the island. But, as has already been intimated, the equatorial latitudes are not the most auspicious for the vigorous growth of a plant that requires a temperature equally removed from the extremes of heat and cold, and the quality of the tea is as much affected by the climate as the growth of the plant. A considerable quantity of tea is annually shipped from Java to Europe; but the extension of the cultivation is no doubt checked by the exceeding fertility of the soil, and its adaptation to the growth of the rich products of tropical regions. Mr. Jacobson, inspector of tea culture in Java, has published at Batavia a work in three volumes, upon the mode of cultivating this plant, upon the choice of grounds, and the best processes for the preparation and manipulation of the leaves. This book, the fruit of many years of experience and care given to the subject, was well received by the cultivators who devote themselves to this branch of industry.

Tea grows on the Himalayas at an elevation of seven thousand feet above the level of the sea, in the valley of the Dhoon, at the base of the Himalayas, an elevation of two thousand feet, on the banks of the Brahmapootra in Assam, and the Soorma in Sylhet, at a very small elevation above the level of the sea. On hill or plain, from one thousand to eight thousand feet above the level of the sea, the tea plant thrives well, and the only condition that it appears to require is a light and porous soil. In India the tea plant flourishes from the confines of Affghanistan to the borders of Burmah, from the 25th to the 33rd degree of latitude, and from the 70th to the 95th degree of longitude. Over this vast area, wherever tea has been planted, it has more than answered the expectations of growers. The tea plant does not yield leaves fit for the manufacture of tea until the third year; it increases yearly its produce until the eighth or tenth year, at which time it attains its maximum. It has been found indigenous in Assam and Cachar, aged, it is averred, sixty and seventy years, and still producing leaves of an excellent quality. A tea plantation may be compared to an English orchard,—a property producing an income during the life-time of the planter and passing to his descendants. From a series of experiments made in the hills and the Deyrah Dhoon, full grown plants yield tea in the proportion of 20 pounds to the 100 plants. An acre of land contains from 1,500 to 1,600 plants: the yield of tea would therefore be from 300 to 320 pounds.

In China plants are never touched until the third or fourth year after they have been planted. Good tea land is naturally moist, although not stagnant; the tea-shrub is not a water plant, but is found in a wild state on the sides of hills. In China, rain falls in heavy and copious showers towards the end of April, and these rains continue at intervals in May and June. The first gathering of tea leaves, those from which the Pekoe is made, is scarcely over before the air becomes charged with moisture. The best mode of sending tea plants to a remote distance, is simply to sow the seeds in Ward's cases soon after they are gathered.—*The Universal Review. Fortune's Wanderings. Fortune's Tea Districts. Hassall's Food and its Adulterations.*

TEA-HEIH-TOO-SHWO. Chow-tsze was the originator of the second epoch of philosophical development in China. To him is ascribed the merit of having revived that distinct knowledge of the greatest truths which had been lost to the world for the thirteen centuries that had elapsed after the death of Mencius. And he regained that knowledge by the independent efforts of his own mind, unaided by any master. Only two of his works have been preserved, the Tea-heih-too-shwo and the Tungshat. He died in A. D. 1200; and in A. D. 1241, an Imperial rescript ordered his tablet, with those of four of his immediate predecessors, whose works he had annotated, to be placed in the temples of Confucius, which are to be found in every district city throughout the empire. From that time to this, a period of six hundred years, his views of philosophy, morality, and politics have been supreme in China. At this day, his commentaries on the Yih King and the Four Books are learnt by heart by millions of Chinese, with the text of these works. The Public Service Examinations cannot be passed unless this be done.

TEAHTI. See Kali.

TEAILY. TAHITI. Aleurites triloba, *Forst.*

TEAK.

Sagwan	HINDU.	Teak marum	TAM.
Jati	MALAY.	Teku chettu	TEL.

The far famed teak tree is a native of the mountainous parts of Malabar, of the mountains bordering on the banks of the Godavery above Rajahmundry, and of the Pegu, Moulmein, and Rangoon forests. It grows straight and lofty with cross armed panicles of showy white flowers. The wood is very hard but easily worked; it is soon seasoned, and being oily, does not injure iron, and shrinks little. It is probably the most durable timber known, hence its value in ship building. The Malabar Teak is considered the best and is always most valued in Indian Government dock yards. A valuable report by Dr. Falconer on the Teak forests of the Tenasserim Coast, was published lately among the Selections from the Records of the Bengal Government. The price of teakwood at present is 3 Rs. per cubic foot, double the ordinary rate. It is matter of regret considering the vast importance of teak timber to England, as a maritime nation, that the preservation of the teak forests was so long disregarded. On the Coromandel coast, it flowers in June and July, and the seeds ripen September and October. The wood has from long experience been found to be by far the most useful timber in Southern Asia; it is light, easily worked, and at the same time both strong and durable. That which grows on the mountains in the vicinity of the Godavery is occasionally beautifully veined and mottled. For ship building purposes, teak is superior to every other sort of wood, being light, strong, durable, whether in or out of water. Pegu produces the largest quantity, and its navigable rivers enable it to be brought down to the sea ports at a cheap rate. This timber has been found ill adapted for gun carriages. Indeed, when it is observed how easily it splits, it is surprising that it had been for so many years applied to this purpose, especially for the felloes.

The great depot for the Godavery teak is Coringa, where many vessels are built, yet even there it is found more profitable to plank vessels chiefly with teak brought from the opposite coast. Either from want of means of transport or the force of habit, the wood cutters about the Godavery cut short almost every log to a length of eighteen or twenty feet, and cut away one half of the thickness of the finest logs; leaving three projecting pieces which are pierced for staples for convenience in lashing either to the yokes of the buffaloes or for conveying it from the forest or in rafts on the water. In the Masulipatam and Rajahmundry district the timbers are classed as Tanabees 18 to 20 ft. × 18 in. × 10 in. Toondoors 14 ft. × 12 in diameter. Sirambees 18 ft. × 8 in.

Teak is brought in large quantities from the country bordering the Godavery and its tributaries.

Godavery teak varies much in density: much of it is finely veined; generally it is heavier than the Rangoon teak, but not equal to some from the Malabar Coast. In Ceylon, the Dutch largely planted teak, which has attained considerable size. Teak seems to require about 80 years to obtain perfection, but after 20 years a teak plantation would probably yield a valuable return in thinning.

Upon the whole, the Malabar teak seems the best. That of Rangoon is lighter and more open in the grain and is preferred for masts and spars. The dark or heavy teak of the mountains bordering on the Godavery is very little if at all inferior to the Malabar, but a good deal of the Godavery teak is very open grained. The logs brought to market are always irregular in shape. Where strength without any regard to size and shape is required, the small heavy logs brought down by return bullock carts to Masulipatam may be used. Major Campbell's experiments show the weight of a cubic foot to vary in the several specimens from 52 to 37 lbs, practical value of S. 92 to 50.

Tenasserim teak is the staple timber of the Tenasserim Provinces, and from its abundance in Province Amherst, and its valuable property of being impervious to the white ants, it is used in Maulmain almost exclusively, both for building purposes and for furniture.

The teak tree is of rapid growth, and the trunk grows erect, to a vast height, with copious spreading branches. The wood of the teak tree is by far the most useful timber in India; it is light, easily worked, and, though porous, it is strong and durable; it requires little seasoning, and shrinks very little: it affords tar of good quality and is rather of an oily nature, therefore does not injure iron, and is the best wood in India for ship-timber, house carpentry, or any other work where strong and durable wood is required. Malabar teak is esteemed superior to any other in India, and is extensively used for ship-building at Bombay. It grows in the teak forests along the western side of the Ghaut Mountains, and the contiguous ridges where the numerous streams afford water carriage for the timber. There is a variety, says Dr. Roxburgh, which grows on the banks of the Godavery, of which the wood is beautifully veined, closer grained, and heavier than that of the common teak tree; this

kind is well adapted for furniture. The cohesive force of teak wood varies from 13,000 to 15,000 pounds per square inch; the weight of its modulus of elasticity is 2,167,000 pounds per square inch, according to Mr. Barlow's experiments; and the weight of a cubic foot seasoned, varies from 41 to 53 pounds.

Representing the strength of oak by 100, that of teak will be,	109
Stiffness of oak by 100, „	126
Toughness of oak by 100, „	94

From which it appears, that it is much superior to oak in these properties, except in toughness; but it is to be remembered, that these proportions are drawn from two or three experiments on teak, and most probably these were tried on very select specimens; whereas those for oak from a mean specimen, selected from pieces of oak of various qualities.

Teak is considered a more brittle wood than the Saul or the Sissoo. In 25 years the teak attains the size of two feet diameter, and is considered serviceable timber, but it requires 80 years to arrive at maturity. Some of the old trees have beautiful burrs, resembling the Amboyna, which are much esteemed. Teak-wood when fresh has an agreeable odour, something like rosewood. The ships of war built of this timber were—

Ships of the Line.—Minden, Cornwallis, Melville, Malabar, Wellesley, Ganges, Asia, Bombay, Calcutta, Hastings.

Frigates.—Salsette, Amphitrite, Trincomalee, Seringapatam, Madagascar, Andromeda, Alligator, Samarang, Herald.

Sloops.—Victor, Cameleon, Sphynx, Cochin.

It has been considered by many that a ship built of this sort of wood would last good from thirty to fifty years, for which time, report says, many ships have been known to run in India. The old Milford Bombay ship in the country trade of India, was the oldest and best-conditioned ship that ever came under Mr. Edye's notice. She was, he says, built of teak-timber about thirty-five years before he saw her; she had been constantly at sea, and only had a small repair during that period. She was built of the Malabar teak. A forest patch of teak, when in full bloom, has much the appearance of a field of ripe corn when viewed from a distance, with a few spots of green interspersed; by this appearance the native hill people discover the trees of teak at one season, and cut around their roots to prevent the sap from ascending the next year. The persons who work the forests of teak on the sides of the hills are thus able to distinguish at a distance those trees from the others.

The teak is probably the most durable of all timbers, it is very hard, and very heavy. It is extensively used for ship-building, for house carpentry, cart and coach building, and for house and camp furniture, for which it is well adapted, as it does not split. As regards strength, as shown by the weight it is capable of sustaining, it is inferior to several others. It is probably the most valuable timber in the world, both for strength, fineness, and durability, and for being always safe from white ants. It grows to an enormous size, attaining maturity in about eighty years. Wood reddish and susceptible of a very fine polish. It is one of the few tropical trees which sheds its leaves annually and at once. It has this advantage over oak, that while that has an acid which destroys iron, this has an essential oil which preserves it. Fruit rough, brown, size of cherry, worthless. Another species, the Tectona Hamiltoniana, is much smaller. In teak the concentric circles are not so wide as they are in the oak, the teak thereby acquiring great strength, compared with the oak: but the blue gum of Tasmania, the Eucalyptus globulus, *Lab.*, has greater density than either. The teak tree grows in the southern and western parts of the Peninsula of India, in Malabar, in Canara, in the Wynaad, in the forests of the Animallay hills, in Burmah, Sumatra, Java, Celebes and Sumbawa. Between Japara and Sourabaya several extensive teak forests occur, which are of vast importance to the island; indeed there is no other kind of wood in the Archipelago which will endure so well in the water. But Java is the only island in the Archipelago possessing teak forests which are available to any extent for the purpose of ship-building. In Sumatra, Celebes, and Sumbawa, the forests are so far distant from the sea, that the expense of land carriage prevents the natives from deriving any great advantage from its use. Teak is not known to inhabit the Malayan Peninsula. Mr. Conolly, about the year 1848, commenced planting teak seeds in Malabar, and every year since then additional land has been occupied by teak plantations. As the best method of rearing young trees, take a layer of fresh stable manure, three inches to be first strewed over the bottom of the trench, then four inches of decaying leaf mould, then one inch of wood ashes, and over this about six inches of a light sandy soil. The fine silt from the bed of a tank is the best. The seeds of some trees, like the tamarind and neem, sprout most readily when put in very thickly in handfuls at two inches from the surface. Some trees come up in three or four days, others in ten or twelve, while a few appear to have a particular month for coming up, and they remain in the ground without germinating

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till a particular season. This has been remarked with the Adansonia and teak. It may occur with other trees. A few trees like the orange, pummelo and lime, will germinate at any season of the year; but they seem to stop growing from April till about August, and if too much watered in the hot weather, they are apt to die. The common hedge plant of Madras, Inga dulcis or karkapilly, is also apt to be killed if too much watered during the hot season. Once a day is sufficient for trees and for most plants, and evening is the best time of day to water. It has been found that all young trees thrive better if the earth is loosened about their roots about once a week. This is best done with a steel fork in the evening after they are watered, and it acts beneficially by letting air in at the roots. The plants must not be too much disturbed. A good mode of rearing the teak tree is to steep the nuts in water for 36 hours, then sow them in holes four inches apart and half an inch under the surface, covering the beds with straw so as to prevent evaporation, and gently watering them every evening. The seeds sprout in from four to eight weeks. Teak does not frequently spring up under shade. The prevalence of other trees therefore over teak is a great hindrance to the growing up of seedlings in sufficient quantity to replace those trees that have been removed. Young teak is not injured by elephants. It belongs to a family of plants, Verbenaceæ, that affords no fodder for animals, and Dr. Falconer satisfied himself in passing repeatedly through forests infested with wild elephants, that they do not cause the slightest injury to young teak. Teak wood is used as a rib-lining of the arches in the caves of Karli, and is said to be coeval with their erection, about two thousand years ago. Pliny states that the beams in the temple of Apollo at Utica were in perfect preservation in his time, though they had then endured 1178 years. The teak furnishes an opaque dull ash coloured oil. When allowed to rest for some time it separates into two layers, an upper or dark coloured clear stratum and a lower and more solid deposit. Its chief use is for applying to wood work of all sorts, either alone as a natural varnish, or in combination with certain resins.—*M. E. J. R. Malcolm's Travels in South Eastern Asia, Vol. I. p.* 185. *Mr. Earl, pages* 44 & 45. *Selec. from the Records of Govt. of India, Foreign Dept. No. XXVIII. p.* 50, *IX. p.* 109. See Tectona.

TEAL.

Tulsia Bigri, BENG.
Krik-and DAN.
Winter Taling, DUT.
Sarcelle; Petite Sarcelle; Cercelle; Cercerelle; Aldebrande; Garsote, Halebran, FR.
Spiegel entlein; Kriekente, GER.
Cercedula; Cercevolo; Sartella; Scavolo; Anitrella; Anitra d'Inverno IT.
Kestel-ort-and: NOR.
Arta; Kræck, SW.
Cor-Hwyad, Brach-Hwyad, WELSH.

The teal is a swimming bird of the family Anatidæ and sub family Anatinæ, and of the genus Querquedula. The teal are simply small ducks, and several species are known. They are of somewhat slender make and fly very rapidly. Teal have long been prized as a delicate food. Willughby remarks that, for the taste of its flesh and the wholesome nourishment it affords the body, it "doth deservedly challenge the first place among those of its kind." In the 'Portraits d'Oyseaux' 1557, the following quatrain celebrates its excellence, and alludes to its habits :—

" Bien peu souvent se plonge la sarcelle
Entre deux eaux, de lequelle la chair
Est delicate : aussi couste elle cher
Autant qu'oyseau qui soit petit comme elle."

Accordingly we see it holding a high place in ancient feasts. We find it among the 'goodly provision' at the banquet given at the enthroning of George Nevell, archbishop of York, in the reign of Edward IV. : 'Mallardes and Teales, 4000.' The price in the Northumberland Household Book is—'Teylles, 1*d*., mallards being 2*d*.'

Q. crecca, *Linn*, the common teal of India, is 14½ inches long. It is migratory and breeds in the northern and temperate regions, but it is one of the most abundant, as also one of the earliest visitors to India. It arrives early in September, and frequents both tanks and rivers, often in immense flocks. Its flight is amazingly rapid. Large numbers are netted and caught in various ways to supply the tealeries. It is a night feeder. It is most excellent food.

Q. circia, *Linn*. The blue winged or Garganey teal, is distributed over the greater portion of the Old World. It is even more abundant in India than the common teal, but is somewhat later in its arrival. It has a swift flight, occurs in vast flocks, and feeds at night. Vast quantities of this and Q. crecca are caught alive, some by large flap nets, others by nooses fixed to a long line across a jheel, and in some places by a man wading with his head above water, concealed in a large earthen pot, several of which have previously been set afloat.

Q. glocitans, *Pallas*, is the clucking teal of India. It is a rare bird both in Europe and in India, and appears to be most common in Northern Asia on the borders of Lake Baikal, and in China and Japan. It has a peculiarly loud clucking call, *mok-mok-mok-lok.*?

Other species are Q. falcata, *Pallas* ; Q. Javana, *Bodd.* ; Q. Manillensis, *Mull and Schl. Eng. Cyc.* See Birds.

TEAO. SIND. Cucurbita lagenaria, *Linn.*

TEA-ROOT. See Dracæna.

TEASEL.

Fuller's Teasel,	ENG.	Kratzdistel,	GER.
„ Thistle,	„	Cardo da Cardare,	IT.
Chardon a carder,	FR.	Cardeucha,	SP.
Weber-distel,	GER.	Cardo peinador,	„

This plant is the Dipsacus fullonum of botanists. It is cultivated in England, clothiers employ the crooked awns of the heads for raising the nap on woollen cloths, &c.—*Mc-Culloch. Faulkner.*

TEA-TASTER, a person who tests the qualities of teas in the Chinese ports, or in the London broker's offices.—*Simmonds' Dict.*

TEHRAN, the capital of Persia, is in lat. 35° 40′ N.

TEBU-GAS. SINGH. Costus speciosus, *Roxb.*

TEBU. MALAY. Saccharum officinarum.

TECKELLY. See Kimedy.

TECOMA, a genus of plants of the order Bignoniaceæ, of which several species occur in India, and others have been introduced; they are all elegant plants. Tecoma jasminoides has the color of the flowers pink. Tecoma radicans is a climbing glabrous plant with rough rooting branches. It grows against a wall by throwing out roots from its branches in the same manner as ivy. Its large flowers are called Trumpet-Flowers.—*Eng. Cyc. Riddell.*

TECOMA CAPENSIS, LINDL.

Bignonia capensis, *Thunb.*

An elegant creeping plant with orange colored flowers, well adapted for covering a wall or running up a trellis work; grown from seed in common garden soil.—*Riddell.*

TECOMA GRANDIFLORA, SWIET. DC. Bignonia Chinensis. A tree of Japan.

TECOMA SUAVEOLENS. G. DON. syn. of Bignonia suaveolens, *Roxb.*

TECOMA STANS is a small tree, or ornamental garden shrub. Its roots are reputed diuretic.—*Hort. Garden* 6, *M. E. J. R.*

TECOMA UNDULATA, G. DON.

Bignonia undulata, *Roxb.*

Bug-trora, of	BOMBAY.	Reg-dawan ; Reodan ;	
Rohira : Lahura ;		Rebdun,	PASHTU.
Luar,	PUNJAB.	Khew,	SIND.

A small stiff-looking tree occurring in the arid tracts from Delhi westward through Harriana and the Central Punjab to the Salt Range and Trans-Indus, where it occurs up to 2,500 or 3,000 feet. Also in the Siwalik, and on the Beas below Kangra. This has perhaps the handsomest flower of any indigenous Punjab tree, and its gorgeous orange blossoms make quite a show in some parts in the west of the province. Trees of four and five feet are not uncommon; but at Sirsa, near the Sutlej, are seen trees up to 7 or 8 feet girth and 40 feet high. The leaves vary greatly in size. The foliage is browsed by cattle. The wood is hard, close grained and strong, but is rarely large or abundant; used for making charpoys, spinning wheels and ploughs in the Salt Range.—*Powell Hand Book. Dr. J. L. Stewart.*

TECOMA XYLOCARPA, G. DON. Bignonia xylocarpa, *Roxb.*

TECTONA GRANDIS. LINN.

Segun,	BENG.	Saga,	MAHR.
Ky-won,	BURM.	Jati,	MALAY.
Jaadi,	CAN.	Tekka,	MALEAL, SINGH.
Teak tree,	ENG.	Tek maram.	TAM.
Sagwan,	HIND.	Teku : Teku chettu,	TEL.
Shalduna of JUBBULPORE		Pedda teku,	„

This majestic forest tree is perhaps the most largely used of any of the woods of south-eastern Asia. It has been introduced into the Panjab, it is found in Bundelcund, on the Aravalli and Satpoora, and on the banks of the Taptee river. It grows as a majestic forest tree on the western side of India, from Nassik, N. W. of Bombay southwards to Severndroog : in the forest west of Vingorla, near Sawuntwarie : in the forest between Dharwar, Suuda and Sedashegur and in smaller patches above the ghats, in Canara, Malabar, Cochin, Travancore and Coimbatore in the Anamallai ; a small quantity occurs in the Nalla Malai mountains between Nellore and Cuddapah. North-east of this, it is known in the Nagpore and the Hyderabad territories, on the Godavery and its feeders, viz., east of Chanda, on the left bank of the Pnen Gunga and north of the Indrawatti river in 20° N. L. also on the 18° N. L. close to the right bank of the Godavery, east of Warungul, and, further east, on the right bank of the Seb-ber river. In Ceylon, the Dutch largely planted teak, which has attained considerable size. It grows in Burmah and the Tenasserim provinces, also at the forks of the Salwen river, and west of Moulmein between the Martaban river and the Menam and nearly as far south as Tavoy, teak forests occur of great value. Further south and east it only re-appears in Siam and in the mountainous parts of Sumatra, Celebes, Sumbawa, and Java. Between Japara and Sourabaya, several extensive teak forests occur, which are of vast importance to the island. But, Java is the only island in the Archipelago possessing teak forests available to any extent for the purpose of ship-building ; for, in Sumatra, Celebes and Sumbawa, the teak forests are so far distant from the sea, that the expense of land carriage prevents the natives deriving any great advantages from their export. Teak is used in house building, for beams, for furniture of every description, and largely in ship-building. In the Madras gun carriage manufactory, it

is used for all parts of light field carriages (except the beams); waggons and their limbers (except poles and splinter bars); also for heavy field and garrison carriages; garrison traversing platforms; for gun mortar platforms; and for all parts of heavy and light mortar carts; store carts (with the exception of poles and splinter bars): platform, line, and water carts; gins, and wheel work; heavy and light field ammunition boxes: transport carriages and limbers and furniture work.—*Drs. Roxburgh, Wight, Falconer, Mason, McClelland, Gibson, Cleghorn, Stewart, and Brandis; Mr. Edye, Mr. Rohde, Mr. Earl, Mr. E. O'Riley; Cal. and Mad. Cat. Ex.* 1862, *Madras Proc. Ex.* 1851, *Major Morgan, Captain Sankey.*

TECTONA TERNIFOLIA, Buch.

Tectona Hamiltonia, *Wall.* | Ta-hut Burm.

This species of teak grows on the banks of the Irrawaddy, at Segaen, Prome, Ava, and at the foot of Taong-Dong, and, from native descriptions, Dr. Mason imagines it is found in the province of Yay. It flowers in March, its wood is inferior to that of T. grandis.—*Drs. Mason, Voigt.*

TEDDA-PALA, Tel. Ixora parviflora.

TEDLA-PALA, Tel. also Chitti ankudu, Tel. Wrightia tinctoria, *R. Br.*

TEE, Burm. Properly h'tee, the umbrella which crowns the top of a Burman praw or pagoda, without which it is not considered to be sanctified. In restoring that of the Shooay Dagon at Rangoon, which had been destroyed by an earthquake in 1769, the king of Ava attended with an army of 50,000 men.—*Cole. Myth. Hind. p.* 397.

TEEA, a Bornean weight, the sixth part of the mace; about 6¼ grains.—*Simmonds' Dict.*

TEEAR, a race in the south-western parts of the peninsula of India, practising polyandry. See Teer; Tiyar.

TEEDONG. See Kunawar.

TEEHUN. See Khutri.

TEEJA or ZEEARAT, Hind. In mahomedanism, a visiting of the grave; also visiting the alum or standards.

TEEKA, Hind. A spot made on the forehead by hindus.

TEE-KA-LOUNG or Tha-ka-dat-ghee, Burm. A timber tree of maximum girth 3 cubits, maximum length 22½ feet. Abundant at Mergui and Tavoy. When seasoned it floats in water. It is used for bedsteads and for house building. Recommended as a durable, tough wood for helves or for hammer handles.—*Captain Dance.*

TEEKOR, Hind. Curcuma angustifolia.

TEEL, also Jingelli, Guz. Hind. Gingelly seed, Sesamum orientale.

TEELUR or CHELUR. A river near Shajehanpoor.

TEEN, Arab. Figs.

TEEN. Hind. Lit. earth, dust, or clay. Adam, according, to mahomedan belief, was created from it.

TEENA. See Dyes.

TEENAH, Heb. Fig tree of Ficus carica.

TEEN-TSING-FOO, or Tien-tsing, a Chinese city of great trade, particularly in salt, at the junction of the Eu-ho or Yunliang-ho with the Peiho.

TEEN YARI, a name of the sheeah sect of mahomedans, applied to them by the sunni mahomedans, because the shiah reject the kalif Abu-bakr as a successor of Mahomed, and claim the rule to have fallen to Ali.

TEEONG, Sumat. Gracula religiosa, *Linn.* the mina-bird.

TEER, properly Tevan, islanders, also written Tiyar and Teer, a caste in Travancore, certainly immigrants from Ceylon. They occupy also Malabar and are engaged in cultivation. Their women have forms of great symmetry, with a clear light brown complexion, uniform and brilliant. The chaste women of their class wear no covering on the upper parts of their bodies. Their name is written Teer, Teyar, Tiar, Eeyoover, or Juver, they are the toddy drawers of Malabar, and are a servile class who follow the rule of descent a matrice. They are polyandrous. On the Malabar coast they form a great part of the people; they are a fair, good looking race, treated as outcastes, and until recently were compelled to move from the road when a Nair approached. The Teer are being educated in the Government schools, obtain service, are acquiring land, and are very well to do. They are fairer and more refined looking than the Nair. Teer is said to mean island, and the Maldives and Ceylon are both named as their original country. Dr. Caldwell thinks they came from Ceylon.—*Caldwell.* SeeKummaler.

TEERAH, a small province or district, lying between Peshawar and Cabul, and confined on the north and south by the river of Cabul, and by the southern ridge of snowy mountains.—*Rennell's Memoir, p.* 151.

TEERAT'H, Hind. A holy place of pilgrimage, visited by hindus or jains. Amongst the most celebrated are the Ganges at Hurdwar; the town of Benares, Mount Aboo; Panderpur in the Dekhan, Triputty in the Carnatic, Conjeveram and Ramisseram. At Mount Aboo a group of five of the twenty-four jain pontiffs are more particularly reverenced, and distinctively called the Panch-Teerat'hi, viz. Rishubdeva, the first; Suntnath, the sixteenth; Nemnath, the twenty-second; Parswanath, the twenty-third; and Mahavira, the twenty-fourth. Each has his sacred mount or place of pilgrimage (teerat'h), and

each is recognized by his symbol, viz., the bull, black antelope, conchshell, hooded serpent and tiger, and it is quite sufficient to find one of these symbols upon the plinth to ascertain the particular pontiff to which it belongs.—*Tod's Rajasthan, vol.* ii. *p.* 724.

TEESTA, a tributary to the Brahmapootra. It rises in about lat. 27° 59', lon. 88° 50′ S. S. E. and runs into the Brahmapootra after a course of 333 miles. It receives the Lachoong, 23 miles ; Rungbo, 22 miles ; Rungeet, 23 miles. It is navigable for craft of 6 or 7 tons as far up as Puharpoor, 15 miles beyond the divergence of the Attree.

TEESU, HIND ? Dhak flowers, flowers of Butea frondosa.

TEETA, BENG. Picrorrhiza.

TEETAH,——? Jute.

TEETH of animals, and teeth and tusks of elephants, form articles of commerce. The grinders or teeth proper are used for knife-handles and other purposes. The teeth of many carnivorous animals are used for necklaces and ornaments.—*Simmonds' Dict.*

TEE-THEE.——? Diospyros kaki.

TEEYER. See Teer ; Kummaler.

TEGADA, TEL. also Nalla tegada, TEL. Ipomæa turpethum, *R. Br.*

TEGH BAHADUR. See Sikhs.

TEG-GUMMADU, TEL. Gmelina arborea.

TEGOLE EMBRICI, IT. Tiles.

TEH, MALAY. Tea.

TEHAMA. A political division of Yemen, in Arabia, extending along the whole sea-coast of that province, washed by the Red Sea, with a varying breadth of from twenty to eight miles. Tehama is now a part of the Turkish empire, its principal cities are Hodaida, Lohea, Mokha, and Jezan on the sea-coast, with Zebeed and Bait-el-Fakeeh in the interior.

TEH-CHAU. All the Banner garrisons of China, save those of Fuhchu, Canton, Liangchau, Ninghia, Chwangliang, Tai-yuen, Tehchau, and the nine inner garrisons of the Metropolitan Cordon, send up a small number of officers and men to Peking to be there taught their duties in the hunting suite of the Emperor, should he repair to the preserves of Muh-lan, at Jeh-ho (Zhehol). These are in the keeping of a Tsungkw in (3a) two yih-ching (4a) eight fong-yu (5a) and eight hiau-ki kiau, or subalterns all under the orders of the tutung of Jeh-ho.

TEHR—? See Capreæ.

TEHERAN is known from repeated observations to be 3,600 feet above the level of the sea. It is in L. 35° 37′ N., and L. 50° 52′ E. It stands on a very low tract of ground near to the foot of the Elborz mountains, which at this part have an older and more romantic celebrity attached to them, than the gloomy fame they derive from Hassan Saheb and his sanguinary race. The ancient Hyrcania, a country of warriors, who are reported to have carried a charmed life, lying immediately north of these hills, their passes became the scenes of more than mortal combats, between the simply brave heroes of Persia and these magician chieftains : they are also noted for having been the place of refuge of the illustrious prince Zal. Teheran is surrounded by a deep ditch, towers, and a mud wall, embracing a circuit of eight thousand yards, with four gates: that to the south leading to Ispahan ; that to the north-west to Tabreez ; the other two look towards the hills in the corresponding directions.—*Porter's Travels, Vol. I.* p. 309.

TEILA, HIND. Ribes grossularia.'

TEING NYET, BURM. Cæsalpinia sappan.

TEIN-HPY-SO, BURM. AR. White oxide of arsenic.

TEIN N'GYET, BURM. Cæsalpinia sappan, *Linn. Roxb. W. & A.*

TEITAN-COTTAY. Strychnos potatorum.

TEJ, HIND. PERS. Bark of Cassia lignea. Cinnamon.

TEJAS. SP. Tiles.

TEJASH-CHANDRA. SANS. From tejas, glory, and chandru, the moon.

TEJBAL, GUZ. HIND. PERS. The seeds and capsules of the Xanthoxylum hostile, which are employed by the natives of northern India as a remedy for the tooth-ache, and also for intoxicating fish. They have a warm, spicy, pepper-like pungency, a property which is participated in by the bark and other parts of the tree. The term is applied to the capsules and seeds of several species of Xanthoxylon and other drugs.—*Faulkner. Ben. Phar.*

TEJEND. See Mongol.

TEJ'HA. See Hindu.

TEJO-MAYA, SANS. From Teja, glory and maya, fulness. Teja, SANS. glory, is from tij, to sharpen.

TEJPAT, Aromatic leaves of Cinnamomum albiflorum, or of Cinnamomum tamala, also called in Hindi tamala patra. The term Tejpata is also applied to leaves of Laurus or Cinnamomum Malabathrum, the folia Malabathri of the ancients, and in Bengal it is given to the leaves of Cinnamomum nitidum, *Nees.* Their odour resembles that of cloves ; the flavour is aromatic and hot.—*Simmonds' Dict. Ben. Phar.* See Malabathrum.

TEJPAT-KA PHUL, HIND. Cassia buds.

TEKA, SANS. From teek, to judge.

TEKUNDA-JUTEE, BENG. Monetia tetracantha.

TEKATA-SHIJ. Beng. Euphorbia antiquorum.

TEKE. See Khiva.

TEKKALI. Tel. Clerodendron phlomoides, *Linn. Roxb. W. and. A.*

TEKKALI CHETTU, Tel. Clerodendron phlomoides, *Linn.*

TEKKEER ATTOVYE ANJELLY, Tam. A wood of Travancore, of a brown colour, specific gravity 0·528, 4 to 6 feet in circumference, used for house and ship building.—*Colonel Frith.*

TEKUT. See Mesopotamia. Tigris.

TEKU-CHETTU, Tel. Tectona grandis, *Linn.*

TEL, Guz. Hind. Any oil. Tel-i-gandhak, Petroleum : Tel-Multani, oil scented with orange flowers. Tel-Siya, lit. " black," or coarse oil, rape seed oil.

TELA, It. Linen. Calico, Tela-a-damascada, Sp. Damask. Tella Bambagina, also Tela Di Pinta, It. Calico. Tela Damaschina. It. Damask. Tela De Algodon, Sp. Calico, Tela De lino, Sp. Linen.

TELA. Hind. A blight on sugar-cane, like a dark powder.

TELA ARENARUM. See Cotton manufactures.

TELAE, Malay. Abrus precatorius, *Linn.*

TELAGA, Tel. A species of Gardenia, of the Godavery forests and Dekhan, has a very hard wood, would be very good for turning.—*Captain Beddome.*

TELAGA-BODAS. The Guevo Upas or Valley of Poison, is at the side of the volcano Papandayang in Java. It is 500 feet below the run of the old crater, which is now the Telaga-bodas or White Lake. It is a small bare place with many crevices, from which carbonic acid is poured, and many dead animals, dogs, cats, squirrells, rhinoceros, tigers birds and snakes are seen in it.—*Bickmore. p.* 53

TELA KUCHA, Beng. Kai-danda, Tel. Coccinia Indica, *W. and A.*

TELANGA-CHEENA, Beng. Lagerstræmia Indica.

TELA-PASHANUM, Tel. White arsenic.

TELASU, Tel. also Chinduga, Tel. Acacia odoratissima, *Willd.*

TELA TUMBATIN, Tel. Canavalia gladiata.

TELE, Malay. Seeds of Abrus precatorius.

TELEGRAPH. The Red Sea Telegraph was opened on the 1st October 1859.

TELEKI, Tel. Clerodendron phlomoides, *Linn.*

TELEKIA. This plant bears a yellow flower, and grows in any common garden soil.

TELEYA, Hind. ? A tree of Chota Nagpore with a soft, red wood.—*Cat. Ex.* 1862.

TELI.——? Cantharides.

TELI, Hind. In India, a term applied to shopkeepers, oilmen, who make and sell oils, a humble avocation. Kahan rajah Kishn, kahan Ganga teli : behold the distance between rajah Kishn and Ganga the oilman.

TELIA GARJAN, Beng. Guz. Hind. Wood oil.

TELICHERRY BARK. Connessi bark.

TELI MAKHI. Hind. Cantharides.

TELINGA, Tellunga, Tiling, or Telugu is the name of a people and their language, dwelling in the coast tract north from Madras to Orissa. The term is supposed by some to be derived from the Sanscrit words Tri-lingam, the country of the three lingums. The country is known as Telingana, and extends from Pulicat on the north of Madras, as far to the north as Ganjam, and westwards to Trepati, Bellary, Kurnool, Beder and Chanda throughout the regions where Telugu is spoken ; by Europeans the Tiling are styled Gentoo. See Telugu.

TELINGA POTATO, Eng. Amorphophallus campanulatus.

TELING KORAWA or Kasbi Korawa. See Korawa.

TELINI, Indian Blistering Fly. Species of Meloe or Mylabris cichorei. The wing covers are marked with large spots of light brown alternating with deep blue. Another blistering fly is small, steel blue, Cantharis violacea. —*Ben. Phar.*

TELKAIHA, Hind. Coccinia Indica.

TELKATCHA, Hind. Bryonia grandis.

TEL KODUKU. Tam. Tiaridium Indicum, *Schm.*

TEL-KOHUMBA, Sing. Margosa or Neem bark, the bark of Azadarachta Indica, used medicinally as a febrifuge.

TELL, a tributary to the Mahanuddy, it rises in L. 19° 54′, 82° 41′ and runs N. W. into Mahanuddy, length 130 m.

TELLA, Tel. White ; hence

Tella adavi mulla, Tel., also adavi mulla, Tel. Jasminum auriculatum, *Vahl.*

Tella agisi, or Avisi, Tam. White variety of Agati grandiflora, *Desv.*

Tella antisa, Tel., also Chiribenda, Tel. Sida cordifolia, *Linn.*

Tella avalu, Tel. Sinapis glauca, *Roxb.*

Tella Avisi, Tel. Agati grandiflora, *Desv.*, the A. albiflora of *White* and *Arn.* also Æschynomene grandiflora, *Roxb.*

Tella barranki, Tel. Ficus ampelos, *Burm.*, also F. benjamina, *Linn.*

Tella biri-kaya, Tel. Luffa, species.

Tella chamanti, Tel. Chrysanthemum carinatum, *Schousb.*

Tella chandanum, Tel., also Chandanum, Tel. Santalum album, *Linn.*

Tella chandra, Tel. Acacia suma, *Buch.* Mimosa suma, *Roxb.*

Tella cheruku, Tel., also Cheruku, Tel. Saccharum officinarum, *Linn.* variety.

Tella chettu, Tel. Excœcaria agallocha, *Linn. Roxb.*

Tella chikkudu kaya, Tel., also Chikkudu, Tel. Lablab cultratus, *DC.*

Tella chitra mulum, Tel. Plumbago Zeylanica, *Roxb.*

Tella dintena, Tel., also Dintena, Tel. Clitoria ternatea, *Linn.*

Tella dirasana, Tel., also Dirasana chettu, Tel. Acacia speciosa, *Willd.*

Tella durada gondi, Tel. Mucuna, species.

Tella gaggera chettu, Tel. Ocimum villosum, *Roxb.*

Tella galijeru, Tel. Trianthema decandrum, *Linn,* variety viridiflorum.

Tella Gantera, Tel., corruption for Tella dintena, Tel.

Tella gariki, Tel. Cynodon dactylon.

Tella gata, Tel. Pancratium Zeylanicum, *Linn. Roxb.*

Tella gadda, Tel. Garlic.

Tella giniya chettu, Tel. Alhaji maurorum, *Tourne*, syn. of Hedysarum alhaji, *Roxb.*

Tella gora chettu, Tel. Sida cordifolia, *Linn.*

Tella gummudu, Tel. Vitis lanceolaria, *Wall, A. and W.*, also the Stilago diandra of *Roxb.* The term gumudu is properly the name of Gmelina arborea, but is applied with some qualifying adjectives to several kinds of vine.

Tella guri vinda, Tel. Abrus precatorius, *Linn.* var. leucospermus.

Tella Guru ginja, Tel. Abrus precatorius, *Linn.* The black variety, Melanospermos.

Tella irugudu., Tel. Dalbergia latifolia, *W. and A. Roxb.*

Tella Iswari, Tel. a species of Aristolochia, or Bragantia.

Tella janumu, Tel. a species of Crotalaria.

Tella Jilakarra, Tel. a species of Cuminum.

Tella jilledu, Tel. Calotropis gigantea, variety alba.

Tella jiluga, Tel. Calsulia axillaris, *Roxb.*

Tella jonna, Tel. Sorghum saccharatum, *Pers.* Andropogon saccharatum, *Roxb.* also Devata dhanyamu, Tel.

Tella jonnalu, Tel. Sorghum vulgare.

Tella juvvi, Tel., also Bapanaburi, Tel. Ehretia buxifolia, *Roxb.*

Tella kakamuste, Tel. species of Sponia.

Tella kakara, Tel. Momordica charantia, *L.*

Tella kakisa, Tel. Gardenia montana, *R.*

Tella kaluva, Tel. Nymphæa pubescens, *W.*

Tella kasturi pasupu, Tel. Curcuma aromatica, *Salis*, Curcuma zedoaria, *Roxb.*

Tella keriya gass, Singh. Excœcaria agallocha, *Linn. Roxb. W. Ic.*

Tella korinda, Tel. Acacia cæsia, *W. and A.*

Tella lodduga. Tel. Species of Symplocos.

Tella maddi, Tel., also Maddi, Tel. Terminalia glabra, *W. and A.*

Tella manga, Tel. Gardenia lucida, *Roxb.*

Tella moduga, Tel., also Moduga, Tel. Butea frondosa, *Roxb.*

Tella mulaka, Tel. Solanum indicum, *Linn.*

Tella mulu goranta, Tel., also Malla mulu goranta, Tel. Barleria obovata, *Linn*

Tella Munaga, Tel., also Munaga, Tel. Var. of Hyperanthera moringa, *Roxb.*

Tella murupind, Tel., also Murupindi, Tel. Acalypha ciliata, *Port.*

Tella mutuku, Tel., also Manda motuku, Tel., also Nemmi chettu, Tel. Dalbergia Oojeniensis, *Roxb.*

Tella nela gummudu, Tel. Species of Batatas.

Tella nela mulaka, Tel., also Nela Mulaka, Tel. Solanum Jacquini, *Willd.*

Tella nela vemu. Tel. Hedyotis Heynei, *R. Br.* Oldenlandia herbacea, *Roxb.*

Tella neredu, Tel. Calyptranthes caryophyllifolia.

Tella nilambari, Tel. Barleria dichotoma, *Roxb.*

Tella pachari, Tel., also Porilla Sapara, Tel. Dalbergia paniculata, *Roxb.*

Tellani padmam, or Padmam, Nelumbium speciosum, *Willd.*

Tella pampena. This name was given by the Konda Dorala of Simhachalam. The name Bhutala Chairi was also applied to the same tree by some, but this tree differed from that so named at Vissannapeta, a plant of which was sent to the Agri-Horticultural Garden, where it proves to be a Euphorbiaceous tree.

Tella papata, also Papata, Tel. Pavetta Indica, *Linn.*

Tella patsaroo, Tel. Dalbergia paniculata, *Roxb. W. & A.*

Tella pedda goranta, Tel. White variety of Gomphena globosa, *Linn.*

Tella pidusu, Tel. Streptium asperum, *R. Cor.* These names are very local, the plant being uncommon at Samulcottah at Matur in Guntur, and at Simhachalam in Vizagapatam the Konda Doralu called it *Kokkera.*

Tella pippali. Tel. Symphorema involucratum, *R. W. Ic.*

Tella polki, Tel. ? See Polki.

Tella ponuku, Tel. Givotia Rottleriformis, *Griff, W. & A.*

Tella pula nirulli, Tel. Species of Allium.

Tella purugudu, Tel. Fluggea leucopyrus, *Willd.*

Tella purugudu, Tel., also Purugudu, Tel. Species of Phyllanthus.

Tella rantu, Tel. Adhatoda betonica, *Nees.*; the Justicia betonica of *Roxb. and Rheede.*

Tella sala barta, also Adavi mutya malle, Tel. Hibiscus hirtus, *Linn.*

Tella sandra, Tel. Acacia suma. Wood very good and strong, abundant in the Aukeesah, Godavery and Circar jungles.

Tella sapara, Tel. Acacia elata, *Grah.*

Tella sugandhi pala, Tel. Hemidesmus Indicus, *R. Brown.*

Tella tamara, Tel. Nelumbium.

Tella tegada, Tel. Ipomæa turpethum, *R. Brown.*

Tella tige, Tel. Dalbergia rubiginosa, *Roxb.*

Tella totakura, Tel. White variety of Amarantus oleraceus, *Linn.*

Tella tumma, Tel. Acacia leucophlœa, *Willd, W. & A.* also,

Tella udata, also Bail komma. Tel. Opilia amentacea, *R.*

Tella ulimara, Tel. ? Cratæva Roxburghii, *R. B. W.*

Tella ulimidi, Tel. ? Cratæva Roxburghii, *R. Br.* Capparis trifoliata, *Roxb.*

Tella umati, Tel. ? Datura alba, *Rumph.*

Tella uppi, Tel. Monetia tetracantha, *G. Don.*

Tella usirika, Tel. Phyllanthus pendulus, *Roxb.*

Tella uste, Tel. Solanum trilobatum, *Linn.*

Tella vadala, Tel. Getonia nutans, *Roxb.*

Tella vakudu, Tel. Variety of Solanum Jacquini, *Willd.*

Tella varinka, Tel. Ficus Benjamina, *Linn.*

Tella vatti veru, also Avuru, Tel. Variety of Andropogon muricatus, *Retz.*

Tella vavili, Tel. Vitex trifolia, *Linn.*

Tella vempali, Tel. Tephrosia purpurea, *Pers.*

Tellavi padmam, also Padmam, Tel. White variety of Nelumbium speciosum, *Willd.*

Tella vishnu kranta, Evolvulus pilosus.

Tella vulemara chettu? Tel. Cratæva Roxburghii.

Tella yirugudu, Tel. also Nalla yirugudu, Tel. Dalbergia latifolia, *Roxb.*

TELLE OR PAYANE, the Tamil and Malayala names of a tree on the Malabar coast and Travancore, a Shorea or Vateria, about sixty feet high, and two feet and half in diameter. It is an inferior sort of "pine," and is named by natives Dupi maram. It produces an inferior sort of damar, or resin, which is boiled down with cocoanut oil. When thus prepared, it is a substitute for pitch or resin, but very inferior. The wood is used for the masts of pattamar, catamarans, canoes, &c., but it is not durable.—*Edye, Forests of Malabar and Canara.*

TELLI, Tam. Anabas scandens.

TELLICHERRY, in lat. 11° 45′ N., long. 75° 28′ E., a town on the Malabar coast.

TELLIGEE—? Caryota urens.

TELLINGA, a dhoney or native coasting-vessel on the coast of Coromandel ?? *Simmond's Dict.*

TELMESSUS SERRATUS, a rare crab of the Gulf of Picheli.—*Adams.*

TELMI, Singh. Bassia longifolia.

TELNUR MUDUL, Beng. Curculigo orchioides, *Gœrt.*

TEL-POTE, Lepcha. Bassia butyracea, *Roxb.*

TELSU, Tel. Acacia odoratissima, *Roxb.*

TELUGU, the language of Telingana, partly subject to the British power, and partly to the nizam of Hyderabad. The boundary line of this language may be roughly drawn from immediately north of Madras, where it meets the Tamul by Kirkambari, and Cuddapah to Bellary, where it meets the Canarese, bordering which it runs to the west of Beder to Dangapura and Murkunda; then, turning eastward and having Gondwana as its northern boundary, it re-joins the line near Vizagapatam, and at Chicacole it begins to meet Urya. The most westerly spot at which it is spoken is the small town of Murkundah, about 30 miles west of Beder, and it reaches this by a wavy line running westerly from Sedashepet (Satyassi) on through Sungam and Beder and Dungapura to Moorghpettah or Murkunda; the villages in the whole of the line from Sedashepet to Murkunda, speak Telugu, Canarese and Mahratta, and are called Si b'hasha baste, three-tongue towns. In ancient times, Telugu seems to have been spoken as far north as the mouths of the Ganges. This appears both from the geographical limits which the Greeks have assigned to the territory of the Andhra race or northern Telugu people and from many of the names and places mentioned by Ptolemy up to that delta being found to be Telugu. Even now the Teling are tolerably pure along the southern boundary of Bustar, but Gond tribes are dwelling amongst them. Telugu is also called Telegu, Telingu and Telungu, and is the Andhra of Sanscrit writers, a name mentioned by the Greek geographers as that of a nation dwelling on or near the Ganges. It is the same language which, until lately, Europeans termed the Gentoo, from a Portuguese word signifying heathen or gentile. In respect to antiquity of culture and glossarial copiousness, it ranks next to the Tamul in the list of Dra-

vidian idioms, but it surpasses all of them in euphonic sweetness.

The Telugu people are a taller and a fairer race than the Tamilar, many of the more northern of them being equal in stature to the Arian hindu of the north. They are more brahminical than the Tamilian races, and are as energetic as the latter though less restless.

The Telugu people are the most numerous branch of the Dravidian race, although the Tamil surpass them in restlessness and enterprise and in that self-reliance which supports them in their emigrations. Including the Naik or Naidoo (Nayaka), Reddi and other Telegu tribes settled in the Tamil country, who are chiefly the descendants of those soldiers of fortune by whom the Pandiya and Chola kingdoms were subverted, and who number not less than a million of souls: and including also the Telugu settlers in Mysore, and the Telugu inhabitants of the Nizam's territory and other native states, the people who speak the Telugu language may be estimated to amount to at least fourteen millions. Tamil and Telugu roots are in the great majority the same, but peculiarities in inflection and dialectic changes have so modified the modern tongues, that they differ from each other as much as Portuguese from Spanish, Irish from Welsh, Hebrew from Aramaic, and Hindi from Bengali.

The Teling race are bold and self-reliant. They are good farmers, carefully storing the rainfall in artificial ponds or lakes. They have been good infantry soldiers, but are not horsemen; they repeatedly drove back the Golconda and Beder armies. A considerable portion of the force with which Lord Clive fought the battle of Plassey was composed of Telings, and, until late years, perhaps even now, Tiling was the term given in northern India to the irregular foot soldiers employed there. Those engaged in civil life, push their way fearlessly amongst the other nations on their south and west; many of them are seafaring men, undertaking long voyages, and a portion of them, in former ages, conquered and held large islands in the Eastern Archipelago, where, under the term, Kling, from the Kalingapatam rulers, the peoples of India are still known. The Telings are partly Arian, partly a non-Arian people, but most of them follow outwardly the brahminical teachings, though adhering to many unorthodox rites; they are sober and staid, little impressionable and not easily excited. A body of them, known as Reddi, a very energetic enterprizing race, have held large municipal rights for centuries. An extensive colonization of southern India, by the Teling race, took place under the Bijanagar dynasty, and they still exist there as distinct communities. The Reddi migrated from their original seats near Rajahmundry over the whole of southern India and even into the Mahrashtra country, where they are met with as far north-west as Poona, and are considered the most thriving ryots. The Reddi are large men, good cultivators. Many of those in the Cuddapah collectorate were, till A. D. 1865, addicted to dacoity. In their marriages, in the south of India, a young woman of 16 or 20 may be married to a boy 5 or 6 years old, but she lives with some other adult male, perhaps a maternal uncle or cousin, or it may be with the boy husband's father, *i. e.* her father-in-law, though she is not allowed to form connection with the father's other relatives. The offspring of these arrangements are fathered on the boy husband. When he grows up, the wife has become old or past child bearing, and he adopts the same course.

The Telugu country is nearly twice larger than the Tamil. It is less thickly populated. Considerable colonies of Telugu people have been formed in the Tamil country, who retain their own language. The Telugu country, as a border land, has been subject to the devastation and rapacious oppression of conquerors from a distance who yet would not so far settle among its people as to blend and have common interests with them, or establish well-ordered governments among them. The whole face of the country —dotted with hill forts, destitute of irrigation, with (till lately) large tracts of waste land, bare of gardens—bears testimony to this. The fewness of flourishing towns and of large temples; the presence, in all the larger villages, of petty forts, and in most of the smaller villages of round towers commanding the doors of all the houses, from which to fire upon gang robbers; the style in which the best houses are built, everything being sacrificed to strength and security; all have the same significance. The abject servility of courts and kacheries is shewn by the term "*devaravaru*," God, with the honorific plural, applied to a superior, while the genius of the language forbids the use of anything but the singular for the deity. The common word in use for saving or taking care of any thing as money is *dapettee hide*. Only after the Disarming Act, consequent on the 1857 mutiny, the people of all classes got out of the habit of carrying arms with them. Except along the coast, hardly any Europeans penetrated into the Telugu country earlier than the beginning of the nineteenth century, and only within the last few years have the efforts even of missionaries extended beyond the limits of the town where they

established themselves. The Telugu people compared with the Tamil are physically a larger, handsomer and more robust race, partaking much of the Aryan element. The tall forms, drooping (yet broad) shoulders, and regular Circassian features of the rayat and reddi races in particular, are in strong and favorable contrast to the general make of the Tamil people. They are of a free, independent spirit—not so tractable or plastic as the Tamil people. Under the robbery and oppression of former rulers, they emigrated, or in their turn became robbers; but slavery is unknown among them. Though they are very jealous for caste as far as they do observe it, and will make great sacrifices for it, nothing like the extreme homage paid by the southern outcastes to the superior castes is either demanded or yielded in the Telugu country. Not like the Tamil people—there, tell them a thing, and they'll do it quietly; here, say a word and the Tamilar answer you. Servility is confined to the brahmins and mahommedans of courts and kacheries—regions where the immediate presence of the former rulers used to be felt. The rayat has a firm, stolid attitude, and a free, steady stare. The people avail themselves with avidity of their rights as soon as they become aware of them. The abuses that prevailed under the supposed sanction of Sircar were countless, but wherever it became known that any one of them was unlawful, it soon passed away. Telugu people, with all their ignorance, are ever ready to petition and appeal and to fight for their rights to the last. They are very faithful and submissive to lawful authority. *Sircar* is a magic word with them; and it is hard to say what extent of wrong they will not endure, if they believe it sanctioned by Government. Whether it is that the hard rule of their former masters taught them submission; or whether the instincts of a people emerging on the whole under a kind Government from a state of desperate oppression and anarchy to one of prosperity, are necessarily peaceable; or whether again, the nearness of the Nizam's dominions to all parts of the British-Telugu country teaches them to appreciate their present masters, resistance to official power is never in any case dreamed of. They will evade, cheat, run away, appeal—anything but resist. You never hear of a riot among the Telugu people, though they are spirited enough, the Tamil sepoy may perhaps be the more smart and active; but for good behaviour, solid steadiness in the ranks, and discipline, the Telugu man carries the palm.

The Telugu people are more enterprizing and energetic than the Tamil. Not only as a conquering race, but in times of oppression and famine when other hindus remain at home to die in crowds, the Telugu people are used to emigrate, and wherever they go, they attain respectability among the several classes to which they belong. A large proportion of Telugu brahmans, merchants and bazaarmen in Madras, hold very fair positions in their respective ranks. A good sprinkling of reddis is to be found as far south as Tinnevelly. The numerous body called in the Tamil country Badayar or Vaduvar, north men, are Telugu, and belong to the kapu or rayat, or agricultural class. All the bearers and Waddaru in the south are of Telugu origin. The flow of emigration gradually ceased with the returning prosperity of the country and the rapid improvement of the Telugu people under what little European influence they have enjoyed is a fair index to their capabilities. Their towns are beginning to be something worthy of the name. Money and the marks of it are rapidly on the increase. In the Rajamundry district and other parts, the people have thrown themselves into the indigo and cotton trade; and by traffic, under immense disadvantages, they make the western, as well as the eastern, coast their own.—*Revd. Dr. Caldwell.*

TELU KONDI CHETTU, Martynia diandra, *Glox.* Literally scorpion's tail.

TELUMANI, TEL. also Naga-danti, TEL. Tiaridium Indicum, *Linn.*

TELUMANI CHETTU, TEL. Tragia involucrata, *Linn.* Manichettu means gem tree, the Sans. syn. Telu. Vrishi kali is "a line of scorpions."

TE MARM, MAR. Diospyros ebenum.

TEMBILI, SINGH. a variety of cocoanut in Ceylon called king cocoanut, of a bright orange colour, and somewhat oval shaped.—*Simmonds' Dict.*

TEMBOW, or black-heart wood, grows in the Malabar forests to about eighteen inches in diameter, and from twenty-five to thirty-five feet in height. It is considered a useful wood by carpenters for general purposes in house building, and for native vessels, and implements of agriculture.—*Edye M. and C.*

TEMETTAM, MAL. Lead.

TEMIA, a genus of perching birds, the species of which are now ranged under Crypserinæ, C. vagabunda and C. temia occur: The first of these is the Pica vagabunda of Gould's 'Century of Birds from the Himalaya mountains.' Dr. Horsfield gives Corvus varians as the synonym of his Phrenotrix temia (the Chekitut, or Benteot, of the Javanese), and states that although not a rare bird in Java, his Phrenotrix is by no means familiar, and never approaches the villages and habita-

tions like many others.—*Zoological Researches in Java. Eng. Cyc.*

TEMPERINI, It. Penknives.

TEMR, properly Tamr, Arab. Phænix dactylifera.

TEMIN. See Wahabi.

TEMPERATURE. In Madras the maximum daily heat occurs at noon.—*Sykes.*

TEMPLE is the term by which Europeans designate the places of worship of the hindus, the bud'hists, the Japanese, and the Chinese. That of the hindu is also known as the pagoda, a word the source of which has not been traced, but the Burmese call it prau, the Tamil people call it koil, the Telugu people call it gudi, by the Persian mahomedans it is styled a But-Kada or idol house, and the Indian mahomedans call it a Dewal, or house of god, from deo, god, and alaya, a habitation. The better known temples of the hindus of the south of India are those of Dwarka, Dewal or Somnath, Jejuri, Pandarpur, Tripatty, Trichinopoly, Madura, Tanjore, Conjeveram, Ramnad, and Jagganath. Conjeveram is remarkable for possessing both a Saiva and Vaishnava shrine. Ordinarily, the hindu temples of the south of India consist of the garbah-graham in which the vigraham or idol is kept. It is a square pedestal with one or more cupolas, and, where the cupolas are repeated, one above another, each is supported by two bearers (dhari) at each of the four corners. There is a walled enclosure, at each corner of which, if a saiva temple, is a figure of Siva's vahan, the bull nandi; and if a vaishnava temple, is a figure of garuda, the eagle vahan of Vishnu. In front is the portico or arched colonnaded vestibule.

In Rajputana, the most celebrated temples are those of Ek-Linga or Siva, in Mewar; of Krishna at Nat'h-dwara, and the temples at Komulmer; Nadole; Mundore; Ajmer; Tamba-Nagari; Kuraira; Barolli, Ganga-bheva; Dhoomnar; J'halra Patun; Morakuro; Cheetor and Nagara.

The whole of the building of Jyteshwara or Sankarachar temple, in Kashmir, is of stone, which is laid throughout in horizontal courses, no cement appearing to have been employed. This horizontal treatment is peculiar to most hindu buildings in India, and is adhered to in all the ancient examples of Kashmir. The style of the temple Jyteshwara reproduces itself in all the hindu Kashmirian buildings. The high-pitched pyramidal roof, the one, two, or more gables or pediments, the enclosing wall, and the character of the base mouldings, are features common to all. In Bengal the pediments and gables are slightly curved, and much more numerous, but alike in Kashmir and Bengal, the primary form was the square block surmounted by a pyramidal roof. The mode of elaborating the plan remained the same in both countries, and consisted in the addition of one or more projections to each of the original four sides of the square.

The various orders of hindu sacred architecture are distinguished by the form of the "sikra," which is the portion springing from and surmounting the perpendicular walls of the body of the temple. The sikra of those of Siva is invariably pyramidal, and its sides vary with the base, whether square or oblong. The apex is crowned with an ornamental figure, as a sphynx, an urn, a bull, or a lion, which is called the kallas. When the sikra is but the frustrum of a pyramid, it is often surmounted by a row of lions, as at Bijolli. In the "mindra" or cella, is the statue of the god; the munduf, in architectural nomenclature, is the pronaos; and third, the portico.

In Rajputanah, all temples dedicated to Bal-siva, the vivifier, or 'sun-god,' face the east. The portico projects beyond the munduf; occasionally pilasters are placed on either side of the entrance to the munduf, serving as a support to the internal torun, or triumphal arch.

The Eklinga temple is of white marble and of ample dimensions. Under an open-vaulted temple supported by columns, and fronting the four-faced divinity, is the brazen bull nandi, of the natural size; it is cast, and of excellent proportions. Within the quadrangle are miniature shrines, containing some of the minor deities. Siva is represented with three eyes, hence his title of Trinitra and Tri-lochun, the Tri-ophthalmic Jupiter of the Greeks. From the fire of the central eye, according to hindoo belief, is to proceed Pralaya or the final destruction of the universe. This eye, placed vertically, resembling the flame of a taper, is a distinguishing mark on the foreheads of his votaries. But the ordinary marks on the foreheads of the Saiva sect, are a round spot about the root of the nose, or a crescent on the forehead. The priests of Eklinga are termed Gosain or Goswami, which signify control over the senses, and the high priests are celibates. The idol emblem of Siva is often called Bawa Adam or father Adam. The grand temple of Barolli in Rajputanah is dedicated to Siva, whose emblems are everywhere visible. It stands in an area about two hundred and fifty yards square, enclosed by a wall built of unshaped stones without cement. Beyond this wall are groves of majestic trees, with many smaller shrines and sacred fountains; just before entering the area, is a pillar erect in the

earth, with a hooded-snake sculptured around it. The body of the edifice, in which is the sanctum of the god, and over which rises its pyramidal "sikra," is a square of only twenty-one feet; but the addition of the domed vestibule ("munduf") and portico, makes it forty-four by twenty-one. The whole is covered with mythological sculpture, without as well as within, emblematic of the great god (Mahadeo) who is the giver, as well as the destroyer of life. In a niche outside, to the south, he is armed against the "Dytea" (Titans), the "roond-mala," or skull-chaplet, reaching to his knees, and in seven of his arms are offensive weapons. His cap is the frustrum of a cone, composed of snakes interlaced, with a fillet of skulls: the "cupra" is in his hand, and the victims are scattered around. On his right is one of the maids of slaughter (Jogini) drunk with blood, the cup still at her lip, and her countenance expressive of vacuity; while below, on the left, is a female personification of death, mere skin and bone, a sickle ("koorpi") in her right hand, and its knob a death's head, which completes this group of the attributes of destruction.

To the west is Mahadeo under another form, a beautiful and animated statue, the expression mild, as when he went forth to entice the mountain nymph, Mera, to his embrace. His tiara is a blaze of finely-executed ornaments, and his snake-wreath, which hangs round him as a garland, has a clasp of two heads of Sehesnag (the serpent-king), while Nandi below is listening with placidity to the sound of "the dumroo." His "cupra" and "karg" or skull cap and sword which he is in the attitude of using, are the only accompaniments denoting the god of blood.

In the northern compartment is a picture disgustingly faithful of death and its attributes, vulgarly known as "Bhookha Mata," or the personification of famine, lank and bare, her necklace, like her lord's, of skulls. Close by are two mortals in the last stage of existence, so correctly represented as to excite an unpleasant surprise. The outline is anatomically correct. The mouth is half open and distorted, and although the eye is closed in death, an expression of mental anguish seems still to linger upon the features. A beast of prey is approaching the dead body; while, by way of contrast, a male figure, in all the vigour of youth and health, lies prostrate at her feet.

Dhoomnar, famed for its buddhist's caves, has also been at one time a seat of the Vaishnava sect, and at another, a seat of the Saiva religionists. There is a gallery 100 yards in length, terminating in a quadrangular court, measuring 100 feet by 70 and about 35 feet in height, hollowed out of the cellular iron clay rock, in the centre of which is the temple of the four armed divinity, Chatur-bhuja, or Vishnu, the ground plan of the temple being the usual mindra and munduf and portico. Vishnu, who is here adored as the "four-armed," is placed upon an altar clad in robes of his favourite colour (pandu, or yellow ochre), whence one of his titles, Pandurang. The principal shrine is surrounded by the inferior divinities in the following order. First, on entering, are the 'Polea' or 'Porters,' Ganesa is upon the right, close to whom is Sarasvati, "whose throne is on the tongue," and on the left are the twin sons of Kali, the "Bhiroo," distinguished as kala, black, and gora, fair; a little in advance of these is a shrine containing five of the ten Mahabedia, or ministering agents of Kali, each known by his symbol or vahan, as the bull, elephant, buffalo, and peacock. The Mahabedia are all evil genii, invoked in "jup," or incantations against an enemy, and phylacteries, containing formulas addressed to them, are bound round the arms of warriors in battle. At the back of the chief temple are three shrines; the central one contains a statue of Narayana, upon his hydra couch, with Lakshmi at his feet. Two Dyta, or evil spirits, appear in conflict close to her, and a second figure represents her in a running posture, looking back, in great alarm, at the combatants. Smaller figures about Narayana represent the heavenly choristers administering to his repose, playing on various instruments, the moorali or flute, the vina or lyre, the muyoora or tabor, and the mudhung and thal or cymbals, at the sound of which a serpent appears rearing his crest with delight. From the south side the eye has an unlimited range over the plains beyond the Chumbul, even to Mundisore and Sondwarra. Descending some rude steps from that place of view, there opens a cavern, the roof of which is supported by one of those singularly shaped columns named after the sacred mounts of the Jains. Here every thing on one side is Budhist or Jain, on the other all is Sivite or Vaishnava. At the entrance to an adjoining cave are various colossal figures, standing or sitting, characteristic of the Budhists or Jains. There are representations of the deified pontiffs of the Jains, and a group of five are the most celebrated of the twenty-four, and distinctively called the Panch-Teerati, viz., Rishubdeva, the first; Suntnath, the sixteenth; Nemnath, the twenty-second; Parswanath, the twenty-third; and Mahavira, the twenty-fourth. Each has his sacred mount, or place of pilgrimage (teerat), and

each is recognized by his symbol, viz., the bull, black antelope, conch-shell, hooded serpent, and tiger, and it is quite sufficient to find one of these symbols upon the plinth to ascertain the particular pontiff to which it belongs. At the further end of the cave, known as Bheem's Bazar, is a dahgopa supporting the roof. Two columns, called Sumeru, support the roof, and as Sumeru mount is sacred to Adi-nat'h the first pontiff, it is likely that he was here worshipped. There is an extensive piazza, supported by rows of massive square columns, all cut out of the solid rock, evidently a d'harmsala for pilgrims, and on the exterior are numerous square cells, the apartments of the Srawak or Jain laity. There are also many Pausid-sala, or halls of the Yati, or initiated disciples who stand in the same upright meditative posture as the pontiffs. Jain architecture is as distinct in character from the brahminical as their religion. There is generally a chasteness and simplicity in their temples, affording a wide contrast to the elaborately sculptured shrines of the Saiva and other polytheist sects of India. The design of the Jain temple at Komulmer is truly classic and consists only of the sanctuary which has a vaulted dome and colonnaded portico all round. A temple at Hallybede, about 60 miles N. W. of Seringapatam, in Mysore, is almost identical with that at Komulmer. But Colonel Tod found that Saiva sectarians had introduced into the Jain temple of Komulmer a massive monolithic emblem in black marble, of the hindu Jiva-pitri. At Kuraira is a temple of some celebrity, dedicated to the twenty-third of the Jain apostles, Parswanat'h. There are inscriptions recording its foundation in S. 11, and several from 1300 to 1350. The temple is imposing, and though evidently erected in the decline of the arts, may be considered a good specimen of the twelfth century. It consists of two domes, supported by numerous massive columns of a species of porphyry, of close texture, excessively hard, and taking a fine polish. The capitals of the columns are filled with Jain figures of their pontiffs. The domes are of nearly equal diameters, about thirty feet each, and about forty in height; under the further one is the sanctum of Parswa. There is a splendid colonnaded vestibule at the entrance, richly sculptured, which gives a very grand appearance to the whole edifice, but it stands in the midst of desolation.—*Tod. Rajasthan. Cole. Ill. Build, Kåshm.*

TEMPLE, Sir Richard, a Bengal civilian, was the first Commissioner of the Central Provinces, which he greatly improved by forming numerous roads. He instituted an Antiquarian Society at Nagpore.

TEMPOH, a long-measure of Sumatra, of 4¼ inches.—*Simmond's Dict.*

TEM-SHANG, a river in the Khassia Hills, in L. 25° 19′ North, L. 91° 43′ East.

TEMUCHIN, afterwards known as Chinghiz, was born of a Mongol tribe on the banks of the Onon, in 1162. His successes against the nations of Tartary led to his being saluted in 1206 by the diet of his nation as Chinghiz Khan. According to Quatremere, however, Chinghiz did not use the higher appellation of Kaan or Qaan, which was first adopted by his son Okkodai and his successors as their distinctive title, identical with Khaqan, the Χαγανος of the Byzantine historians. Properly a distinction should therefore be preserved between khan, the ordinary title of Tartar chiefs,—and which has since spread to Persian gentlemen and become a common affix to the names of mahomedans of Hindustan of all classes and Qaan, as the peculiar title of the supreme chief of the Mongols. The conquest of China was commenced by Chinghiz, although it was not completed for several generations. In 1205 he invaded Tangut, a kingdom occupying the extreme northwest of China, and extending beyond Chinese limits in the same direction, held by a dynasty of the Tibetan race which was or had been vassal to the Kin. This invasion was repeated in succeeding years; and in 1211 his attacks extended to the empire of the Kin itself. In 1214 he ravaged their provinces to the Yellow River, and in the following year took Chungtu or Peking. In 1219 he turned his arms against Western Asia, and conquered all the countries between the Bolor and the Caspian and southward to the Indus, whilst his generals penetrated to Russia, Armenia, and Georgia; but a lieutenant whom he had left behind him in the East continued to prosecute the subjection of Northern China. Chinghiz himself on his return from his western conquests renewed his attack on Tangut, and died on that enterprise 18th August 1127.

Okkodai, the son and successor of Chinghiz, followed up the subjugation of China, extinguished the Kin finally in 1234, and consolidated with his empire all the provinces north of the Great Kiang. After establishing his power over so much of China, Okkodai raised a vast army and set it in motion towards the west. One portion was directed against Armenia, Georgia, and Asia Minor, whilst another great host under Batu, the nephew of the Great Khan, conquered the countries north of Caucasus, overran Russia, making it tributary, and still continued to carry fire and slaughter westward. One great detachment

under a lieutenant of Batu entered Poland, burned Cracow, found Breslaw in ashes and abandoned by its people, and defeated with great slaughter at Wahlstadt near Lignitz (April 12, 1241) the troops of Poland, Moravia, and Silesia, who had gathered under Duke Henry of the latter province to make head against this astounding flood of heathen. Batu himself with the main body of his army was ravaging Hungary. The king had been very slack in his preparations, and when eventually he made a stand against the enemy, his army was defeated with great loss, and he escaped with difficulty. Pesth was now taken and burnt, and all its people put to the sword. The rumours of the Tartars and their frightful devastations had scattered fear through Europe, which the defeat at Lignitz raised to a climax. Indeed weak and disunited Christendom seemed to lie at the foot of the barbarians. The Pope, to be sure, proclaimed a crusade, and wrote circular letters, but the enmity between him and the emperor Frederic II. was allowed to prevent any co-operation, and neither of them responded by anything better than words to the earnest calls for help which came from the king of Hungary. No human aid merited thanks when Europe was relieved by hearing that the Tartar host had suddenly retreated eastward. The Great Khan Okkodai was dead in the depths of Asia, and a courier had come to recal the army from Europe. In 1255 a new wave of conquest rolled westward from Mongolia, this time directed against the Ismaelians or "Assassins" on the south of the Caspian, and then successively against the khalif of Baghdad and Syria. The conclusion of this expedition under Hulagu may be considered to mark the climax of the Mongol power. Mangu Khan, the emperor then reigning, and who died on a campaign in China in 1259, was the last who exercised a sovereignty so nearly universal. His successor Kulai extended indeed largely the frontiers of the Mongol power in China, which he brought entirely under the yoke, besides gaining conquests rather nominal than real on its southern and south-eastern borders, but he ruled effectively only in the eastern regions of the great empire, which had now broken up into four:—(1) the immediate empire of the great Khan, seated eventually at Khan balik or Peking, embraced China, Corea, Mongolia, Manchuria, and Tibet, and made claims at least over Tunking and countries on the Ava frontier; (2) the Chagatai khanate, or Middle Empire of the Tartars, with its capital at Almalik, included the modern Dsungaria, part of Chinese Turkestan, Trans-oxiana, and Afghanistan; (3) the empire of Kipchak, or the Northern Tartars, founded on the conquests of Batu, and with its chief seat at Sarai on the Wolga, covered a large part of Russia, the country north of Caucasus, Khwarizm, and a part of the modern Siberia; (4) Persia, with its capital eventually at Tabriz, embraced Georgia, Armenia, Azerbaijan and part of Asia Minor, all Persia, Arabian Irak, and Khorasan.—*Yule Cathay, I. p.* cxxi.

TEN, Tam. South.

TENA, Tel. Tam. Bee. Honey.

TENA MARM, Tam. Cocos nucifera.

TENARY ELLE, Tam. Cadaba Indica.

TENASSERIM is that tract of country lying between 17° and 18° N. latitude along the eastern side of the Bay of Bengal, and between it and a high chain of hills about 40 miles inland, and includes the Mergui Archipelago, that is, the chain of islands along the coast 15 or 20 miles distant from it. The surface of the country is mountainous, thinly populated, and much intersected by streams. Between the sea and the boundary range is another lower one, separated from the higher by the river Tenasserim. The grand range is in some places 5,000 feet high: its breadth at Martaban has never been ascertained, but further south, in the latitude of Tavoy, it appears to be 40 miles across, whence it gradually narrows to 10 miles near Mergui. The whole range is covered with pathless jungle, and may be said without exaggeration to be without a human habitation of any kind. The coast is very irregular, and low for some miles inland, consisting of uncultivated mangrove islands. The Tenasserim, which rises in about 16° N. latitude, flows through a valley scarcely broader than its bed to the southward, the easiest navigable for large ships, although, in 1825, the cruiser "Thetis" sailed up the southern entrance as far as old Tenasserim. The river is navigable for boats for 100 miles. After the permanent establishment of the Portuguese in India, trading emporia were pushed forward to all the ports previously known to and frequented by the Arabs; Ceylon, Martaban, the city of Tenasserim on the smaller stream of that name in Lat. 12° 5' N., Junk-Ceylon and Malacca became ports of trade in which factories were permitted to be held under treaty with the native powers, and which until the advent of the Dutch in the Indian seas, formed a monopoly of wealth and influence to the Portuguese. During the latter part of the 16th century the Portuguese, Genoese and Dutch held commercial intercourse with Martaban, then a sea-port town, and with the city of Tenasserim in the present Mergui district. Tin was the chief article of trade, with gold, gems of the sapphire class, aromatic woods,

skins of leopards and other wild animals, dye wood, supposed to be sapan wood, dried fish and petroleum. During the wars which occurred between the Burmese and Talien race, for supremacy, and the aggressive excursions of the Siamese, the populations that once worked the tin mines as a means of subsistence were dispersed, and the country left to great decay and ruin. The present trade of Maulmain is dependent solely on importations from the contiguous foreign states, upon which the vitality of Maulmain depends. The authorities near the Tenasserim province are the Yoon of Zimmay, Laboug and Lagong of the east, and the Red Karen on the west bank of the Salween; the former have on all occasions evinced a high appreciation of the friendly intercourse which has been uninterruptedly maintained. From the ranges of mountains forming the sources of the Ye River in Lat. 14° 40′ N., eastwards to the Bay of "Henzai" and on to the Pok-chan boundary river in Lat. 10° 10′ N., the upraised granite is highly stanniferous, more so in some localities than others, as in the low hills in the vicinity of Malewan on the Pok-chan, and at several points near Mergui where the ore has been found in large masses of marled crystals of a pure peroxide not exceeded in richness by either the mines of Banka or those of the most productive of Cornwall; all the mountain streams which issue from the central ranges of hills throughout the line indicated, possess a portion of stream ore as a constituent quite sufficient to repay a properly organized plan of extraction, and in the alluvium which formed the ancient water-courses, the tin beds are to be found in their vicinity and indicate the presence of old workings, the source of their former importance: these beds are from 3 to 12 feet in thickness, and give a proportion of washed ore equal to the best average of the Junk-Ceylon mines.

Gold is present with tin. The Siamese government obtains a large amount of gold annually from the washing of the streams which flow into the Gulf of Siam, on the eastern flanks of the mountain ranges under notice. Some of the richest workings are situate on streams forming the affluents into the "Lenyah River" below Mergui, within British territory.

Coal was worked near Mergui, but after a considerable outlay abandoned owing to its impure quality; that as well as a similar deposit found on the Tenasserim river belongs in fact to a distinct series of carboniferous deposits, pertaining more to "lignite." True coal is found in great abundance and of first rate quality at the head waters of the Nawoon stream, a branch of the lesser Tenasserim river.

Iron is found throughout the whole surface of the provinces in the state of oxide, in extensive clay ironstone beds, and as magnetic ore, the former on the Gyne river, and the latter on the Tavoy Island, and at several localities on the course of that river. There is a magnetic hill near Tavoy, and ore occurs at places on the course of that river, and antimony, manganese, galena, bismuth and copper ores. The limestone of the mountain groups occurs in a variety of forms, and hard, compact and variegated marble, are present and available for all commercial purposes. In the islands of the Mergui Archipelago the only inhabitants are the "Selung," a race who reside permanently in their boats and occasionally bring to the ports on the coast for sale, tortoise shell, the larger shells of the Triton and "Nautilus," valuable for their mother-of-pearl, the gigantic "Tridacna," and pearls from a "Meleagrina," found in the deep bays of Lampee Island, also "Beche-de-mer," "Sharks fins," "dried fish," and occasionally "Edible Birds nests."

The following woods occur:—"Anan," Fagrea fragrans; "Padouk," Pterocarpus; "Thengan," Hopea odorata; "Baub wai," Careya; "Peingado," Dalbergia? Some of these, especially the "Hopea," are the giants of the forest vegetation, from whose enormous boles the bottoms of the sea going Cattoo are constructed. Of these woods several would be found more serviceable than teak for lining iron-plated war-vessels, their power of resistance being superior to that timber, and they would also serve for beams and scantling of the larger dimensions in the construction of those vessels. The native fishermen obtain for their nets, lines and ropes of a strength of fibre and durability equal to the best of European manufacture: and they obtain "tannin" from the salt-water mangroves.

The province of Tenasserim is separated from Pegu by the Sitang river, and extends south to the commencement of the Malayan peninsula, including the districts of Martaban, Tavoy and Tenasserim. The coast is generally alluvial; tidal channels, which separate a broad and continuous belt of island from the main, run into the interior, and the hilly tracts are covered with dense forest. The summer rains are everywhere heavy and long continued, commencing in May or the beginning of June, and lasting till November, and amounting at Tavoy to 208 inches, and at Maulmain to 175. The vegetation of Tenasserim is a continuation of that flora which, commencing in Sikkim and Bhotan, is continued throughout the Malayan Archipelago. Teak is common in

the interior, but has its southern limit in 15° N. lat., where the mountains become too humid for its growth.—*Mr. E. Riley, Hooker and Thomson Flora Indica.*

TENDU, also Tendua, HIND. Ebony. Diospyros ebenum, also D. lanceolata, hill ebony, and D. melanoxylon.

TENG, a Burmese grain-measure, equal to about two bushels, and usually termed by foreign merchants a basket.—*Simmond's Dict.*

TENGA, TAM. Cocos nucifera. cocoanut.

TENGAH, MALAY. A variety of the mangrove (Rhizophora) exported extensively to China, where it is used for tanning leather and fishing nets, and is used locally as a dye, a decoction of it producing a deep black colour when the cloth or substance has previously been dyed blue. It is plentiful in the mangrove forests on the coast and river banks of the province Wellesley.

TENGAI, TAM. Cocos nucifera, *L.*

TENGALAI, lit. the southern branch, a sect among the southern Vaishnavas, distinct from the Vadagalai, or northern branch.—*Wilson.*

TENGA PUNNAKU, TAM. Cocoanut oil.

TENGGER MOUNTAINS, a range in Java connected with Gunungdasar E. of Surabaya; where a remnant of the people still follow the hindu worship. These people occupy about forty villages, scattered along this range of hills in the neighbourhood of what is termed the sandy sea. The site of their villages, as well as the construction of their houses, are peculiar, and differ entirely from what is elsewhere observed in Java. They are not shaded by trees, but built on spacious open terraces, rising one above the other, each house occupying a terrace, and being in length from thirty to seventy, and even eighty feet. The door is invariably in one corner, at the end of the building, opposite to that in which the fire-place is built. At the interment of an inhabitant of *Tengger*, the corpse is lowered into the grave with the head placed towards the south (contrary to the direction observed by the mahomedans), and is guarded from the immediate contact of the earth by a covering of bamboos and planks.—*Raffles' History of Java, Vol. I, pp.* 329, 331.

TENG-I-TEKO. See Mommai.

TENG-KHAT, BURM.? A heavy solid wood of Amherst, fit for turning purposes, used for rice-pounders, &c.—*Cat. Ex.* 1851.

TENGSA. See India.

TENGURI. BENG. Stilago diandra.

TENG YET, or Ten yet, BURM. Cæsalpinia sappan.

TENIMBER ISLANDS. See Timor Laut.

TENKAYA. TEL. Cocos nucifera, the nut. Several products of this useful palm receive distinct names, as Tenkaia bellam, sugar from the palm; Tenkaia gurutu————? Tenkaia kalu, palm-wine; Tenkaia nunai, cocoanut oil. The cocoanut palm is called in Telugu by two names, Tenkaya chettu, and Kobbari chettu.

TEN-MOZHUKU, TAM. Bees' wax.

TEN-MU, HIND. Lit. three mouths, properly Tin-mu, the name of the river formed by the junction of the Chenab, Jhelum and Ravi. At Multan it is half a mile wide.

TENNA, MALEAL. Setaria Italica; Panicum Italicum, *Linn.*

TENNAM KITTU. TAM. Cocoanut leaves used in thatching.

TENNA MARAM. TAM. Cocoa-nut palm. Tennam-Kai, nut. Tennam-nar, the coir fibre. Tennam-kaloo, the palm wine, Tennam oli, the cadjan leaf used for writing on with a style instead of paper and a pen, Tennam vellum, sugar.

TENNEY, TAM. Setaria Italica, Panicum Italicum, Millet.

TENNUS. MAHR. Dalbergia Oojeinensis, *Roxb.*

TEN-SIO-DAI-SIU. See Japan.

TENT CLOTH. ENG. Canvas.

TENTI, HIND. Capparis aphylla.

TENTS are used throughout India by all travellers of any position, and during war, are carried by the armies of the British and native states of India. They are made of cotton canvas, lined or unlined, receive different names, and cost various sums. A double-poled regulation tent, of four cloths throughout, with four feet verandah, complete, with carpets, bamboo chicks, purdahs, gunny bags and ropes, 28 feet by 16 feet will cost Rs. 670, and 23 feet by 14 feet will cost Rs. 520.

A single-poled regulation tent, of four cloths throughout, with four feet verandah, complete as above 16 ft. sq. will cost 450 Rs., 12 ft. sq. will cost 310 Rs.

Hill tents with four folds of cloth throughout, complete as above, 14 ft. sq., with two saiban, 265 Rs., 10 ft. sq. with two saiban 200 Rs.

Swiss cottage tents, double fly, with saiban, complete as above 16 ft. sq., 390 Rs., 12 ft. sq. 300 Rs.

Rowti, five cloths to the fly, and four to the kanat, complete as above 16 feet by 14 feet 210 Rs., 13 feet by 12 feet 175 Rs.

Shameeanah, 40 ft. sq. and 12 poles 400 Rs., 15 ft. sq. and 4 poles 90 Rs.

Beechobah tents, five cloths in fly, and four in kanat, as above, 12 ft. sq. 135 Rs., 8 ft. sq. 90 Rs.

TENTOOLLEE or Koyan, URIA? Tamarind tree?

TENTUKI, the Malayala name of a Ceylon tree which grows to about twelve or eighteen inches in diameter, and twelve feet high: it cannot be considered valuable. It is sometimes used by the natives for inferior and common purposes.—*Edye on the Timber of Ceylon.*

TENU. TAM. Bee.

TEOLUN NADDI, a small stream near Neemuch.

TEORA, BENG. Lathyrus sativus, blue flowered chickling vetch. The expressed oil of the seeds is a powerful and dangerous narcotic.

TEORIE, BENG. HIND. also Doodh-kalmi, Ipomœa turpethum.

TEPHRODORNIS, a genus of birds, belonging to the Dicrurinæ or Drongo shrikes, of the family Laniadæ. T. affinis and other species occur in India.

TEPHROSIA, a genus of plants of the order. Fabaceæ of which about thirty species occur in the south and east of Asia. Tephrosia piscatoria, the Fisher's tephrosia, contains the narcotic principle of the genus, and is used in the East Indies for the same purposes as T. toxicaria is in the West Indies.—*Eng. Cyc.*

TEPHROSIA PURPUREA, PERS.

T. stricta,	*Grah.*	G. colonila,	*Ham.*
T. lanceæfolia,	*Lind.*	G. lanceæfolia,	*Roxb.*
Galega purpurea,	*Linn.*	G. cærulia,	*Rottl.*

Ban-nil,	BENG.	Punkhi,	SANS.
Surpunka,	HIND.	Kat Kolingi,	TAM.
Kolinil,	MALEAL.	Vempali; Bonta Vempali,	TEL.
Bansa	PANJAB.		
J'hojru,	,,	Tella Vempali	,,

This occurs in the Punjab and North-west Provinces of India, from the Salt Range to Dehli, and is common on the eastern coast of the peninsula. In Harriana the twigs are used for making baskets. The root is bitter, and given by the native practitioners in dyspepsia and chronic diarrhœa.—*O'Shaughnessy, page* 292.

TEPHROSIA LANCEÆFOLIA, LINN. syn. of Tephrosia purpurea, *Pers.*

TEPHROSIA TINCTORIA.

T. hypargyrea,	*DC.*	T. nervosa	
Galega Heyneana,	*Roxb.*		
Ceylon Indigo,	ENG.	Anil,	SINGH.

This plant is found in Mysore and in Ceylon. It yields a blue colouring matter, used for the same purposes as indigo.—*Voigt.*

TEPHUM, MAHR. a drill.

TEPPICHE. GER. Carpets.

TEPURIYA, BENG. Physalis Peruviana.

TER. See Swastika.

TER SULPHIDE OF ANTIMONY, Sulphuret of antimony.

TERAGAY, the chief of the tribe of Berla, a man of distinguished piety and liberality.—*Markham's Embassy, p.* 13.

TERAH, father of Abraham. He left Ur of the Chaldees for Horan (Harra) *i. e.*, back towards Asroene or Sarug, on the way to Canaan.

TERAI, a valley at the foot of the Himalayas. For nine or ten months a disease, denominated by the natives the "Ayul," renders the Terai impassable to man, so deadly are its effects even to the natives of the country. At the north foot of the Khasia, in the heavily timbered dry Terai, stretching for sixty miles to the Burrampooter, it is almost inevitable death for a European to sleep any time between the end of April and November. Mr. H. Inglis was the only survivor of a party of five, and he was ill from the effects of his illness for upwards of two years, after having been brought to death's door by the first attack, which came on within three weeks of his arrival at Churra, and by several relapses. Temperature in September 77° to 80°; and in November 75° to 77°. The Terai of the Nepaul dominions is profitable from the revenue yielded by its productions. Valuable timber and turpentine, ivory and hides, are shipped down the Boori Gundak, on which river Segowly is situated, to Calcutta; still the cost of a government licence for cutting timber is so heavy as in a great measure to deter speculators from engaging in an undertaking in which so considerable an outlay is demanded, exclusive of the expenses attendant on the felling and transport of the timber. Besides the saul, the Terai contains ebony, mimosa, and other useful trees. Nepaul possesses mines of sulphur, and it is said, of antimony.—*Hooker, Himalayan Journal, Vol* 1. *p.* 266. *Oliphant's Journey, pp.* 39, 173.

TERANA PALLAM. TAM. Webera corymbosa.

TERAP TREE, a tree of Malacca and Singapore.

TERAPHIN, mentioned in Gen. 31,19,30, 34, are Assyrian images.

TEREBELLUM, a genus of Gasteropodus molluscs.

TEREBINTHACEÆ, a natural order of plants, according to Jussieu, which Robert Brown subdivided into the five orders Anacardiaceæ, Burseraceæ, Connaraceæ, Sp.ndiaceæ, and Amyridaceæ.

TEREBINTHINA. LAT. Turpentine.

TEREDO. Pholas.

TEREDON. See Chaldea.

TEREGAM. MALEAL. Callicarpa lanata.

TERMENTINA. IT. Turpentine.

TERHOOT, a revenue district of Bengal formed out of ancient Behar.

TERIN. See Kandahar.

TERK PLANT. See Kelat.

TERMES, the white-ant.

White-ant	ENG.	Termites (pl.)	LAT.
Dewak	HIND.	Chellu,	TAM.
Do-tus	JAP.	Chathulu,	TEL.

Species of this insect are abundant in India, Ceylon, the Cape of Good Hope and St. Helena, and attract early attention from the large conical mounds of earth which they erect, and the destruction they produce in timber. The ordinary white-ant has the head large and rounded, and, besides the ordinary compound eyes, it has three ocelli, or simple eyes, situated on the upper surface ; the antennæ are as long as the head and thorax, inserted in front of the eyes, and composed of about 18 joints. The abdomen is terminated by two small jointed appendages. Sir J. E. Tennent remarks that as the lofty mounds of earth have all been carried up from beneath the surface, a cave of corresponding dimensions is necessarily scoopedout below, and here, under the multitude of miniature cupolas and pinnacles which canopy it above, the termites hollow out the royal chamber for their queen, with spacious nurseries surrounding it on all sides, and all are connected by arched galleries, long passages, and doorways of the most intricate and elaborate construction. In the centre and underneath the spacious dome is the recess for the queen—a hideous creature, with the head and thorax of an ordinary termite, but a body swollen to a hundred times its usual and proportionate bulk, and presenting the appearance of a mass of shapeless pulp. From this great progenitrix proceed the myriads that people the subterranean hive, consisting, like the communities of the genuine ants, of labourers and soldiers, which are destined never to acquire a fuller development than that of larvæ, and the perfect insects, which in due time become invested with wings and take their departing flight from the cave. But their new equipment seems only destined to facilitate their dispersion from the parent nest, which takes place at dusk, and almost as quickly as they leave it they divest themselves of their ineffectual wings, wearing them impatiently, and twisting them in every direction till they become detached and drop off, and the swarm, within a few hours of their emancipation, become a prey to the night-jars and bats, which are instantly attracted to them as they issue in a cloud from the ground. Those that escape the caprimulgi fall a prey to the crows on the morning succeeding their flight. The natives of India, also, in the morning, gather and eat them, fried with a little ghee, as they are pleasant tasted. One species of white ant, the Termes taprobanes, was at one time believed by Mr. Walker to be peculiar to Ceylon ; but it has recently been found in Sumatra and Borneo, and in some parts of Hindustan. There is a species of Termes in Ceylon (T. monoceros) which always builds its nest in the hollow of an old tree ; and, unlike the others, carries on its labours without the secrecy and protection of a covered way. The cobra snake generally makes its home in the caverns of the white-ant, and it is believed to live on the termites within. At Vasarapad, near Madras, are many ant-hills with numerous snakes.—*Tennent's Sketches of the Natural History of Ceylon*, p. 413-415. See Termitidæ, Termitinæ.

TERMINALIA. This genus of plants is found in the tropical parts of Asia and America, and many of them furnish valuable timber and other useful products. The genus belongs to the natural order Combretaceæ, has about 23 species, 17 of which are natives of the E. Indies. The bark of Terminalia arjuna is used in India in medicine, for its astringency, and in dyeing, as that of Bucida buceros in Jamaica, and that of Terminalia benzoin in the Isle of France. The galls found on the leaves of T. chebula are powerfully astringent and used in dyeing yellow and black, the ripe fruit of T. bellerica is reckoned astringent, and that of T. Moluccana is like it. That of T. chebula, in an unripe state, and of different ages, has long been known under the names of black, yellow, and chebulic (Kaboolee from Cabool) myrobalans, and considered generally laxative. The fruit of T. citrina, of T. angustifolia, of T. Gangetica, is like that of T. chebula, and employed for the same purposes. The kernels of T. catappa have the same hindipersian name "badam" applied to them, as to those of the common almond ; they are eaten as such, and are very palatable. Dr. Royle had seen the tree as far north as Allahabad, in gardens. The kernels of T. Moluccana, and those of T. bellerica, are also eaten. From the latter a gum exudes, as from Combretum alternifolium in South America. A milky juice is described as flowing from T. benzoin, *Linn.*, which, being fragant on drying, and resembling benzoin, is used in churches in the Mauritius as a kind of incense. The 17 species found in the East Indies are as under :

angustifolia,	chebula,	gangetica,
arjuna,	citrina,	moluccana,
bellerica,	coriacea,	paniculata,
berryi,	crenulata,	procera,
bialata,	fatræa,	tomentosa.
catappa,	glabra,	

Some species are as yet undetermined. Dr. Mason says that the Tenasserim provinces yield the T. chebula, and two other species, one of which he describes as "the bitter wood of Tenasserim," a small tree, used for boats in the neighbourhood of Amherst, and exempt from the attack of the teredo. The good timber and bitter bark, assimilate it to Roxburgh's Pentaptera arjuna, but the foliation is different. The other species, a large timber tree, is common in the interior; its winged fruit indicates its connection with Dr. Roxburgh's genus Pentaptera. One species, Hanagal, Canarese, is a Mysore wood, used for furniture and house building. Another species, Kosee, Tel., is a tree of Ganjam and Gumsur, extreme height 50 feet, circumference 4 feet, and height from ground to the intersection of the first branch, 22 feet. It is used for posts, door frames and rafters, and is burnt for firewood, being tolerably plentiful. Another species, Arjuna, Tel., either T. alata or T. glabra ? is a tree of Ganjam, extreme height 100 feet, circumference 8 feet, and height from ground to the intersection of the first branch, 36 feet. This is used for making boats in the same way as the Holondho and Jamo. The tree is not very common in Gumsur, but abounds in the forests of Bodogoda. Every member of the genus Terminalia yields useful timber. In the celebrated myrobalans of ancient and eastern pharmacy, an astringency is the prevalent principle, although the fruits of Terminalia chebula are gently laxative also. T. catappa affords edible kernels, like almonds, and are named *badam*. T. benzoin of the Mauritius gives a milky juice, which becomes fragrant as it dries, and is burned as incense in churches.—*Fleming, As. Res. XI. p.* 182, 8vo. *Voigt. Roxb.*

TERMINALIA ALATA. Ainslie; *W. Ic.*

Terminalia tomentosa, *Roxb.*

Kura-marthi mara,	Can.	Keenjul ?	Mahr.
Karoo-marathoo	,,	Kunjul ?	,,
Maroodum tree,	Anglo-Tam.	Arjuna ? ?	Sans.
		Kumbuk ?	Singh.
Asan ?	Hind.	Marudum maram,	Tam.
Urjan,	,,	Muddi chettu,	Tel.
Jungli karinj,	,,		

The bark.

Marudum bark,	Eng.	Marudum pattai,	Tam.
Arjuna,	Sans.	Muddie patta,	Tel.

This tree, of the Punjab and the peninsula, often grows to a very large size. Its wood is employed for long beams in house building, and in the northern parts of Canara it is used for making boats and canoes. The Aurora cruiser was built of this wood. Specimens of wood sent from Chota Nagpore to the Exhibition of 1862, as that of this Terminalia, was described as a hard, brown timber. Fruit glabrous, bark deeply cracked, astringent and febrifuge. The bark, as it appears in most of the Indian bazars, is of a reddish brown colour, and has a strong, but not unpleasant, astringent taste. In the southern provinces, the powder of it, in conjunction with gingeli oil, is used as a valuable application for the kindatalie (Apthæ of grown people), and the Akkirum, or Apthæ of infants. In the Wynaad, it is used for the same purposes as Ben teak, under which name it is frequently sold. It is common on the Western Ghauts, and in Wynaad: wood not durable.—*Ains Mat. Med. p.* 209. *Roxb. Fl. Ind.* ii. 440. *O'Shaughnessy, p.* 340. *Drs. Wight and Gibson. Cal. Cat Ex.* 1862.

TERMINALIA ANGUSTIFOLIA. Jacq.

T. benzoin,	*Linn.*	Catappa benzoin	*Gærtn.*

Narrow-leaved Terminalia, Eng.

The dried milky juice of this small tree is fragrant and resembles benzoin, for which it is used as a substitute in the Mauritius churches. Its fruit, one of the myrobalans, is used similarly to those of Terminalia chebula. The three kinds of myrobalans yield, with alum, a good durable yellow, and with salts of iron, a black colour. They are in very common use in India, and have been so from time immemorial, they have been introduced into Great Britain for tanning purposes, and a large quantity is annually imported. Flowers small, green, odoriferous, March and April. A milky juice flows out from this tree, which being fragrant on drying and resembling benzoin, is used in churches at the Mauritius as a kind of incense.—*Royle. Eng. Cyc. Voigt. Cat. Ex.* 1862.

TERMINALIA ARJUNA. W. and A.

Pentaptera arjuna, *Roxb.*

Arjun,	Beng. Hind.	White aeen,	Ang-Hind.
Saoara,	Bombay.	Kahua, Kowah,	Mahr.
Touk-kyan,	Burm.	Azun,	,,
Belee waulkee,	Can.	Jumla,	Panjab.
Arjuna,	Duk. Sans.	Kukhsoba,	,,

This tree grows in the Punjab, in Bengal, in the Erawadi jungles south east of Surat, and in Canara and Sunda, but only by rivers and streams, mostly below the ghats, and reaches there an immense size. As a forest tree, it is rare in the northern parts of the Bombay side, but very common in the south Konkan from Ramghur southward, and there too always found in the vicinity of streams and rivers. It reaches everywhere a very large size, and is esteemed equal to the Black Aeen, though the rapidity of its growth would hardly countenance this opinion. In the Central Provinces it grows almost exclusively on the banks of rivers, and to an enormous size; but being frequently rotten at the heart, it does not always reward the labour of cutting. In the southern forests of Pegu, next to teak, the most valuable kinds of timber found in abundance, are T. glabra and T. arjuna, which present clean trunks of six to eight feet in diame-

ter, and fifty to eighty feet high without a branch. They would afford excellent mast-pieces and spars for naval purposes, and might be tried for gun carriages. its wood is there dark brown, as strong as teak, and usually attains a girth of from seven to nine feet, with height in still more lofty proportion. It is heavy, but splits freely when exposed to the sun's rays, white ants attack it, seeming to prefer moist situations. Its strength is undoubted, and carefully selected specimens would be valuable as a tie beam and rafter wood. In Nagpore, the length of the timber is from 18 to 30 feet, and girth from 4½ to 4 feet, and it sells there at 5½ annas the cubic foot. The bark is justly celebrated as an application to wounds.—*Drs. Voigt, Gibson, McClelland, J. L. Stewart and Mason. Capt. Sankey.*

TERMINALIA BELERICA. Roxb.

T. punctata, *Roth. ?* | Myrobalanus bellerica ?

Beleyluj,	Ar.	Bahira,	Sans.
Buhura,	Beng.	Vibhee-taku	,,
Behera,	,,	Booloo-gass,	Singh.
Tit-seim ?	Burm.	Tandi maram,	Tam.
Ban-kha,	,	Tani kaia maram,	,,
Bulla,	Duk.	Tonda maram,	,,
Belleric myrobalan,	Eng.	Cattu elupa,	,,
Beheyra ?	Hind.	Tondi chettu,	Tel.
Berda,	Mahr.	Tadi chettu,	,,
Yehela,	,,	Katthu elupæ,	,,
Tani,	Maleal.	Bahadha,	,,
Beleyleb,	Pers.	Bahadrha,	,,

This very large forest tree has a straight trunk and a spreading head. It grows in Ceylon up to an elevation of 2,000 feet, on the open grassy plains, and it is found in the peninsula of India and in Pegu. The tree is not uncommon in the Walliar jungles, of Coimbatore, but is considered of no value there. It grows on the Sevalik tract, and at Peshawar, and occurs planted up to the Indus. Grows also in Goalparrah, Sukanaghur, Goruckpur, Dhomtola, Morung mountains. Flowers small, greyish-green, offensively smelling. The wood is white and soft and is not much used. In the Bombay Presidency, this is found abundantly both in all the inland and the coast jungles, but although one of the largest and finest looking trees in the forest, straight, and of great scantling, it is quite useless as a building timber, being immediately attacked by worms. In Ganjam and Gumsoor it is said by Captain Macdonald to be a tolerably common tree ; it attains an extreme height of 50 feet, and from the ground to the intersection of the first branch, is 10 feet. It is common throughout British Burmah. A cubic foot weighs lbs. 40, and in a full grown tree on good soil, the average length of the trunk to the first branch is 80 feet and average girth measured at 6 feet from the ground is 12 feet. Bark, when wounded, gives out a large quantity of an insipid gum arabic. Its fruits are known as the Beleric myrobalans, they are astringent, tonic. Kernels, tasting like filberts, eaten by the natives, and held to be intoxicating when eaten in abundance. It attains full size in 60 years ; the people of Canara consider it unlucky to employ it in house building. Fruit astringent, used medicinally, and for tanning leather, and forms one of the ingredients for making ink. It is a good avenue tree and is extensively cultivated for the sake of its dense foliage, as the leaves are considered the best and most nutritious of all fodder for cattle, particularly for milch cows. The oil separates into two portions—the one fluid, of a pale oil green color, and the other white, floccular and of the consisence of ghee.—*Madras Museum Report. Simmonds, p.* 510-514. *Drs. Roxb, W. and A., Wight, Gibson, Brandis, McClelland, Voigt and Cleghorn, Captain Macdonald.*

TERMINALIA BERRYI. W. and A.

Pentaptera angustifolia, *Roxb.*

Vella murdah wood, Anglo-Tam.		Vellai marudu,	Tam.
		Vallay murda	,,

This, a tree of the peninsula of India, attains a very large size, especially at the foot of the western ghats, where it is used for canoes. It is not indigenous in the Bombay forests, but grows on the Balaghut, on the banks of the Kali naddi and Gutpurba, and has been introduced into Coimbatore. The bark is quite smooth and nearly as green as the leaves. The wood is white, described as of ordinary quality, but used on the Malabar coast for canoes and for making the broad wooden platters in use among fishermen and ship lascars.—*Drs. Wight, Gibson, Voigt, p.* 30.

TERMINALIA BIALATA. Wall.

Pentaptera bialata, *Roxb.* | Lein. Burm.

A tree of the mountainous parts of India, with small greenish yellow flowers, common in British Burmah and growing in Martaban, but the wood is not used. A cubic foot weighs lbs. 39. In a full grown tree on good soil the average length of the trunk to the first branch is 80 feet, and average girth measured at 6 feet from the ground is 12 feet.—*Drs. Voigt, Brandis. Cal. Cat. Ex.* 1862.

TERMINALIA CATAPPA. Linn. ; *Roxb.* ; *W. & A.* ; *Rheede.*

T. Moluccana,	*Lam.*	T. intermedia,	*Spr.*
T. myrobalana,	*Roth.*	Juglans catappa,	*Lour.*
T. subcordata,	*Willd.*		

Badam,	Beng. Duk.	Ada maram,	Maleal.
Indian almond tree,	Eng.	Ingudi,	Sans.
Country almond tree,	,,	Nattu vadom maram,	Tam.
Bengal almond tree,	,,	Vadom,	Tel.
Badami,	Hind.	Badam chettu,	,,
Bengali badam,	Mahr.	Badama ,,	,,
Catappa,	Malay.		

The fruit.

Badam-i-hindi,	DUK.	Natta vadam cottay,	TAM.
Hinghudi,	SANS.	Badame vittulu,	TEL.

This beautiful tree, with small purplish green flowers, grows in the Moluccas, in both peninsulas of India, in all parts of the Deccan, in Bengal, and is common in the gardens of Europeans and natives of the Madras and Bombay presidencies. It attains a large size in Malabar, where the wood is said to be much esteemed, and in the forests of the Godavery it is said to be very strong. Dr. Gibson, however, says that the wood does not appear to him to be of average quality or fit either for public or domestic purposes, except as firewood. The English in India call it the Indian almond tree with reference to the oval and flattened shape of its drupe. The kernel, however, is cylindrical, it is eaten and is palatable, resembles the almond in taste and composition, and yields an excellent oil. The bark and leaves yield a black pigment which is made into Indian ink. It is raised easily from seed, and in a good light soil, well watered, will, in two years, be ten or more feet in height, and give blossom. It is rather a handsome tree, and from its large leaf (which turns red previous to its falling off,) has a very striking appearance. Mr. Latham says, in Nalla mallai, it is a serviceable wood, chiefly used as posts. Its colour is yellowish-brown and it has a close grain. Captain Beddome says that as it occurs in the forests of the Godavery, the wood is very strong, and Voigt says the wood is good.—*Useful Plants, Drs. Voigt, Gibson, Wight, Cleghorn, O'Shaughnessy, Irvine, and Riddell. Captain Beddome.*

TERMINALIA CHEBULA. RETZ.; *W. & A.*; *Roxb.*

T. reticulata,	*Roth.*	T. myrobalanus-citrina,	*Kæn.*

Helij-i-kabuli,	AR.	Hara,	HIND.
Hari tuki,	BENG.	Umbed'hur,	„
Kya zu ?	BURM.	Heerda,	MAHR.
Kayubin ?	„	Heari,	„
Pang ah. ?	„	Kodorka maram,	MAL.
Pilla-marrada,	CAN.	Helileh-i-kalan,	PERS.
Alali mara,	„	Haritaka,	SANS
Alli mara,	„	Aralu-gass,	SINGH.
Allibi kai mara,	„	Pilla marda,	TAM.
Hirda,	DUK.	Kadukai maram,	„
Huldah,	„	Karaka chettu,	TEL
Pilla murda wood,	ANGLO-CAN.	Karakaia chettu,	„
Hordah,	GOND.	Karkata sringi,	„
Har,	HIND.	Koreda,	„

This tree grows in Ceylon, in both the peninsulas of India and northwards to Nepaul, the Punjab, and every where is a large tree; in Coimbatore it is of gigantic size, furnishing planks three feet broad. There, its wood is of a dark colour, heavy and hard, sustaining a weight of about lbs. 400, but is very cross grained, and difficult to work. In Canara and Sunda it abounds above the ghats, and the wood it yields is of average quality for houses. In the Bombay jungles it is more rare than on high table land on and near the ghauts. The wood there also, is strong and rather hard, but on that side of India it does not reach any great size, and is generally gnarled, owing to the exposed situations in which it grows. Also, Dr. Gibson is of opinion that in describing it as a most gigantic tree, Dr. Wight must have confounded the wood of Terminalia bellerica with that of this tree. Captain Beddome says its timber from the Godavery is very hard. In Ganjam and Gumsur, where it is tolerably plentiful, its extreme height is 45 feet, circumference 4½ feet, and its height from the ground to the intersection of the first branch is 20 feet, and it is employed for the beams and rafters of houses, but, on account of its abundance, chiefly for firewood. On the Godavery it is said to yield a very hard valuable timber. In Nagpore, according to Captain Sankey, the average size of its timber is 16 feet with a girth of 4½ feet, and sells there at 5¼ annas per cubic foot. There, the Hurda has a yellowish colored wood which becomes very dark on the outside in the process of seasoning, it is attacked by white ants, and is inferior in strength to teak, appears to have but little essential oil, and is said to be very subject to dry rot. Its value is principally from the ease with which it works. According to Dr. McClelland, in Pegu it is a large timber tree, plentiful throughout the teak forests, and yielding wood of a red colour, strong, adapted for house building. Dr. Brandis adds, that it is common on the hills of British Burmah, and gives a valuable wood used for yokes and canoes, the heartwood being yellowish brown. A cubic foot weighs lbs. 53. In Pegu, in a full grown tree on good soil, the average length of the trunk to the first branch is 80 feet, and the average girth measured at 6 feet from the ground is 12 feet. It sells there at 12 annas per cubic foot. Dr. Cleghorn says that when used as sleepers for railways, in Southern India, it appears to be liable both to the attacks of fungi and of the carpenter bee. Its fruit is used by tanners. The leaves are punctured by an insect, and hollow galls are developed, which are powerfully astringent, and answer well for tanning and making ink. They also yield for chintz painters and carpet weavers, their best and most durable yellow. (Roxb.) The fruit, which is largely exported, is well known for its dyeing properties, yielding also a black

dye, and is substituted for gall nuts. It is also used medicinally. The astringent bark is also said to be employed in tanning. The fruit and galls are used by dyers and harness makers ; with alum they give a durable yellow, with ferruginous mud an excellent black, and they make useful ink. The unripe fruit are known as black, yellow and chebulic (Kabuli) myrobalans from their colours, which vary according to age.—*Drs. Royle, Cleghorn, Gibson, Wight, McClelland, Voigt, and Brandis, Captain Macdonald, Captain Beddome, Mr. Latham, Thwaites, and Captain Sankey.*

TERMINALIA CITRINA. ROXB.

Myrobalanus citrina, *Gœrtn.*

Huri tuki.	BENG.	Liba,	SANS.
Haria, Harra,	HIND.		

A very large and tall timber tree of Assam and the Khassya hills, and is common in the Kotah jungles. The wood is very hard and shunned by insects. Drupe oblong, lanceolate, about two inches long, two in circumference, obscurely five-grooved, dull orange yellow, smooth ; nut oblong, deeply five-grooved, one-celled. Fruit a gentle purgative. It is often made into a pickle. The fruit is used as that of T. chebula. All these myrobalans are largely collected, and used by the natives in dyeing and in medicine.—*Irvine, Gen. Med. Top. p.* 103. *Voigt, Roxb. Fl. Ind. Vol.* II. *p.* 436. *O'Shaughnessy, p.* 340.

TERMINALIA CORIACEA. W. AND A.

Pentaptera coriacea, *Roxb.*

Mairthee,	CAN.	Aeen,	MAHR.
Muddi,	,,	Arremuti maram,	TAM.
Mutti,	,,	Karra maradu,	TEL.
Ayni	of N. ,,		

A large tree of peninsular India, is a valuable, well known timber tree of the Godavery forests and very common in Malabar, both above and below the ghauts. The Aeen or Ayni of Malabar is the Artocarpus hirsuta. The wood is there very durable, and is used in house, ship, and boat building. In Canara and Sunda, it is the most common tree in the large jungles both above and below the ghats, and is there used for beams and pillars for houses: also for ships and boats. The heart wood is one of the most durable known. It seems to be regarding this tree that Dr. Gibson speaks when he mentions that several of the forest revenue officers have expressed their opinion that the exporting of Aeen for "keeta" or firewood, should be prohibited. It is employed by the Telegraph department for posts, along with sal and teak. It has small dull yellow flowers, and its wood is strong, hard and heavy, and made into solid wheels for buffalo carts.—*Drs. Gibson, Cleghorn, Forests and Gardens, p.* 267 *and Voigt, p.* 38. *Captain Beddome.*

TERMINALIA CRENULATA. W. & A.

Pentaptera crenulata, *Roxb.*

A tree of the peninsula of India, with good timber.

TERMINALIA ELLIPTICA. WILLD. syn. of Terminalia tomentosa, *W. & A.*

TERMINALIA GANGETICA. ROXB.

T. Bengalensis, *D.C.*

A tree of the banks of the Ganges. Fruit used like chebulic myrobalans. This tree is not alluded to in Wall. cat., and is only mentioned in Royle's Illustrations.—*Voigt.* 38.

TERMINALIA GLABRA. W. AND A.

T. crenulata, *DC.*	Pentaptera glabra, *Roxb.*
Pentaptera obovata, *DC.*	

Took kyan,	BURM.	Koombook-gass,	SINGH.
Curry murdah wood.	ANGLO-TAM.	Vel maroodum	TAM.
Aeen,	MAHR. of BOMBAY	Karai marudu	,,
Mairthee,	,, ,,	Tella maddi chettu,	TEL.
Maitree	,, ,,	Maddi chettu,	,,
Arjun	,, PUNJAB.	Sahajo,	URIA.

A valuable timber tree, with a large and lofty trunk, a native of Sylhet, Monghyr, Rajmahal, and it grows throughout the peninsula of India, south to Ceylon, where it is very abundant up to an elevation of 2,000 feet. It is a large tree, procurable in Coimbatore, and found most abundantly in all the coast jungles of the Bombay Presidency, as also in those above the ghauts. The wood is dark coloured, very hard, heavy and strong, inch bars, bearing from 430 to 450 lbs., and large beams of it were, in 1850, readily procurable for house building, for which and many other purposes it is valuable. It is a good wood for trenails, but they should have a second seasoning after they are manufactured, as there is a material shrinking immediately after the piece has been cut out of the log and shaped, and their ends should be dipped in tar to preserve them. It is very hard, heavy and durable under water ; in Ganjam and Gumsur, its extreme height is 60 feet, circumference $4\frac{1}{2}$ feet, and height from the ground to the intersection of the first branch, 30 feet : it is one of the commonest trees in those jungles, cattle sheds are sometimes floored with it, and rice pounders are also said to be occasionally made of it ; it is extensively used for firewood and in making potash. The bark is used for tanning.—*Drs. Voigt, Wight, Cleghorn and Gibson, Thwaites. Captains Beddome and Macdonald. Mr. Latham.*

TERMINALIA INTERMEDIA. SPR. syn. of Terminalia catappa, *Linn.*

TERMINALIA MACROCARPA. BRANDIS.

Htouk-gyau, BURM.

One of the largest trees in Pegu, and very common ; the stems are of very regular shape, heartwood dark brown, and used for house posts and planking. A cubic foot

remark applies to the existing Emys tectum, now a common species found in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. Prof. Thomas Bell, after a rigid examination, confirms the opinion that there are no characters shown by the fossil to justify its separation from the living Emys tectum. There are therefore fair grounds for entertaining the belief as probable that the Colossochelys atlas may have lived down to an early period of the human epoch and become extinct since :—1st, from the fact that other Chelonian species and crocodiles, contemporaries of the Colossochelys in the Sewalik fauna, have survived ; 2nd, from the indications of mythology in regard to a gigantic species of tortoise in India.—*Jour. As. Soc. Ben.* No. 247 of 1855.

TETAR. HIND. Rhus buckiamela.

TETOO. MAHR. Bignonia Indica *Linn.*

TETRACEROS QUADRICORNIS. JERDON.

Antelope chickara, *Hardwicke.*
„ sub-quadricornutus, *Elliot.*
Tetraceros striaticornis, *Leach.*
„ iodes *Hodson.*
„ paccerois „

Kond-guri,	CAN.	Bhirkura (male),	GONDI.
Chouka,	HIND.	Bhir (female),	„
Chow-Singha,	„	Bhirul of	BHL.
Jangli-Bakri	„	Kotri of	BUSTAR,
Bekra,	MAHR.	Kuru, „	„
Bhirki,	SANGOR.	Konda-gori,	TEL.

The four-horned antelope is the only species of a strictly Indian genus, of the sub-family Antelopinæ. It is of uniform brownish bay colour above, beneath lighter. Its length is 40 to 42 inches, height at shoulder 24 to 26 inches, anterior horns up to $1\frac{1}{2}$ inches, and posterior horns 4 to 5 inches. It is found throughout much of India, but is unknown in the Malabar forest, Lower Bengal, valley of the Ganges, Ceylon, and further India. It frequents jungly hills, and open forests in the plains, abounds in the Eastern Ghats, occurs at the foot of the Himalayas, and is rare in Sindh and the Western Panjab. The specific term chickara, applied by Hardwicke, is erroneous, as throughout India the Indian gazelle is so called.

TEPETRADYNAMIA SILIQUOSA. See Mustard.

TETRAGASTRIS OSSEA. GÆRTN. Tremia nudiflora, *Linn.*

TETRAGLENES, one of the Coleoptera.

TETRAGONIACEÆ, a natural order of plants, of which two species, Sesuvium repens and Tetragona expansa occur in the East Indies, Sesuvium repens along the sea shores, and S. tetragona in Japan and N. Zealand.

TETRANTHERA. A genus of plants, belonging to the Lauraceæ.

T. apetala, *Roxb.*, Kookoor chita, BENG. is a tree of peninsular India, Bengal and Assam, and of the northern part of New Holland.

T. Gardneri, *Thw.* A tree 40 to 50 feet high, of the central province of Ceylon, at an elevation of 4000 to 6000 feet.

T. glaberrima, *Thw.*, a small Ceylon tree, growing at 4,000 feet elevation. Also, may be mentioned, T. longifolia, T. ligustrina, T. iteodaphne, small or moderate sized trees of Ceylon. T. monopetala of peninsular India and Oudh, also T. nemoralis, and T. ovalifolia of Ceylon, the last a tree 30 to 40 feet high, with T. Roxburghii of India and Ceylon, the Bo-mee-gass of the Singhalese. Wight gives in Icones T. glabrata, ligustrina, monopetala, Panamanja, tomentosa, and Wightiana. —*Voigt, Thwaites. Wight. Ic.*

TETRANTHERA MONOPETALA. ROXB.

Gwa ; Harein,	BEAS ASSAM.	Maida-lakri,	HIND.
Buro kukur chettu	BEN.	Nara chettu,	TEL.
Jungli rai am,	HIND.	Nara mamidi,	„

A middling sized tree, native of the peninsula of India, of Bengal, Oudh, and the Siwalik. Its cinnamon smelling leaves are given to silk worms. The wood is not valued. The bark is used in medicine, being considered stimulant, and after being bruised, is applied fresh or dry to contusions, and sometimes mixed with milk or made into plaster.—*Dr. J. L. Stewart.*

TETRANTHERA NEMORALIS. THW. A plant of Ceylon in the Galle district, growing under the shade of large trees in forests. —*Thw. En Pl. Zeyl. p.* 255.

TETRANTHERA NITIDA. ROXB. Kiutonijam, BENG. name in the neighbourhood of Silhet, where it is indigenous, and grows to be a useful timber tree of very great size. In the more remote forests which cover the Garrow hills, it is so large as to admit of being made into canoes of full fifty feet in length, for which purpose this tree is preferred.—*Roxburgh's Flora Indica, Vol. III.*, p. 818.

TETRANTHERA ROXBURGHII. NEES.

T. apetala *Roxb.*,	*Corr.*	Sitsæa sebifera	*Pers.*
T. citrifolia,	*Juss.*	Sebifera glutinosa,	*Loureiro.*
Tomex sebifera,	*Willde.*		

Bark.

Kookoir Chita,	BENG.	Meda-sak,	SUTLEJ.
Meda lakri	HIND.	Boo mee-gass,	SINGH.
Maida ka jhar,	HIND.	Nara mamidis,	TEL.
Maida-chob.	„	Meda ;	„
Chandna,	PUNJAB.		

This tree grows in China, in New Holland, throughout India, in Assam, the Punjab, Siwalik tract, the Salt Range, to 2500 feet. Bark mildly astringent, used by the hill people in

diarrhœa. It is the mueda lukree of Hindostanee druggists, and a favourite application to bruises and wounds. It is somewhat fragrant, and slightly balsamic and sweet. Tetranthera Roxburghii is a variable plant. The fruit is globose, black, and about the size of a pea, yielding a kind of greasy exudation, from which the Chinese manufacture candles of a bad quality, and which serves as a basis for salves. This fixed oil is supposed to constitute the principal part of the fruit of Persea gratissima, the Avocado Pear.—*Cat. Ex.* 62. *Thw. En. Pl. Zeyl. p.* 255. *O'Shaughnessy. Eng. Cyc.*

TETRANTHERA TOMENTOSA. WIGHT.

Mussay payettie, TAM.

A considerable sized tree, but not described by Roxburgh, though he is the authority for the name.—*Wight. Ic.* 1834.

TETRAONIDÆ, a family of birds, including the grouse, partridges, American partridges, quails, and Guinea fowl. The grouse are peculiar to the northern portions of both continents : partridges are found in Europe, Asia and Africa, disappearing in the Malayan peninsula except in its extreme west. Quails have the same distribution as the true partridges, but have a tendency to accumulate in the south-eastern portion of the Malayan peninsula, where with Turnix of the Tinamidæ, they are the only tropical Gallinaceous birds. The Guinea fowl are natives of Africa.

Sub-Fam. Tetraoninæ or true Grouse, as yet not observed in India.

Sub-Fam. Perdicinæ or Partridges ; those occurring in India may be divided into Snow cocks and Snow partridges peculiar to the highlands of central Asia and the Himalayas ; ordinary partridges, comprising the Francolin and Chakor; Grey partridges, Wood partridges, and Bush quails ; the True Partridges represented by the grey partridge of Europe, with one species from Tibet, and the great group of African partridges.

I. *Snow Cocks and Snow Partridges.*
Tetrogallus Himalayensis, *Gray*, the Himalayan Snow Cock.
Lerwa nivicola, *Hodgson*, the Snow Partridge.
Partridges.
Francolinus vulgaris, *Stephens*, the Black Partridge.
F. pictus, *Jard. and Selby*, the Painted Partridge.

II. *Rock or Sand Partridges.*
Caccabis chukor, *Gray*, the Chukor.
Ammoperdix bonhami, *Gray*, the Seesee Partridge.

III. *Grey or Bush Partridges.*
Ortygorius Ponticerianus, *Gmelin*, the Grey Partridge.
,, gularis, *Temm.* the Kyah Partridge

IV. *Wood Partridges.*
Arboricola torqueola, *Valen.* Black-throated hill Partridge.
,, rufo-gularis. *Blyth*, Rufus-throated hill Partridge.
Perdicula Cambayensis, *Latham*, Jungle Bush Quail
,, Asiatica, *Latham*, Rock Bush Quail.
,, Erythroryncha, *Sykes*, Painted Bush Quail.

Sub-Fam. Coturnicinæ. Quails.
Coturnix communis, *Bonatere.* the large Grey Quail.
,, coromandelica, *Gmelin*, Black breasted Quail.
Excalfactoria Chinensis, *Linn*, Blue breasted Quail.

Dr. Hooker says that the Tetrao-perdix nivicola, the Himalayan grouse, is a small gregarious bird which inhabits the loftiest stony mountains, and utters a short cry of "Quiok, quiok." In character and appearance it is intermediate between grouse and partridge, and is good eating though tough.

The Tetrao Kata or sand-grouse, Pterocles melanogaster, called the rock-pigeon, is a fast-flying bird.

The Chakor, HIND., or Atash Khor, PERS. The chokor partridge, Tetrao rufus (perdix rufa, or Cacabis chukor of Jerdon,) is said by natives to be enamoured of the moon, and at full moon to eat fire. The two Persian words signify fire-eater. The chakor is an extremely common bird in all parts of the valley of the Indus, and throughout Tibet. In winter, when the hills are covered with snow, they are to be found in great numbers close to the rivers, even in the immediate neighbourhood of the villages ; in general, when approached, they lie close among the crevices of the stones. Dr. Thomson was invited by the thannadar of Iskardo to be present at a hunting party, which he had arranged for the capture of the chakor, or painted partridge, by surrounding a spot of ground, in which these birds are numerous, with a ring of men, who approaching from all directions, gradually form a dense circle of perhaps a hundred yards in diameter. When the partridges are disturbed by a horseman in this enclosure, they can only fly towards the living wall by which they are surrounded. Loud shouts, and the beating of drums and waving of caps and cloaks, turn them back, and they are driven from side to side till at last, exhausted with fatigue, and stupid from the noise and confusion, they sink to the ground, and allow themselves to be caught by hand. The scene was a very striking one. The spot selected was a deep dell, full of rocks, but without trees. The sport, however, did not seem so successful as usual, six or eight birds only being captured.—*Dr. Thomson's Travels in Western Himalaya and Thibet, p.* 2. *Jerdon's Birds of India. Hooker Him. Jour. Vol.* II. *p.* 113. *Burton's Pilgrimage to Meccah, Vol. I. p.* 226.

TETRAONYX BATAGUR. See Chelonia.

TETRAX CAMPESTRIS, the Otis tetrax

or 'little Bustard' of Europe, N. Africa, Asia Minor, Mesopotamia, and of the extreme N. W. of India in the Peshawur valley.

TETRODON, of the order Plectognathi, instead of having distinct teeth as usual in the class, have the jaws provided with a substance resembling ivory, formed somewhat like the beak of a bird, and fitted for crushing crustaceous animals and fuci, upon which they live. The Tetrodons are distinguished by the possession of four large teeth, the jaws being each divided by a central suture. These fishes are confined to the seas of warm climates: some of them, as also the Diodon, are called Globe-fishes. Species of Tetrodon are capable of inflating the abdomen, and in this state, when taken or handled, they emit a grating sound. They are also remarkable for tenacity of life, which they are capable of sustaining for several hours after having been taken out of their element. They have a peculiar, disagreeable odour, resembling that of Gobioidæ, which continues for several years in specimens preserved in spirits of wine. In the Malayan countries they are considered highly poisonous, and are even objected to as manure.—*Eng. Cyc.*

TETTAM PAREL MARAM. MALEAL. Strychnos potatorum, *Linn.*

TETTAN KOTTE. TAM. MAL. Strychnos potatorum.

TETTI. CAN. Eggs.

TETU. MAR. Bignonia Indica.

TETUAN. See Semitic Races.

TEUCRIUM, a genus of unimportant plants of the natural order Lamiaceæ, of which T. botrys, T. leucosceptrum, and T. stoloniferum occur in the East Indies, T. chamædrys of Europe, and some parts of Asia, is an ingredient in the celebrated Theriaca andromachi, or tareaq farooq.—*O'Shaughnessy, p.* 488. *Voigt. p.* 463.

TEUFELSDRECH. GER. Asafœtida.

TENGALA, a religious sect in the south of India.

TEUTHIS. LINN. All the species of this genus are supposed by the Malays of the straits to be highly poisonous; they are not eaten, but set aside among offal of fish to be used as manure.

TEUTONIC. See India; Sanscrit.

TEVAN. See Teer. Tiyar.

TEVUS. MAH. Dalbergia oojeinensis, *Roxb.*

TEWNEE. See Kush.

TEW-US, also Tunnus. MAR. Dalbergia oojeinensis.

TEXEIRA, a Spanish author who translated the History of Persia, which was the first part of Mir Kond's great book in seven volumes, called Rauzat-us-safa. Texeira extracted thence this History, which he has presented to the world in Spanish; but it has been since translated into French by Cotolendi. Texeira had travelled into Persia, and made himself acquainted with the language of that country. He finished his first part with an Abridgement of the History of the Kalifs, &c.—*History of Chenghis Khan.*

TEXTILE ARTS, the East has, from the earliest times of which we have any record, been famous for its textile fabrics; and India, notwithstanding the great mechanical inventions of the western world, is still able to produce her "webs of woven air," which a manufacturer of the last century attempted to depreciate, by calling them "the shadow of a commodity," at the same time that his townsmen were doing all they could to imitate the reality, and which they have not yet been able to excel. Though the invention and completion of a loom for weaving would indicate a high degree of ingenuity as well as a considerable advance in some other arts, the hindoos were acquainted with it at a very early period, for in the hymns of the Rig Veda, composed at least 1200 years B. C., "weavers' threads" are alluded to; and in the Institutes of Menu it is directed,—"Let a weaver who has received ten bales of cotton thread give them back, increased to eleven by the rice-water and the like used in weaving."

That cotton was employed at very early periods is also evident from the Indian name of cotton, Karpas, occurring in the Book of Esther, ch. i. v. 6, in the account of the hangings in the court of the Persian palace at Shushan, on the occasion of the great feast given by Ahasuerus, were "white, green, and blue hangings." The word corresponding to "green" is Karpas in the Hebrew. It seems to mean cotton-cloth made into curtains, which were striped white and blue. Such may be seen throughout India in the present day, in the form of what are called purdahs. (Vide "Essay on Antiquity of Hindoo Medicine," p. 145.) The mode in which these are used, and the employment of the same colours in stripes, is still known in "sutrunjees," or cotton carpets. That the hindoos were in the habit of spinning threads of different materials appears from another part of the Institutes of the same lawgiver, where it is directed that the sacrificial threads of a brahmin must be made of cotton, that of a shatriya (second caste) of sana (Crotalaria juncea), and that of a Vaisya, of woollen thread. The natives of India prepare fabrics not only of cotton, but also of hemp, and of jute, and other substitutes for flax; also of a variety of silks, and the wool of the sheep, goat, and camel, as well as mixed fabrics of different kinds. But it is for the delicacy of the muslins, especially of those

woven at Dacca, that India has so long been famous. It is pleasing to find that these manufactures still continue pre-eminent for fineness combined with softness. From a careful examination of the cottons grown in different parts of India, as well as of those of other parts of the world, we find that it is not owing to any excellence in the raw material that the superiority in the manufacture is due, for English spinners say that the Indian cotton is unfit for their purposes, being not only short but coarse in staple. It is owing, therefore, to the infinite care bestowed by the native spinners and weavers on every part of their work, that the beauty of the fabric is due; aided, as they are, by that matchless delicacy of touch for which the hindoos have long been famous. But this is no small advantage, for, according to one of their authors," the first, the best, and most perfect of instruments is the human hand." Experiments were made for a series of years, at the expense of the Indian Government, to grow American cotton in the Dacca district, but without success; owing, it was thought by the American planter in charge, to excess of moisture, and to the depredations of insects. The hindoo weaver is often described as hanging his loom to a tree, and sitting with his feet in the ground. If he did so, his productions would appear more wonderful than they are, as being still more the result of means unsuited to the end. But this is the case only with the coarser fabrics. A late resident of Dacca has given a minute account of the cotton manufacture of that district, and thence we learn positively, what might as certainly have been inferred, that great care is bestowed on every part of the process. The spinning-wheel is usually considered to be an improvement upon the distaff and spindle, as modern machinery is upon the inexpensive spinning-wheel. In facilitating work and diminishing expense, the spinning-wheel was, no doubt, a great improvement, and is still employed throughout India for the ordinary and coarser fabrics. But the spindle still holds its place in the hands of the hindoo woman, when employed in spinning thread for the fine and delicate muslins to which the names of Shabnam or "Dew of Night," Ab-i-Rawan or "Running-water," &c. are applied by the natives, and which, no doubt, formed the Tela ventosa of the ancients; and those called Gangitika in the time of Arrian were probably produced in the same locality. Mr. James Taylor, of the Bengal medical service, in a report which was sent by the Court of Directors to India, gave much interesting information respecting the cotton manufacture of Dacca: and to the Exhibition of 1851, he sent a series of views of the different parts of the process, together with the instruments used in spinning, as well as some specimens of their fine thread. He shows that the hindoo woman first cards her cotton with the jaw-bone of the boalee fish, which is a species of Silurus; she then separates the seeds by means of a small iron roller worked backwards and forwards upon a flat board. An equally small bow is used for bringing it to the state of a downy fleece, which is made up into small rolls to be held in the hand during the process of spinning. The apparatus required for this consists of a delicate iron spindle, having a small ball of clay attached to it, in order to give it sufficient weight in turning, and imbedded in a little clay there is a piece of hard shell, on which the spindle turns with the least degree of friction. Besides these, a moist air and a temperature of 80° is found best suited to this fine spinning, and it is therefore practised early in the mornings and in the evenings, sometimes over a shallow vessel of water, the evaporation from which imparts the necessary degree of moisture. The spinners of yarn for the Chundeyree muslins in the dry climate of North-West India are described as working in underground work-shops, on account of the greater uniformity in the moisture of the atmosphere. The Indian spinning-wheel is looked upon with contempt by those who look to the polish rather than to the fitness of a tool. Professor Cowper, than whom none was a better judge, observing that the wood-work of some of these spinning-wheels was richly carved, inferred that the strings with which the circumference was formed might have some use, and not have been adopted from poverty or from idleness. In making working models of these instruments, he has found that in no other way could he produce such satisfactory results as by closely imitating the models before him, the strings giving both tension and elasticity to the instrument. The spindles, moreover, being slightly bent or the hand held obliquely, the yarn at every turn of the spindle slips off the end and becomes twisted. As the different processes are fully described in the work alluded to, I need not, says Dr. Royle, dwell further on this part of the subject, except to mention that the common dimensions of a piece of Dacca muslin are twenty yards in length by one in breadth. There are more threads in the warp than in the woof, the latter being to the former in a piece of muslin weighing twenty tolas or siccas, in the proportion of 9 to 11; one end of the warp is generally fringed, sometimes both. The value of a piece of plain muslin is estimated by its length and the number of threads, in the warp, compared with its weight. The greater the length and number of threads and the less the

weight of the piece, the higher is its price. It is seldom, however, that a web is formed entirely of the finest thread which it is possible to spin. The local committee of Dacca having given notice that they would award prizes for the best piece of muslin which could be woven in time for the Exhibition, the prize of 25 rupees was awarded to Hubeeb Oollah, weaver of Golkonda, near Dacca. The piece was ten yards long and one wide, weighed only 3 oz. 2 dwts, and might be passed through a very small ring. Though the cotton manufactures of India seem to have greatly fallen off, from the cheapness of English manufactured goods, it is gratifying, as well as unexpected, to learn from the report of the Revenue Board Madras, that up to the year 1871, weavers continued to increase in numbers, and in the year 1850, it was stated by Dr. Taylor, that, as the finest muslins formed but a small portion of goods formerly exported to England, the decay of the Dacca trade has had comparatively little influence on this manufacture, as these delicate manufactures still maintain their celebrity in the country, and are still considered worthy of being included among the most acceptable gifts that can be offered to her native princes; and he believes that the muslin being then made was superior to the manufacture of 1790, and fully equal to that of the reign of Aurungzebe. He also informed us that a college for the education of the natives, stands on the site of the former English factory. Fine muslins were sent to the Exhibition of 1851, not only from Dacca, but also from Kishengurh in Bengal; likewise from as far south as Collar, in the Rajah of Travancore's dominions, as well as from Chundeyree in the Gwalior territories. Specimens of almost every variety of the cotton manufacture, such as the coarse garrha and guzzee for packing, clothing, and for covering corpses, with dosootee, &c. for tents, canvas for sails, towels, and table-cloths, and every variety of calico, were sent from Nepal and Assam, as well as from all along the valley of the Ganges, from Bengal up to the Jullundur Doab, in the Sikh territories; also, from Cutch, Ahmedabad, Surat, and Dharwar on the western side of India; from the central territories of the Nizam, and of the rajah of Nagpore, and from the islands of the Indian ocean. The finest pieces of calico, and Punjum longcloth, were sent from Juggiapettah, in the Northern Circars, which was formerly the great seat of this manufacture. It is curious that some of these places, noted for their manufactures, did not even grow their own cotton. Dacca, no doubt, grew most of what it required for its muslins, because the thread did not swell in bleaching, but it also imported cotton formerly from Surat, as well as from Central India. Azimgurh imports its cotton chiefly from the same source to which the Northern Circars was also formerly indebted, while Chundeyree imports its cotton from the distant valley of Nimur. In 1851, among the fabrics there were a great variety, which proves that the natives are acquainted with every kind of weaving, from guzzee and gauze, to striped, chequered, and flowered muslins. The last are interesting as specimens of an art which has been long known in the East, and the mode of making which has often puzzled weavers in Great Britain. In manufacturing figured (jamdanee) fabrics, Mr. Taylor informs us, they place the pattern, drawn upon paper, below the warp, and range along the track of the woof a number of cut threads, equal to the flowers, or parts of the design intended to be made; and then with two small fine pointed bamboo sticks, they draw each of these threads between as many threads of the warp as may be equal to the width of the figure which is to be formed. When all the threads have been brought between the warp, they are drawn close by a stroke of the ley. The shuttle is then passed, by one of the weavers, through the shed, and the weft having been driven home, it is returned by the other weaver." Most of these flowered muslins are uniform in colour, but some are in two colours, and chiefly woven in Bengal. Specimens of double weaving in cotton, and showing considerable skill, with a pleasing arrangement of pattern and colours, were sent from Khyrpore, in Sindh. These kinds are also woven in Ganjam. Flax, hemp, and substitutes for them are all well known and extensively cultivated in every part of India; but flax is so solely on account of its seeds, which yield oil and oil cake, though some very good flax has been produced in some parts of Bengal; and the hemp, on account of the intoxicating principles secreted in its leaves and green parts, and which, in different forms, is known under the name of bhang, husheesh, churus. The fibre of the plant, as grown in the plains, is too dry and brittle to be useful either for rope making or for textile fabrics, though in the Himalayas some excellent ropes and canvas are made, and the culture might be greatly extended if there was demand for the produce. Species of crotalaria, of hibiscus, of corchorus and of many other genera, yield fibres which are used for rope-making; but that of the species of corchorus commonly called jute, for making gunny bags, used for packing, which are even exported to America for packing their cotton. In the Peninsula these bags are made of Crotalaria juncea, or goni plant. The Rhea fibre, which is closely allied to, if not identical with the China grass, is

used for making fishing-lines and some kinds of fabric, but its employment may be greatly extended. So also the plantain, the pine-apple, and the sanseviera fibre, of all of which some fabrics have been made and exhibited, but in too small quantities to attract much attention, though some will probably become important articles of commerce.—*Dr. John Forbes, Royle on the Arts and Manufactures of India, p.* 487 *to* 494.

TEYAMMUM. AR. HIND. PERS., the mahomedan legal purification with sand, where water is not obtainable. See Bathing. Lustrations.

TEYETTEE. See Kummaler.

TEYNA. TEL. Honey.

TEYNGA, in lat. 6° 52′ N., long. 121° 43′ E., is a small low island of the Philippine group, covered with trees, and is the most northern island of the Sooloo archipelago.

TEYYADONDA. TEL. also Netidonda, TEL. Bryonia umbellata, *Klein.*

TEZAB. HIND. PERS. Acid, lit. biting water.

Gandhak ka-tezab, sulphuric acid.
Nimak ka-tezab, hydrochloric acid.
Shore ka-tezab, nitric acid.
Shora-wa-khi ka-tezab, nitro muriatic acid, or aqua regia.
Sirke-ka-tezab, acetic acid, vinegar.

TEZAK. HIND. Lepidium sativum.

TEZBAL. H. Leaves of Xanthoxylon hostile, also of Cinnamomum albiflorum.

TEZKIREH AR. A passport, properly tazkirah, also brief notices of men or things.

TEZMA. HIND. Iris Kumaonensis.

TEZMAL. HIND. Xanthoxylon hostile.

TEZPAT. HIND. Cinnamomum albiflorum.

TEZPUR. See Inscriptions.

THAALABI. See Samarcand.

THAB. HIND. Erythrina arborescens, also Hymenodictyon excelsum.

THABAMBU. TAVOY. Anacardium occidentale, *Linn.*

THA BHAN. A timber of Tavoy used for canoes.—*Mr. Blundell.*

THA BONG PEW. BURM. A timber tree abundant on the sea coast from Amherst to Mergui, of maximum girth 2 cubits and maximum length 15 feet. When seasoned it floats in water. It is liable to attacks from worm, rots readily, and is a brittle inferior wood.—*Captain Dance.*

THEI-BOOT KYEE. Meliusa velutina, *H. f. & Th.*

THA-BOTE-KEE. BURM. A Tenasserim timber tree of maximum girth 3 cubits and maximum length 18 feet. Scarce, but found all over the province near the sea and at the mouths of rivers. When seasoned it floats in water. It is a short fibred, brittle, yet soft wood, and not durable.—*Captain Dance.*

THAKUR, a titular term applicable alike to Brahman and to Rajput tribes.—*Wilson.*

THA-BYA. BURM. Eugenia, *Species.*

THA-BYÆ. BURM. Acmena leptantha, *Wight.*

THA-BYÆ-POUK. BURM. Acmena Zeylanica, *Wight.*

THA-BYA-GYIU. BURM. Eugenia, species.

THA-BYAI-YWET-KYA. BURM. Casearia pentandra. C. pomandra.

THA-BYAY-NEE. BURM. In Amherst, Tavoy and Mergui, a tree of maximum girth 3 cubits, maximum length 23 feet, found very abundant all over the Tenasserim and Martaban provinces: when seasoned it floats in water. It is an inferior brittle wood, used by Burmese in short pieces for the props of houses. —*Captain Dance.*

THA-BYAY-YNET-GHEE. BURM., meaning with large leaves, a tree of maximum girth 3 cubits, maximum length 22 feet, widely scattered inland, all over the provinces of Amherst, Tavoy and Mergui. When seasoned it floats in water. It is a tolerably good and tough wood, and is spoken of by Dr. McClelland as a strong and close grained timber.—*Captain Dance.*

THAB-YEH GAH. BURM. Eugenia caryophyllifolia, *Roxb*; *W. Ic.*

THA-B-YEH-GJO. BURM. Eugenia obtusifolia, *Roxb.*

THA-BYEH-THA-PAN. BURM. Eugenia, species.

THA-B-YEH-GYIN. Eugenia cerasoides, *Roxb.*

THA-BYEW—— ? Dillenia.

THA-BYION. In Amherst, a useful timber, probably a Eugenia.—*Dr. Wallich.*

THA-BY-KE or Tha-bay-kya, BURM. Described as a kind of oak growing in Amherst, Tavoy and Mergui, not abundant, but scattered in all forests inland, throughout the provinces, of maximum girth 1½ cubits, and maximum length 16 feet. When seasoned, it floats in water. It is a sufficiently light, yet durable, straight grained, tough wood; used by Burmese for posts, building purposes generally, and various other objects. This wood is recommended as likely to prove excellent for helves, and if it could be procured in sufficient quantities, would be unrivalled for shot boxes.—*Captain Dance.*

THA-BYOO. Dillenia speciosa, *Th.*

THA-DEE-WAS. Croton polyandrum, *Roxb.*

THADI. TAM. Bear.

THADO-MEN-BYA. See Ava.

THADON. See Kuki.

THADOOP—? A plentiful tree of Akyab, furnishing a small wood, but not much in use.—*Cal. Cat. Ex.* 1862.

THÆ-A-DÆ. SGAU. One of the Cinchonaceæ.

THAEET-SEET, also Thaeet-tha. BURM. Acacia elata, *Linn.*

THÆM-BAU-KHYEN-BOUNG. BURM. Hibiscus sabdariffa, *Linn.*

THAI. HIND. Grislea tomentosa.

THAI. See India.

THA-KHOOT. BURM. A tree of Moulmein, wood is used in ordinary house building.—*Cal. Cat. Ex.* 1862.

THA-KHOOT-MA. BURM. Spathodea Rheedii, *Spr.*

THA-KHWA-HMWÆ. BURM. Cucumis melo, *Linn.*

THA-KHWA. BENG. Cucumis utilissimus, *Roxb.*

THAKOLA. HIND. Adelia serrata.

THAKOOPPOO, Stereospermum chelonoides.

THAKUR. An idol, a deity, but especially an individual entitled to reverence or respect, in Guzerat, a name of the idol Balaji. Applied also to the nobles of Rajputana; from Thakura, Sans, honourable. Thakurani, Sans, a lady of rank, from thakoora, a lord. See India. Kattyawar. Tripaty.

THAKURI-KULAY. BENG. Dolichos pilosus.

THAL, or Thul. HIND. A sand-hill, the sandy tract between the west of Rajputanah and the Indus, sandy dry portions of districts.

THALA. A large flat metallic dish.

THALA. MALEAL. Pandanus odoratissimus, *Linn.*

THALAI. BURM. Ulmus alternifolius.

THALAITI, or Talaiti, is the term applied to the town at the foot of every hill fortress.

THALAMITÆ.

1st. *Sub-gen. Thalamitæ quadrilateroies.*

Thalamita admete, *Edw.* Red Sea, Indian Ocean.
„ chaptain, *Edw.* Red Sea.
„ crenata, *Edw.* Asiatic Seas.
„ prymna, *Edw.* Australia.
„ 2nd *Sub-Genus Thalamitæ hexagonales.*
„ crucifera, *Edw.* Indian Ocean.
„ annulatta, *Edw.* Red Sea, Indian Ocean.
„ natator, *Edw.* Indian Ocean.
„ truncata, *Edw.* Indian Ocean.
„ cullianassa, *Edw.* Indian Ocean.
„ erythrosdactyla, *Edw.* Australia.

THALASSIANS. See Chelonia.

THALASSINA SCORPINOIDES, the burrowing lobster of the Fiji islands; so named from its scorpion-like tail.—*Hartwig.*

THALATHI MARAM. TAM. Grewia tiliæfolia.

THALAU-TAGAR. BURM. Nitric acid.

THALAI NAR. TAM. Fibre of Pandanus odoratissimus, screw pine. — *Simmond's Dict.*

THALE. TAM. Pandanus odoratissimus, *Linn.*

THALE NAR. MALEAL. Fibre of Pandanus odoratissimus.

THALI, a small salver, a platter.

THALES. See Vedas.

THALESAP, a lake on the north of Kambodia, sixty miles in circumference.

THALICTRUM FOLIOLOSUM. DC.

Meadow rue	ENG.	Shuprak	HIND.
Pili jari	HIND.	Burmoti	PUNJABI.

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 5000 to 8000 feet; at Mussooree, and generally on the Himalayas. Thalictrum flavum is termed in France "the poor man's rhubarb," as a substitute for which medicine it is generally employed. The bitter root of the Indian species, in doses of 5 to 10 grains, acts as a tonic and aperient, and is given in the interval of intermittent fevers and in convalescence from acute diseases. It promises to succeed well as a febrifuge of some power and an aperient of peculiar value.—*O'Sh. p.* 161. *Cleghorn Panjab Report. Voigt, p.* 3. *Ben. Ph.* 219.

THAKOORWARE. See Salagrama.

THALI-KIRE. TAM. Ipomœa sepiaria.

THALI MARATHU. CAN. Sapindus emarginatus.

THALIN. Viburnum fœtens.

THALI-SAMAN——? Jewellery.

THALLI. HIND. See Magra.

THALLOGENS, a class of plants proposed by Lindley to include those flowerless plants which are distinguished by the absence of an axial stem. It includes all the Cryptogamia, with the exception of ferns and mosses.—*Eng. Cyc.*

THAL-PADMO. BENG Hibiscus mutabilis.

THAMA-JAM-WAI-ZEKE. BURM. Pterospermum aceroides.

THAMA-KHAI-OK. BURM. Abutilon Indicum, *Don.*

THAMBA. GUZ. Copper.

THAMBATIN. TAM. Canavalia gladiata, *DC.*

THAM KHUAN. Certain imposing ceremonies, which mark the principal events or eras in the life of a Siamese, such as the shaving his head-tuft, his reception as a bonze, his marriage, the advent of a new sovereign, &c.—*Bowring, Siam, I.* 117.

THA-MAN-THA. BURM. A tree of Moulmein, wood used as an ordinary building material.—*Cal. Cat. Ex.* 1862.

THAMAR. ARAB. Fruit.

THAMMAI. A tree native of Amherst, a strong, handsome wood, like Ægiceras, or box-wood.—*Cat. Ex.* 1862.

THAMMAN. HIND. Grewia Rothii.

THAMOND. An Arab tribe of Petrea.

THAMTHAR of Salt Range, Grewia villosa.

THAN or Thani. HIND. of the Chenab district and Lahoul; Juglans regia, Walnut.

THANA. HIND. Missiessya hypoleuca.

THANAH, or Tanna, in L. 19° 12′ N.; L. 72° 59′ E., in the Konkan, N. of Bombay, top of the church spire is 106 feet above the sea. A hill, 3 miles E. of Thanah is 1,369. A hill at Kolva, near Thannah, is 973 feet above the sea.

THANARI. HIND. Staphylea emodi.

THA-NAT. BURM. Cordia myxa, *Linn.*

THA-NAT-DAN. BURM. Garcinia elliptica, *Wall.* Gamboge tree.

THA-NAT-THEE BURM. A timber tree of Amherst, Tavoy and Mergui, said to be abundant all over the provinces, but is not easily obtained in Moulmein, of maximum girth 3½ cubits, and maximum length 30 feet. When seasoned, it floats in water. It is a durable, yet light wood, with a very straight grain; and is used for every purpose by the Burmese, and much recommended for helves.—*Captain Dance.*

THAN-BA-YA. BURM. Citrus bergamia, *Risso and Poit.*

THAN-DAY. BURM. Bignonia, species.

THANDRAIKYA. TEL. In the Nalla Mallai, an ash coloured wood, resembles hickory in fibre; is close and tough, and would be a very useful wood.—*Mr. Latham.*

THANDU-KIRE. TAM. Amarantus oleraceus, *Linn.*

THANESUR, near Umballa. Its ruins have been sacred to hindus as a place of pilgrimage since the heroic ages. Its temple was sacked by Mahmud in A. D. 1011. At Phewa in Thaneswar, on a slab of sandstone in a temple, is an inscription in Sanskrit, date 279 Sambat, probably of the Vallabhi era. The character used in the inscription is a variety of Kutila. The kings and princes mentioned are Mahendrapala, Jatula-Vajrata, Yajnika, Sagga, Purna, Deveraja, Ramachandra Bhoja. This inscription is very imperfect but interesting as throwing some light on a dark period of Indian history, if we may assume the Bhoja of the document to be the first of that name noticed by Abul Fazl and Prinsep, his era is definitely fixed. —*Beng. As. Soc. Journ. Vol.* XXII. *p.* 673.

THANGI, also Thangoli. PUNJ. Corylus colurna, *Linn.*

THANG-TOUNG, the royal cubit in Burmah, 19$\frac{1}{10}$ inches.—*Simmond's Dict.*

THANI. HIND, also Than, of Chenab district and Lahoul, Juglans regia, Walnut.

THAIN. TAM, Terminalia bellerica, also its fruit the myrobalans.

THANNA. HIND. Custom house, a police station. Thannadar, the chief of police of a station.

THANNAB SHAH, one of the Kutub Shahi dynasty in Hyderabad in the Dekhan.

THANNA-DAN. BURM. A native of Amherst, and said to be a fruit tree; it has a reddish brown, heavy, wood, fit for machinery or other purposes requiring great strength; it is totally exempt from attacks of insects, but somewhat liable to split.—*Cat. Ex.* 1851.

THAN-THAT. An Amherst wood used for stocks of various instruments; it is a capital wood, and seems to be a kind of saul.—*Cat. Ex.* 1851.

THAN-THAT, BURM. Very difficult to procure, but found inland up the Gyne and Attaran rivers in the Tenasserim provinces. When seasoned it floats in water. It is a capital wood, very durable; used by Karens for bows, for shoulder yokes, spear handles, and many other purposes. Excellent for hammer handles from its tough fibre.—*Captain Dance.*

THAN-THAT-GYEE. BURM. A tree of Moulmein, used for building materials.—*Cal. Cat. Ex.* 1862.

THA-NU-WEN. BURM. Curcuma zedoaria, *Roxb.*

THAN-WEN. BURM. Crocus sativus, *Linn.*

THANY MARAM. TAM. A tree common about Nelambore and in Coorg; wood much used, but not durable, being very liable to be attacked by insects.—*McIvor, M. E.*

THANZATT. HIND. Hordeum hexastichum.

THA-PHON. BURMESE. Ficus lanceolata, *Roxb.*

THAPUR. HIND. Ficus caricoides.

THA-PYKE-THA. BURM. A tree of Amherst, Tavoy and Mergui, of maximum girth 5 cubits, and maximum length 30 feet. It is very abundant along the banks of rivers, all over the provinces. When seasoned, it floats in water. It is a wood of no durability.—*Captain Dance.*

THAR. AR. The blood revenge.—*Burton's Pilgrimage, I. p.* 346.

THAR, of Nepaul. Capricornis bubalina, *Hodgson.* The Himalayan wild goat.

THA-RA-PHEE. BURM. Calophyllum longifolium.

THARANCHILLY. TAM. A Travancore wood of a bamboo colour, 5 to 8 feet in circumference; used for canoes only.—*Colonel Frith.*

THARANJULLA. TAM. A Travancore wood of a bamboo colour, specific gravity

0·576; used for common buildings.—*Colonel Frith.*

THARAWADI. See Ava.

THARNEL. HIND. Benthamia fragifera.

THARPANAM. See Hindu.

THARRA TEL. Grewia tiliæfolia, *Vahl.*

THARRAN, a small Burmese violin.

THARRI. HIND. Dioscorea deltoidea.

THARTAVEL. MALEAL. Spermacoce hispida.

THARU. See Haiyu, Chetang.

THARUAR. HIND. Benthamia fragifera.

THAS,—a bamboo-measure.

THATCH. In the peninsula of India, the thatch in use with the people is made of palmyra leaves. It is the best thatch for houses and the most durable. Next to it, in Madras, ranks in value the Cyperus textilis, a grass which grows on the banks of rivulets, in the low country, and is called "Koary." The leaf of the cocoanut is a very perishable material, and only employed by the very poor. In the Dekhan, a long grass is chiefly used. The Karen in Burmah use the large palmated leaf of a tall wild palm, a species of Livistonia, but the Europeans and Burmese there use the leaves of the Atap, leaves of the Nipa fruticans. The Karen in Amherst province employ the tall grasses, "Imperata cylindrica," "Saccharum cylindricum," and S. spontaneum. Long grasses and sedges (Arundo, Saccharum and Scleria) are cut and stacked along the water's edge of the Brahmaputra in huge brown piles, for export and thatching. The palms are much employed in India for thatch, but the natives also use the straw of the common grains called in Tamil vakel or Vagghil straw (A. muricatum), and the Spice grass (Andropogon schœnanthus.) They also use the cocoanut leaves made into a kind of coarse matting called Tennam kittu. Gaba-gaba. MALAY, the midrib of palm leaves, particularly of the leaf of the sago palm, is much used throughout the Moluccas for building and fencing.—*Hooker Him. Jour, Vol.* II, *page* 373. *Ain.'s Mat. Med. p.* 203.

THA-THANA-BAIN. BURM. Defender of the Faith. The title of the High Priest or Patriarch of all the Poongyi or budd'hist priests of Burmah—*Yule, p.* 165.

THA-THEE. BURM. Bignonia, *species.*

THATINAR. TEL. Fibre of Borassus flabelliformis.

THATYAL, meaning the maimed, a wandering Gond tribe, also called Pendabarya, or minstrels of God, also Matyal, because their songs are chiefly in honor of the goddess Mata. They make baskets.

THAU-THET-NGAI. BURM. Bignonia, species.

THAU HEB. The heathen notion that certain influences in nature might be controlled and directed by occult signs, was an easy transition from an originally divine rite;

> "Behold, here is my Thau!
> Let the Almighty answer me.
> Surely I would take it upon my shoulder,
> And bind it as a crown to me."

Thau, the Tauutic emblem of the Egyptians, the hieroglyphic of the god Toth, was originally expressed, according to Kircher, by the simple figure of a cross, like the Greek T and the Coptic *dau.* The Hebrew *tau* is supposed to have been derived from it, though it has deviated from its shape. It is frequently found on the Egyptian obelisks, and was always regarded as a talisman of extraordinary potency. The original in Ezekiel is, "set a *tau* upon their foreheads," instead of "mark"; which sense the Vulgate preserves, "mark with the *letter tau* the foreheads," &c.: upon which Louth observes, that in the parallel passage in the Septuagint, *τσ Εημιον,* "a mark," should be *Tau Εημιον,* the mark Tau. It is worthy of note, that in the Samaritan character, in which Ezekiel wrote, it is agreed among the learned that the *tau* was formerly cruciform, corresponding in shape with the Tauutic cross and the English letter T. From this we learn, that the crucifix was a sacred sign among the Jews, as well as the Egyptians, a hieroglyphic marking, the property of the deity. In this sense the language of Job is beautiful and appropriate. "Behold, here is my Thau! let the Almighty answer me.' Count de Gebelin observes that in France, in the early ages of christianity, during the ceremony of baptism, the officiating priest said, "Crucis thaumate notare," hence, the Jews themselves, in the later periods of their history, fell into the error, as also did the early Christians; and even in modern times the potency of the wizard's charm, and the fortune teller's crawl, is an article of vulgar belief. The phylacteries of the Jews, mentioned by our Lord, were strips of parchment, inscribed with paragraphs of the law, which were worn on their caps and arms, and inscribed on their door posts, to prevent the intrusion of evil agencies, as the root in the Greek, from whence the name is derived, signifying to guard or preserve, plainly shows. The Christian heretics of the second century, especially the Gnostics, used gems, inscribed with the word Abraxas, for a similar purpose; and still do the curious arts, which the Ephesians abandoned, maintain their hold upon the popular mind. In the east, the vaishnava and saiva hindoo affix marks to their foreheads, mahomedans defend their houses and persons with passages from the Koran, and the Greek imprint the crucifix as a resistless spell. The all-potent words

Abraxas, variously written Abrasax and Ias, occur, referring to the supreme deity and Jesus. The "curious arts" of the early Christians were condemned in the council of Laodicea. A.D. 364, can. 36; the fathers declaring, that such phylacteries or charms were bonds and fetters to the soul, and ordering those who wore them to be cast out of the church.—*DuCange, Glossar. Voces Ligaturæ, Legationes, Milner's Church History.*

THAWA, a lowland tribe mentioned by Dr. Campbell as inhabiting similar tracts to their neighbours the Mechi.—*Campbell, pp.* 50, 149.

THAU-BAUN-PO. BURM. A wood of Tavoy, an inferior wood, used for common canoes.—*Mr. Blundell.*

THAU-GAAT-THITTOO. BURM. An inferior wood of Tavoy.

THAUN. BURM. Eurya, species.

THAUNG DARI. Thaung-khao. See Laos.

THAUR. HIND. Ficus reticulata.

THAVATHRU. TAM. Guatteria longifolia.

T'HAY. The T'hay stock, the people of Siam, have been an intruding race, conquering from north to south. See India. Siam.

THAYET. BURM. Mango.

THA-YAY-BEW. BURM. A not very abundant tree, but found inland all over the provinces of Amherst, Tavoy and Mergui. Maximum girth 2 cubits and maximum length 20 feet. When seasoned it floats in water. It is not a durable wood.—*Captain Dance.*

THA-YET-KYA. BURM. A Tenasserim wood of maximum girth 2 cubits, and maximum length 20 feet. Not very abundant, but occasionally procurable inland near the back of hills near Moulmein, and here and there all over the provinces. When seasoned it floats in water. It is durable and light, and a good wood for helves.—*Captain Dance.*

THAYETMYO, a military station in Pegu near the British frontier, on the right bank of the Irawadi.

THAY-KYA-BA. BURM. In Amherst, Tavoy and Mergui, of maximum girth 3 cubits and maximum length 24 feet, very abundant, but straggling inland all over the provinces. When seasoned it floats in water. It is used for house posts, but is not a durable wood.—*Captain Dance.*

THA-YIN-GEE. BURM. A small tree of Amherst, Tavoy and Mergui, of maximum girth ½ cubit and maximum length 6 feet. Abundant all over the provinces. When seasoned it floats in water. It is utterly useless except for firewood.—*Captain Dance.*

THAY-THA. BURM. In Amherst, Tavoy and Mergui, of maximum girth 3 cubits and maximum length 22 feet, widely scattered in and all over the provinces. When seasoned it floats in water. It is a tolerably good and tough wood, liable to rot in store, and therefore not recommended.—*Captain Dance.*

THAY-YO-THA. BURM. In Amherst, Tavoy and Mergui, of maximum girth 5 cubits and maximum length 25 feet. Very abundant all over the Tenasserim and Martaban provinces. When seasoned it floats in water. It is a useless wood, rots very quickly, and is only used for temporary buildings. —*Captain Dance.*

THE'. FR. Tea.

THEA CHINENSIS. SIMS. The celebrated tea plant, one of the Ternstrœmiaceæ, a native of China, of Assam, and the regions south to the borders of Cochin China. It has three varieties:—T. Bohea, *Linn.*, and T. viridis. Though now so extensively employed, the introduction of tea into Europe is of comparatively recent origin, though it must, however, have been used in China from very early times. It is differently named in different parts of China, as Tcha, or Cha, also Tha, whence we have Tsia, The, and Tea. In Persian works in use in India, tea is called Cha-i-Khatai, or Tea of Cathay. The properties of tea depend chiefly on the presence of tannin, of a volatile oil, and of a principle called theine ($C_8H_5N_2O_2$), which has been found to be identical with caffeine and is a salifiable base. It may be obtained in white silky needles; has a mild, bitter, taste, is soluble in hot, but sparingly so in cold, water and alcohol. With sulphuric acid and hydrochloric acid, it forms crystalline compounds, and is supposed to exist in tea in combination with tannic acid. The quantity of tannin is stated by Brande, and as appears by the taste, and in the analyses of Mulder, to be greater in green than in black tea. Sir H. Davy and others have stated that black tea contains the largest proportion of tannin. The volatile oil is in larger quantity in the green than in the black tea. Tea is well known for its astringent and moderately excitant properties, chiefly affecting the nervous system, producing some degree of exhilaration, and of refreshment after fatigue. Its effects are well seen in the wakefulness produced, especially by green tea, in those unaccustomed to its use. But it is thought by some to act as a sedative on the heart and blood-vessels; or, as Dr. Billing explains it, tea and coffee are sedatives, and relieve the stupor produced by stimulants, or the drowsiness of fatigue, or other plethora, only by counteracting the plethoric state of the brain induced by the continued stimulation of action—thus merely restoring the brain to its normal state. Liebig (*Anim. Chem.* p. 179) has suggested that *Theine*, as an ingredient of diet, may be useful in contributing to

the formation of taurine, a compound peculiar to bile. Besides being useful as a diluent, it may often be prescribed as an agreeable and refreshing beverage; in some cases, especially when made strong, acting as an excitant, and at other times producing sedative and calming effects. Tea is very extensively cultivated in Kangra valley and Kullu, in Assam, and on the Neilgherries.—*Cleghorn Punjab Report. Royle Ill. Himalayan Botany. Royle Productive Resources, p.* 257-311. See Kullu and Kangra, Tea.

THEA COCHINCHINENSIS, about eight feet high, leaves lanceolate, flowers of three to five sepals and five petals, solitary, terminal; found wild in the north of Cochin-China, where it is also cultivated, being used medicinally by the natives as a diaphoretic. Thea oleosa is also a shrub of eight feet high, found in the fields in the neighbourhood of Canton, and named from its seeds yielding a large quantity of oil, which is used for burning and as an article of diet. The leaves are lanceolate, the flowers of six sepals and six petals, peduncles 3-flowered, axillary; fruit stated to be indehiscent, rather a berry than a capsule.—*Eng. Cyc.*

THEANA. See Damon and Pythias.

THEATRICAL representations are common among the Burmans, the Chinese, and Malayanesians, but are of comparatively rare occurrence amongst the hindus. In ancient hindu times, plays were written for representation on lunar holidays, royal coronations, at fairs and religious festivals, marriages, taking possession of a house or town, and the birth of a son. Specimens of these dramatic writings were given in the translation of Sakuntala by Sir W. Jones, in that of Prabodha Chandrodaya, or Rise of the Moon of Intellect by Dr. Taylor of Bombay, and in Professor Wilson's Hindu Theatre. They seem to have been written for one performance, lasting for four or six hours, and to have been represented only once. With the Burmese, a dramatic representation lasts a whole day or more, and with the Chinese, even for ten days. Amongst the Athenians a piece was never performed a second time, at least under the same form. The hindu drama is in Sanscrit. The Burmese representations are stated by Mr. Oldham to be indelicate, but Colonel Phayre's opinion is not in accordance with these. In India, amongst the hindus, traces of an inferior order of the drama are to be found in the dramatized stories of the Bhaur (Hind.) or professional buffoons: in the Jatras of the Bengalis and the Rasa of the western provinces. The Bhaur is a representation of some ludicrous adventure by two or three persons, carried on in an extempore dialogue, usually of a very coarse kind, and enlivened by practical jokes not always very decent. The Jatra is generally the exhibition of some of the incidents in the youthful life of Krishna, maintained also in extempore dialogue, but interspersed with popular songs. Radha, the mistress of Krishna, his father, mother, and the Gopi are the ordinary dramatis personæ, and Nareda acts as buffo. The Rasa partakes more of the ballet, but it is accompanied also with songs; whilst the adventures of Krishna or Rama are represented in appropriate costume by measured gesticulations. The most recent dramatic hindu writings are of a mythological and sectarial character.—*Wilson's Hindu Theatre.*

THEBURSKUD. See Kunawer.

THEDAN.—— ? See Dyes.

THE-DEW. BURM. Bixa orellana.

THEE. GER. Tea.

THEE-HO-THA-YET. BURM. Anacardium occidentale, *Linn.*

THEEKREE, a piece of a broken earthen pot.

THEEN. BURM. Phrynium dichotomum.

THEER. GER. Tar.

THEER VALA CONNAI. TAM. Bauhinia tomentosa, *Linn.*

THEET, in Burmah, the eighth part of a hand's breadth; 12 theet are equal to 1 span.—*Simmond's Dict.*

THEET KHA, a light timber of Tenasserim, easily worked and in great request for small canoes: it is a scarce tree however. "Theet kha," "Anan" and "Peengado" are impervious to the destructive attack of the "teredo;" the two latter may possess such property as the consequence of their closeness of fibre and extreme hardness, but the same reason cannot be applied to "Theet kha" from its opposite characteristics. In the latter case, it is owing, in all probability, to the existence of some acrid principle in the wood (implied by its name "bitter wood") which, similar to oxide of iron, has the effect of repelling the insect.

THEET KA TO. BURM. Cedrela toona.

THEET KHYA. BURM. Castanea Indica, *Roxb.* C. Martabanica.

THEET-KYAM-BO. BURM. Cinnamomum iners, *Pein.*

THEE KHYA THA. A timber of maximum girth 1 cubit and maximum length 12 feet. Very abundant all over the Tenasserim and Martaban provinces, in Amherst, Tavoy and Mergui; when seasoned it floats in water. It is a very crooked grained perishable wood; and not recommended.—*Captain Dance.*

THET LENDH. BURM. A tree of Moulmein, used for all ordinary building purposes.—*Cal. Cat. Ex.* 1862.

THEET MEN. Burm. Agathis loranthifolia, *Salisb*, also Dammara orientalis, *Lamb*, and Podocarpus neriifolia.

THEET-PHYIOU. This tree is a native of Amherst; it is a useful white wood, is used for fan handles, and would answer for common carpentry; it resembles Acacia serissa, —*Cat. Ex.* 1851.

THEET-SAI. Burm. Buchanania latifolia.

THEET-SEE. Burm. Melanorrhœa usitata. See Resin. Thit-see.

THEET-TA GYEE. A Tavoy wood, suitable for common carpentry.—*Mr. Blundell.*

THEET-TO. This is a native of Amherst, is said to be a fruit tree; it is a dark-brownish grey, hard, heavy wood, and employed in boat building, making carts, &c.—*Cat. Ex.* 1851.

THEET-YA. Burm. Gordonia floribunda, *Wall.* In Amherst, employed for rice grinders or pounders. It is a superior, compact close, tough, brown wood, fit for any thing requiring great strength and durability.—*Cat. Ex.* 1851.

THEET-YA-HAN. In Tavoy, a close grained teak, used for posts.—*Mr. Blundell.*

THEET-YA-NEE. In Tavoy, a close grained brown wood; rather shaky.—*Mr. Blundell.*

THEET-YA-PYIOU. A heavy strong wood of Tavoy.—*Mr. Blundell.*

THE-HO-THA-YET. Burm. Anacardium occidentale.

THEIM. Burm? A timber of Amherst, used as house posts, rafters, and general purposes of carpentry.—*Cat. Ex.* 1851.

THEIN. Burm. A chapel for the consecration of the Burmese priesthood, constructed on holy ground.—*Yule, p.* 12.

THEIN-NE MORMEIT. See Shan.

THEIT-TO Burm. Sandoricum Indicum.

THE-KUL-WA. Burm. a species of Laurus.

THELA. Hind. A disease or blight of cotton.

THE-LA-BAY. Burm. A timber tree of Amherst, Tavoy and Mergui, of maximum girth 3 cubits and maximum length 20 feet. Not very abundant, but obtained from Tavoy Mergui and Yea. When seasoned it floats in water. It is a brittle, useless wood for ordnance purposes, though employed by Burmese for house posts, and to support the shafts of wheels.—*Capt. Dance.*

THELATUTH, the laterite or brickstone is used as a builders stone, for which it is excellently fitted. Most of the handsome Roman Catholic churches at Goa are built of it.

THELI. Hind. Juniperus squamosa, the creeping juniper.

THELLI MARA. Maleal. Canarium strictum, *Roxb.*

THELPHEUSA, a genus of Crustacea, comprising

Thelpeusa indica, *Edws.* Coromandel Coast.
„ chaperon arrondi, *Q. and G.*
„ perlata, *Edws.* Cape of G. Hope.
„ leschenaudii, *Edws.* Pondicherry.

THELU. Hind. Juniperus religiosa.

THEM-BAW-H'SOKE-GYEE. Burm. Cicca disticha, *Linn.* Otaheite gooseberry.

THEM-BAU-KA-MA-KAH. Burm. Azadirachta Indica.

THEM-BAW-THEE. Burm. Carica papaya, *Linn.*

THEM-MAI-THA. Burm. A very abundant wood, found all over the provinces of Amherst, Tavoy and Mergui, on both sides of the Moulmein river, and on the sea coast. Its maximum length is 12 feet and maximum girth 2½ cubits; and, when seasoned, it floats in water. It burns with an intense heat, and is therefore used in preparing salt, and is recommended as an excellent wood for fuel for steamers, and probably would be a good charcoal wood.—*Capt. Dance.*

THEN-GAN. Burm. also Thengan-phayung. Burm. Hopea odorata, *Roxb.*

THENG-BAN-SHA, a bast of Arracan, coarse looking, and of a reddish brown colour, but divisible into a number of very thin layers, with a good deal of flexibility and some toughness.—*Royle.*

THENGAI. See Singhpo.

THENG-GAN. Burm. This wood, a native of Amherst, is employed for house posts, carts, boat building, paddles, and oars. It is an excellent compact wood, fit for gun carriages. It is the wood in most general use for almost all purposes, but principally for large canoes, which form the bottoms of the native trading crafts; this is owing to its being more plentiful than most of the others, easily worked, and, by killing the tree before felling, as with teak, is rendered capable of floating. This process, however, is rarely observed, the tree selected for working is felled and hollowed on the spot, and the canoe removed to the neighbourhood of the water to undergo the process of widening by fire; some trees producing by this rude process canoes of 60 to 70 feet long by 6 to 8 feet breadth across the centre.—*Cat. Ex.* 1851.

THENGHOI, also Then-ki. Chin. Cloves.

THENG MAH. Chinese. Urtica heterophylla. See Neilgherry Nettle.

THENG-TUA. Burm. Acetate of copper.

THENNUM PISIN. Maleal. Resin of Cocos nucifera.

THENUS— ? See Scyllaridæ.

THENUS ORIENTALIS. Edws. A Crustacean of the Indian Ocean.

THEOBROMA CACAO. Linn.

Cocao sativus *Lam.* | C. minus *Gærtn.*

The smooth leaved chocolate nut tree is a native of South America, now cultivated in several parts of India and of the E. Archipelago. It is interesting in consequence of its seeds being largely employed in diet. The tree is a native of Mexico, but extensively cultivated in the West India islands, and remarkable for its large and oval, yellow, cucumber-like capsules, hanging from the sides of the trunk and branches. These are divided into 5 cells, each filled with 8 to 10 ovoid seeds, piled one upon another, and covered by a membranous and succulent aril. There are several varieties of these seeds or nibs, which are more or less esteemed. The kernels of the seeds yield by pressure about one-half their weight of a fatty oil, commonly called Butter of Cacao, at one time much lauded for its medical properties. The seeds, pounded, digested, and boiled with water, with the oil skimmed off, and sweetened with sugar and milk, afford a wholesome and agreeable beverage. The Cacao sold in the shops consists either of the roasted kernels and husks, or of the husks only, ground to powder ; it is sometimes made from the cake left after expressing the oil from the beans. Much of the cheap stuff sold under this name, is very inferior, being made with damaged nuts that have been pressed for the oil, mixed with potato-flour, mutton-suet, &c. Flake cocao is cocao ground, compressed, and flaked by machinery, Chocolate (from the Indian name chocolalt) is made by triturating in a heated mortar the roasted seeds without the husks, 10 lbs. with an equal quantity of sugar, and about 1½ oz. of vanilla, and 1 oz. of cinnamon, into a paste, which is put up in various forms. The mass of the common chocolate sold in England is prepared from the cake left after the expression of the oil, and this is frequently mixed with the roasted seeds of ground peas and maize, or potato flour, to which a sufficient quantity of inferior brown sugar, or treacle, and mutton suet is added to make it adhere together. The chocolate-nut tree is seen in Tavoy gardens, and it brings its fruit to perfection. This tree has been introduced into Travancore, where it thrives well ; the fruit is round but smaller than that produced in South America. It thrives well in the Calcutta Garden. The nutritive properties of chocolate depend on a concrete oil or butter of most agreeable flavour, of which 1000 parts of the seed yield 386.—*Drs. Royle, Mason, Riddell and O'Shaughnessy, page* 227. See Cacao.

THEOCK, a river in Gowhatty.

THEODOTUS I., a Bactrian ruler. B. C. 256. See Greeks of Asia.

THEOG, Here, nearly eight miles from Fagu, there is a fort belonging to a Rana, or hill chieftain, and a small village, with a good many fields. The cultivation at this great elevation, for the fields reach to at least 8000 feet, is principally of barley, which is sown in early spring, and reaped in the beginning or middle of June, according to the season.—*Dr. Thomson's Travels in the Western Himalaya and Tibet. page* 37.

THEOPHILUS INDUS. See Christianity.

THEOPHRASTUS, the contemporary of Aristotle, mentions fishes (De piscibus) found in the Euphrates which, in the dry seasons, leave the vacant channels and crawl over the ground in search of water, moving along by fins and tail.

THEOS. See Greeks of Asia.

THEP-YENG. BURM. This, a native of Amherst, is said to be a fruit tree : the trunk affords a compact, fine grained wood.—*Cat. Ex.* 1851.

THER. HIND. Capra jemlaica, *Ham. Smith.*

THERAI, a forest or jungle tract at the foot of the Himalaya. No two climates and locations can be more dissimilar than those of the hills and terai, and no races are more distinct in their habits, manners and aptitudes than the people of the hills and those of this jungle belt below. There is little or no Terai or forest belt north-west of the Saharunpur district and the Dehra Dhoon, but, thence eastwards, this belt stretches along the foot of the hills through Rohilcund, Oudh and the Bengal frontier up to Assam, and a great part of the Oudh Terai was transferred to the Nepalese. Dr. Campbell describes the people of the Nepal Terai, as a vast assemblage of bastard hindus.—*Campbell, p.* 47, 50. See Terai.

THE-RA-PI. BURM. Calophyllum longifolium.

THERAPIA. See Platanus orientalis.

THERAUDIN in Guzerat, occupied by the Bagela race.

THERMOMETER. The subjoined table shews the boiling points of distilled water at different elevations, up to 17,455 feet :—

Thermometer. Degrees.		*Elevation.* Feet.	*Thermometer.* Degrees.		*Elevation.* Feet.
212	=	0	200	=	6250
211	=	529	199	=	6786
210	=	1021	198	=	7324
209	=	1534	197	=	7864
208	=	2049	196	=	8407
207	=	2566	195	=	8953
206	=	3085	194	=	9502
205	=	3607	193	=	10,053
204	=	4131	192	=	10,606
203	=	4675	191	=	11,161
202	=	5185	190	=	11,719
201	=	5718	189	=	12,280

Thermometer. Degrees.		Elevation. Feet.	Thermometer. Degrees.		Elevation. Feet.
188	=	12,843	183	=	15,702
187	=	13,408	182	=	16,234
186	=	13,977	181	=	16,868
185	=	14,543	180	=	17,455
184	=	15,124			

—*O'Shaughnessy, p.* 37.

THESAURUS ZEYLANICUS, a botanical work by John or the elder Burmann, published in 1737, with 110 plates, containing figures of 155 plants, which are generally very characteristic and well executed. Burmann's work appears to have been principally drawn up from specimens collected by Dr. Paul Hermann, who was sent out to Ceylon, in 1670, and remained till 1677 at the expense of the Dutch East India Company, for the purpose of describing all the plants and species growing in that island. Hermann's Museum Zeylanicum was first published in 1717, although it appears to have been written many years before; besides the plants of Ceylon, it contains many species collected at the Cape of Good Hope, unfortunately not distinguished from the others, a circumstance which afterwards led Linnæus into the error of considering them all natives of the East. Hermann's herbarium had been lost upwards of half a century, until chance threw it into the hands of M. Gunther (apothecary to the king of Denmark), who sent it to Linnæus, requesting him to examine it, and affix the names to the plants throughout the collection. Its great value, from the collector having been so eminent a man, induced Linnæus to examine the whole with much attention, and he was thereby enabled to form many new genera and settle many doubtful species. He published the result of his labours under the title of Flora Zeylanica, sistens plantas Indicas Zeylonæ insulæ, quæ olim 1670-1677, lectæ fuere a Paulo Hermanno, Professore Botanico Leydensi; demum post 70 annos ab A. Gunthero, Pharmacopæo Hafniensi, orbi redittæ. (Holm. 1747, 8vo. pp. 254. tab. 4.) In an appendix, the new genera are concisely given by themselves, copied from an academical dissertation published under Linnæus' presidency, by C. M. Dassow.—*Wight's Prodromus Floræ Vol*, I. *p*. 9.

THESI. HIND. Benthamia fragifera.

THESPESIA POPULNEA. LAM.

Hibiscus popul neus, *Roxb.*
Malaviscus „ *Gærtn.*

Poresh.	BEN.	Bendi.	MAHR.
Poo-arasoo.	CAN.	Bapariti.	MALEAL.
Paras pipal.	DUK.	Supara shavaka.	SANSC.
Tulip tree.	ENG.	Surya-gass.	SINGH.
Portia tree.	„	Pursa maram.	TAM.
Poplar leaved hibiscus	„	Pursung kai maram.	„
Pahari-pipal.	HIND.	Puvarasa maram.	„
Imli Khorasani.	„	Gangaravi.	TEL.
Paras-ka jhar.	„	Muni gangaravi.	„

The fruit.

Poursung kai,	TAM.	Gungaravai kaia,	TEL.
Paris ka Phal,	DUK.	Poostpa, asvudum.	SANS.

The wood.

Gungaravi wood.	ENG.	Poo varasa.	TAM.
Ghengheravi Karra,	TEL.		

This tree is generally met with in Ceylon and in Southern India, in avenues or lining roads, but is in most abundance near the sea. It is of quick growth, and yields a good shade, but is inconvenient on road sides and in gardens, from the quantities of leaves it sheds, and the numerous large flowers which fall. It is commonly planted from cuttings, from which cause, perhaps, the tree is often hollow in the centre. It yields, when ripe, a very strong, hard and durable timber, with a colour like mahogany, but its use is limited from the difficulty of getting it of large size. It is used for chairs in Madras. On the Bombay side, where it is found only near the coasts, it is much used in the construction of cart wheel spokes, and for the timbers of native boats. The shoots are also in extensive use there, as rafters for houses, and at all times fetch a good price when sold for this purpose. The Bombay Government formed plantations of this tree at Sakuria in Alibagh, at Sat Tar, and in Colaba. The increasing scarcity of this tree is such that wheel-spokes were, some time ago, being paid for by the gun-carriage department at 12 annas each. There are a pretty large number of these trees within the village precincts of many of the cultivators in the Concan, but these are mostly reserved for the supply of choice rafters, afforded by the straight shoots of the tree, while the stem is most frequently hollow; and therefore the ripe-wood, or such of it as remains, is worthless for ordnance purposes. Though of rapid growth, its wood is not in much use. Some Ceylon caterpillars sting. A greenish one, that occupies the Thespesia populnea at a certain stage in its growth, descends by a silken thread, and hurries away. The moth of this is supposed to be a Bombyx, near Cnethocampa, *Stephens.—Drs. Voigt, Wight, Gibson and Cleghorn, Captain Beddome, Thwaites.*

THETSEE, a varnish obtained from Melanorrhœa usitata, in Arracan, and used for lacquering.—*Simm. Dict.* See Thit-see.

THETTI. TAM. Syn. of Ixora coccinea, *Linn.*

THET-YA. BURM. Gardenia floribunda—?

THET-YEN-KA-DAN. BURM. Rangoon croton, a species of Tiglium.

THET-YEN-NEE. BURM. Tiglium pavanna, *Ham.*

THEUS, God. Su or Zu, probably Spartan of Theus. Nikephorus, a title of Jupiter. Porus, a title of distinction in Hebrew. The-tri-glyph,

letters of the ancient Pali alphabet, 3 yods, in Arabic ﷲ 3 strokes.

THEVADA. See Laos.

THEVATHARU. TAM. Guatteria longifolia, *Wall. W. & A.*

THEVAHDARUM. TAM. Cedar wood, a timber of Travancore, of a flesh color, specific gravity 0·457, 2 to 8 feet in circumference, and used for palanquins, cabin fittings, furniture, &c.—*Colonel Frith.*

THEVENOT the younger, was a great traveller. He was born at Paris, and died at Miana in Persia, about eight days' journey from Tauris, Nov. 18, 1667. He was Monsieur Petis de la Croix's friend, so he took care to revise his Memoirs, and had them printed in three volumes. The first contains his travels into Turkey; the second his travels to Persia; and the third to India. Monsieur Petis de la Croix, jun., the oriental interpreter to the king of France, being at Miana afterwards, disinterred his bones near the caravansera, where they had been buried, and had them interred at Tauris, under the altar of the Capuchins church there, in 1676. Mouri and other French writers confounded the two Thevenots as appears from the "Dictionaire Historique" of Ladvocat. (Par. 1760): and the "Nouvelle Bibliotheque d'un Homme de gout." Tome III. p.454. (Par. 1777), styling him indifferently "Fager," or the nephew, or the traveller.—*Vol. I. p.* 169. *History of Genghizcan, p.* 446.

THEVETIA NERIIFOLIA. JUSS.

Cerbera thevetii *Linn.*	Cerbera thevetis, *Don.*
Exile tree ENG.	Yellow oleander. ENG.

This plant is common in the gardens of the peninsula and is a common ornamental shrub in Calcutta; grows to the height of ten or twelve feet, with long tapering leaves; it is grown from seed, and blossoms throughout the year. Its juice is acrid. Two grains of its bark have been affirmed to be equal to an ordinary dose of Cinchona. The wood is worthless.—*M.E.J.R. Cat. Madras Gardens, Riddell, Ind. Ann. No.* 6.

THEW-GA-NET. (Tilsa?) A tree of Akyab. A very good wood, used for work of all kinds. Grows to a large size, and is very plentiful in the Akyab and Ramree districts. —*Cal. Cat. Ex.* 1862.

THE-YA. BURM. Shorea obtusa, *Wall.*

THEYAH. BURM. An inferior wood of Tavoy.—*Mr. Blundell.*

THIN-BAW. BURM. Carica papaya, *Linn.*

THING—? A tree of Akyab, which grows to a large size and is very plentiful. Its wood is used in house building.—*Cal. Cat. Ex.* 1862.

THIN-GA-DOE. Hopea, *species.*

THINGAN. Hopea odorata, *Roxb.*

THINGAN-KYAUP. BURM. A Tavoy tree, with a close grained, heavy, strong wood, used in ship and house building, for carts, &c.—*Mr. Blundell.*

THIN-WIN. BURM. A tree of Moulmein, a species of Pongamia. The root is used medicinally.—*Cal. Cat. Ex.* 1862.

THIRPILI. MAL. Chavica Roxburghii.

THIRST. The Eastern Arabs allay thirst by a spoonful of clarified butter, carried on journeys in a leathern bottle. Every European traveller has some recipe of his own. One chews a musket-bullet or a small stone. A second smears his legs with butter. Another eats a crust of dry bread, which exacerbates the torments, and afterwards brings relief. A fourth throws water over his face and hands, or his legs and feet; a fifth smokes. But to conquer the craving, be patient and do not talk. The more you drink, the more you require to drink—water or strong waters. But after the first two hours' abstinence you have mastered the overpowering feeling of thirst, and then to refrain is easy.—*Burton's Pilgrimage to Meccah, Vol. III, p.* 19.

THIRTANKARA, a sainted Jain teacher. See Jain. Karli.

THIRU VALA CONNAY. TAM. Bauhinia tomentosa, *Linn.*

THISSA. HIND. Rhus buckiamela.

THIT-KA-DO. BURM. Cedrela toona, *Roxb.*

THIT KYAH. BURM. Quercus semiserrata, *Roxb.*

THIT-LIN-DA. BURM. Spathodea, *species.*

THIT-NA-MYENG, also Thit-na-nweng, BURM., of Akyab, a dye of Burmah; thread is coloured yellow by it; and when oil and sealing-wax are added, a red colour is obtained. See Dyes.

THIT-NEE. BURM. A beautiful red, but heavy, wood, of British Burmah. A cubic foot weighs lbs. 80. In a full grown tree on good soil, the average length of the trunk to the first branch is 50 feet, and average girth measured at 6 feet from the ground is 8 feet. It sells at 12 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

THIT-PA-GAN. BURM. Pongamia, *species.*

THIT-PHYEW. BURM. Sibia glomerata.

THIT-POUK. BURM. A species of Lagerstræmia, a light wood of British Burmah not much used. A cubic foot weighs lbs. 35: in a full grown tree on good soil, the average length of the trunk to the first branch is 20 feet, and average girth measured at 6 feet from the ground is 4 feet. It sells at 8 annas per cubic foot.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

THIT-SEE. BURM. The black gum of the

Melanorrhœa usitatissima, *Wall.* Burmese books are written on palm leaves with a style, and certain of the sacred books which are written in the square chacracter are inscribed with the black gum.—*Yule, p.* 36.

THITTEL—— ? See Dyes.

THIT-WA-JI. BURM. Armosia dasycarpa.

THMENG-BA. BURM. A timber of Tavoy, like red Jarool ; used for posts and cotton rollers.—*Mr. Blundell.*

THMENY-TSHOUT. BURM. *Qu.* Thmeng-tshout, a small, heavy, coarse, brown, wood of Tavoy, used for door frames and boat beams. —*Mr. Blundell.*

THODA. A race dwelling on the Neilgherry mountains, in the peninsula of India. The Thodawar race say that they are the aborigines, and the other classes regard them as the lords of the hills. They occupy the Todawar-naad and Mulka-naad. Their villages are in the depths and on the skirts of the forests. Their houses are built in the form of a parallellogram, 10 feet by 6, roof semi-circular and door 1¾ to 2 feet high, and 14 inches to 1½ feet wide and is the only aperture. Their appearance is noble, some of them being upwards of 6 feet high. They marry, but the women practice polyandry, and infanticide was once prevalent, but it is said that no girl has been destroyed since 1819. In their polyandric habits, they assimilate to the Coorg, the Nair, and the people of the Himalayas, and in infanticide, with the Rajpoots. Their numbers in 1825, were men 145 ; women 100 ; boys 45, and girls 36=326. They burn their dead, and once afterwards sacrifice bullocks to the manes. The following are a few Todawar words:—

Polsh-ti	Temple.	Tilum	Pleasure.
Eshu	Morning.	Ter	Deity
Kukh	Daughter.	Uhk	Fie.
Mukh	Son.	Urkom	A servant.
Pur	River.	Konnum	Face.
Pest	Cold.	Phultan	Flea.
Mittuv	Nose.	Kust	Ass.
Hushk	Paddy.	Ez Pom	Raspberry.
Pizhakaza	To-morrow.	Murss	Straw.
Ponzh	The sky.	Oom unnoor.	Future world.
Modj	A cloud.	Ath	That.
Porhz	The sun.	Adherz	Afterwards.
Tiggal	The moon.	Ewas	Whether.
Older	A road.	Kursarm	Some.
Pom	A fruit.	Ettud	Large.
Est	A bullock.	Kiu	Small.
Elph	Bones.	Sah	And so.
Drigattz	Afternoon.	Athund	Therefore.
Tuni	A feather.	Duijan	Wife.
Ipi	Fly	Put	Fowl.
Turuvi	Monkey.	Err	Buffalo.
Ishk	People.	Aras	House.
Mort	Home.	Uschus	Mid-day.
Cubbon	Iron.		

The Toda, properly the *Tuda* or *Tudava* language, is that spoken by the Tudavar, a primitive and peculiarly interesting tribe inhabiting the Neilgherry hills, practising quasi-druidical rites, and commonly believed to be the aboriginal inhabitants of these hills. They do not at present number more than from 300 to 500 souls. It is supposed that they never could have exceeded a few thousand, but have diminished through opium eating and polyandry, and at a former period, the prevalence among them of female infanticide. The Tuda is the oldest indigenous speech on the hills. According to Metz, the Toda never pray. Even among the priests, he says, ' the only sign of adoration that I have ever seen them perform is lifting the right hand to the forehead, covering the nose with the thumb when entering the sacred dairy, and the words " May all be well" are all that I have ever heard them utter in the form of a prayer.—*Lubbock Origin of Civil, p.* 254. See India, pp. 73-75.

THO-JI-CHAN-MO, a plain in Ladak covered with natron. In its centre is the Tsho-kar, or white lake, called by the hindus of Chamba and Bisahar, Khari Talao, or the salt lake, in lat. 33° 15′ N. and long. 77° 50′ E., at an elevation of 15,684 feet. To the south of the Tsho-kar is a small fresh water lake that supplies the salt-water lake. It is a favourite haunt of the Kyang or wild horse

THOKAY. TAM. A wood of Tinnevelly, of a red colour, specific gravity 0·950 ; used for building purposes.—*Colonel Frith.*

THOLLUM, a name in Bellary for the East India Company's old rupee, weighing 176¼ troy grains.—*Simmond's Dict.*

THOLOO-PANY—? Momordica charantia.

THOM. HIND. Allium sativum.

THOMAS, GEORGE, an Englishman bred to the sea, but who in 1781-82 deserted from a vessel of war in Madras, and took service with the petty chiefs of that presidency. In 1787 he took service with the Begum Sumru, and rose into high favor. But, becoming dissatisfied, he entered the service of Apa Kunda Rao, a principal officer of Sindhia. He distinguished himself in 1799 and 1800, but after twice defeating Perron's troops, he shortly after surrendered, retired within British territory, and died in 1804.

THOMAS, EDWARD, a Bengal Civil Servant, author of Coins of the Pathan Sultans of Hindustan : Editor of Prinsep's Antiquities, and joint Editor of Sir Henry Elliot's posthumous History of India.

THOMAS. St. Thomas the apostle is generally believed to have proceeded to Arabia and India, and to be buried at St. Thomé or

Mylapur, a suburb of Madras, where his tomb is shown in the Roman Catholic cathedral under the Portuguese clergy. But there is much doubt both as to the places in which he laboured to extend a knowledge of the doctrines of Jesus the Christ, and as to the place and circumstances of his demise; even in the same cathedral at St. Thomé is a bone relic, sent from a former Pope of Rome and older traditions in the West assert positively that Thomas was buried at Edessa. There is a hill ten miles from Madras, called St. Thomas' Mount, to which, from unknown times, Syrian christian and Roman christian pilgrims from Syria and all Asia repair, and at the Little Mount, at the Marmalong bridge, six miles from Madras, is shown a cave where St. Thomas is said to have been killed. There are numerous native christians in Madras and its neighbourhood, mostly the fishermen who go to sea through the surf in their catamaran and masula boats, but no tradition exists as to their conversion. Those near the Triplicane temple of Vishnu have houses built over temple ground, on the stipulation of pulling the idol car. Nicephorus declares St. Thomas to be the apostle of the Indians; and Gaudentius says, like Sophronius, that he died in India at the town of Calamina, which is no other than Mylapore, a place at a short distance from Madras. Marco Polo relates that St. Thomas was accidentally killed when at prayer in a wood, by a low caste man, who was shooting at peacocks; and that, as a consequence of this mischance, none of the poor man's tribe could ever enter the place where the saint lay buried. Gibbon says that "Marco Polo was told on the spot that he (St. Thomas) suffered martyrdom in the city of Meliapore." This however, is clearly an erroneous statement. Dr. Fryer, who visited India about 1680, says that "about this Mount live a caste of people, one of whose legs are as big as elephant's, which gives occasion for the divulging it to be a judgment on them, as the generation of the assassins and murtherers of the blessed apostle St. Thomas, one of whom I saw at Fort St. George." Such the miraculous origin of elephantiasis! Some of the doubts as to St. Thomas the apostle have arisen from the martyrdom of a christian named Mar-Thomas. It is on record that Alfred the Great despatched from Britain an embassy under Sighelm, Bishop of Shireburn, to the shrine of the saint at Madras. This was in 883, and it seems little likely that if the legend of the death and burial of St. Thomas in the neighbourhood of Madras really arose out of the fact of the death and burial of Mar Thomas—an event which took place only about half a century before Alfred's embassy,—there should have been at that time, either in Egypt or Great Britain, any confusion of an incident which occurred fifty years before with one that was at least eight centuries old. It is surmised by Gibbon and other writers, that the pilgrims were despatched from Great Britain but never proceeded farther than Alexandria, where they "collected their cargo of legend." The Christians, on the coast of Malabar, trace their paternity to the Apostle Paul, who "went through Syria and Cilicia confirming the churches." They looked to Syria as their spiritual home. They owned the supremacy of the Patriarch of Babylon. It appears that while the Indian bishoprics were under the authority of the christian Patriarch of Seleucia, an Armenian christian named Thomas Cana, took up his abode in Malabar, and some suppose that his name has led to the belief that Thomas the disciple visited India.—*Kaye's Christianity in India, pp.* 4-24. *P. Vincenzo Maria, Viaggi, pp.* 132-136, *in Yule Cathay, II. p.* 378. *Huc's Christianity, Vol. I, p.* 2.

THOMBATY—? Oleum cucumis-colocynthis.

THOMBOO —— ? See Cloths.

THOMSON, Dr. Thomas, a medical officer of the Bengal army, an eminent scientific botanist and traveller. Author of Travels in the North-western Himalayas, and, with Dr. Hooker, joint author of the Flora Indica. Dr. Thomson's botanical collections made in the plains of North-west India, between 1842 and 1847, chiefly in Rohilkund, Loodiana, and the Punjab, amount to about 1000 species. His Himalayan collections were partly collected in Kumaon and Garhwal during short visits to these provinces in 1844 and 1845, but mainly consist of the herbarium collected during a Government mission in the North-west Himalaya and Tibet, in 1847, 1848, 1849, in the course of which he visited, in 1847, Simla, Kunawer, Piti; and in 1848, Kashmir and the Punjab, Himalaya Ladak, and the Karakoran Pass. The summer of 1849 he spent at Simla and Ladak. These amount to rather more than 2,500 species.

THONDE NAR. Tam. Fibre of Callicarpa lanata.

THOOMBE KIRE. Tam. Leucas aspera.

THOOMOOTEE. Tam. Cucumis pubescens.

THOONGUN. A tree of Akyab. It is plentiful, but has a small wood, used for oars and banghies.—*Cal. Cat. Ex.* 1862.

THOOTHI. Tel. Gossypium. Cotton.

THOR, of the Scandinavians, is the same as Sor or Sol, the sun, Surya, the ancient peo-

ple of the north pronounced "ss" as "th." Thor's battle axe is the cross. "Pattee" is the "swastika" of the budd'hist, and the monogram of Vishnu and Siva. Thor's symbol of governance was the last letter of the Samaritan alphabet, the "tau" or "tao" in its decussated form. It is the mark which the prophet Ezekiel (ix. 4) was ordered to place on the foreheads of the faithful in Judah, and Indian women still place it on their stores of grain. It is placed on the jars of water from the Ganges and Indus, and in the south of India is used as the emblem of disembodied Jain saints. It is the mystical "Tao Sze" of the budd'hists, is the chief ornament on the sceptre of the Bon-pa deities of Tibet, and is expressed on the "Artee" or musical bell born by Bal Govind. See Basant.

THUL-BAN-BU. BURM. Anacardium occidentale, *Linn.*

THI. See India.

THICK-LEAVED LAVENDER. ENG. Anisochilus carnosum.

THICK-SPIKED ELEUSINE. ENG. Eleusine coracana. *Gært.*

THIEM. BURM. A serviceable wood of Tavoy.

THIET-NEE. BURM. A tree of Moulmein; wood converted into boxes, tables, &c. &c.—*Cal. Cat. Ex.* 1862.

THIGH. In Isaiah xlvii. 2, is the phrase "uncover the thigh, pass over the rivers.' The action here alluded to is very common in India, where there are so few bridges.

THIKEREE. BENG. HIND. Phaseolus radiatus.

THILAK. HIND. Wikstræmia salicifolia.

THIM-BO. BURM. Ballast.

THIM-BO-NYAN. BURM. Batatas edulis, *Choisy.*

THIMMAPOO, an Indian grain-measure. See Thealee.

THORAPAERU. TAM. Cajanus Indicus.

T'HORI; TAWARI, OR TORI, dwell in the thul's of Daoodputra, Beejnote, Noke, Naokote and Oodur; they own and hire out camels, but like the Bawuri and Khengar, are great thieves, and are called "bhoot" or evil spirits, and sons of the devil.—*Tod.*

THORN, of Proverbs xxiv. and 31, is supposed by Sprengel to be the Alhagi maurorum. The Thorns of Proverbs xv. 19, is a species of Solanum.

THORN APPLE.

Jowz-mazel,	AR.	Umana,	MALEAL.
Datura,	BENG.GUZ.HIND.	Guz-giah,	PERS.
Kechubuh,	EGYPT.	Banjdashti,	,,
Pomme spineuse,	FR.	Dutro,	PORT.
Stechapfel,	GER.	Krishna dhatura,	SANS.
Datura stramonium	LAT.	Kalu-attana,	SINGH.
Kachubung,	MALAY.	Kari oomatay,	TAM.
Rotiubung,	,,	Nalla oomati,	TEL.
Hummatu,	MALEAL.	Tatura,	TURK.

There are several species of Datura: and the whole plant of D. fastuosa has a rank odour, which may be detected at a distance. All parts possess medicinal properties. The seeds are brownish or black, flattened, kidney shaped, without odour, except when bruised, and have a bitter weakish taste. For the purpose of facilitating theft, and other criminal designs, the seeds are frequently given in India with sweetmeats, to stupify merely, but not with the intention of killing: although there is no doubt that for the latter purpose it has also been used. The root, dried leaves, capsules, and seeds are recommended by European medical practitioners in India, to be smoked in cases of spasmodic asthma. The white flowered thorn apple is D. alba, *Rumph.*, D. fastuosa, *Willd*, the purple flowered variety.—*Faulkner. O'Shaughnessy.* See Datura stramonium, D. alba, D. fastuosa.

THORNY AMARANTH. Amarantus spinosus, *Linn.*

THORNY CAPER-BUSH. Capparis horrida, *Linn.*

THORNY JACK. Artocarpus chaplasha, *Roxb.*

THORNY QUINCE. ENG. Ægle marmelos, *Corr.*

THORNY TRICHILIA, Trichilia spinosa.

THORNY VANGUERIA. Vanguaria spinosa.

THORTAY OIL. ANGLO——? See Oil.

THORUNGULLO. CAN. Pongamia glabra?

THORUS MARA. CAN. Butea frondosa.

THOSA NUNA. TEL. Cucumber seed oil. Oil of Cucurbita pepo. See Oil.

THOSSA. HIND. Ficus Roxburghii, F. macrophylla.

THOTHA-KUTTY. TAM. A wood of Tinnevelly, of a red colour, used for furniture of every description. This seems an illustration of the errors arising from using vernacular names. It appears to mean garden knife.—*Colonel Frith.*

THOW LANGNA of the Terai, Hog-deer, Axis maculatus, *Ham. Smith, Gray.*

THOUN-BEN, BURM. Artocarpus, species.

THOUNG-THA-LAZ? A tree of Akyab which grows to a large size, but is not by any means plentiful. Its wood is used for oars and sometimes in house-building.—*Cal. Cat. Ex.* 1862.

THOUNG-THU, a population on the Karen frontier speaking a dialect of the Karen language. The Thoung-thu, or southern mountaineers, are scattered through Cambodia, Burmah proper, and the Shan states, and are seen at Mergui and Tavoy.—*Mason,* pp. 94,95.

THOUN-MYN-GA. BURM. A wood of Tavoy, used in building.—*Mr. Blundell.*

THOURA, HIND. MAR. Conocarpus latifolia.

THOUSAND ISLANDS. A group of about 60 islands, in the passage from Batavia to Banca. The most northern is in lat. 5° 24′ S., long. 106° 32′ E.

THOVARY PARPU. TAM. Cajanus Indicus. Pigeon pea. See Burri toovar, Tour, Dhal, Dhol.

THRAAN. DUT. GER. also Fisch-tran. GER. Blubber.

THRACIA, a genus of molluses.

THRACIAN. See India.

THRASAETINÆ, a Sub-Fam. of birds with two gen. 5 sp., viz. 1 Pseudastur; 4 Spizaetus.

THREAD.

Garen,	DUT.	Fio,	PORT.
Fil,	FR.	Nitki,	RUS.
Zwirn,	GER.	Hilo,	SP.
D'hagha,	GUZ.	Torzal,	„
Refe,	IT.	Nul	TAM.
Banang	MALAY.	Nulu	TEL.

Thread is formed by twisting together fibres of cotton, silk, or flax.—*Faulkner, McCulloch.*

THREAD OF THE EGYPTIAN LOTUS. See Nelumbium speciosum.

THREE-LEAVED CAPER TREE. Cratæva Roxburghii, *R. Br. W.*

THRUSH. The blue rock-thrush, Petrocincla cyanea is the P. pandoo of Colonel Sykes, and it is distributed over south-eastern Europe and the temperate and torrid parts of Asia. By some it is supposed to be the bird alluded to in Scripture, "the sparrow that sitteth alone upon the house-top." The difference in plumage between sexes and young birds caused much confusion with the earlier Indian naturalists. Specimens likewise from the Himalayas have been found to have longer bills than individuals from other countries, and accordingly Mr. Blyth named the latter P. longirostris. This long-billed variety is common among the rocks of the N. W. Himalayas; it would seem this is a permanent race of Petrocincla cyanea, and peculiar to the more northern regions, inasmuch as all Dr. Adams procured in Ladak and Cashmere belonged to the above variety. The hill-black-bird, or blue water-thrush (Myiophonus Temminckii) is one of the most beautiful and common tenants of the Himalayan streams. It builds its nest on the cliff over the mountain torrent; during incubation the male may be seen sallying forth, sporting from cliff to cliff, his melodious note sounding sweetly among the roaring of the troubled waters. The sweet melodious song of this species has a resemblance to that of the blackbird, but is softer. The blue of the body is more intense on the breast, and forms a gaudy halo across the forehead.—*Adams.*

The Pagoda thrush (Acridotheres pagodarum) is probably the bird referred to in Lalla Rookh;—

> "Mecca's blue sacred pigeon, and the thrush
> Of Hindostan, whose holy warblings gush
> At evening from the tall pagoda's top."

The Missel thrush, Turdus viscivorus, performs an up-and-down migration on the western ranges of the Himalayas, being found at high elevations in summer, and in the more sheltered situations of the valleys during winter. The black throated thrush (Turdus atrogularis) is generally distributed over the woods and cultivated tracts of these ranges. The black throat is wanting in some varieties, and there are several well marked similarities to what has been called the red-necked thrush (Turdus ruficollis), which Mr. Hodgson considers a distinct species.—*Adam's Sportsman in India.*

THRYSSA. This genus, says Swainson, has the general aspect of the anchovy "Engraulis," but the body is broader, the mouth enormous, and opening almost vertically. A species that inhabits Tenasserim waters may be denominated the Thryssa anchovy.—*Mason.*

THSAN, an itinerary measure of China, equal to 28·633 miles.—*Simmond's Dict.*

THSIN, a name of the empire of China, taken from the dynasty of this name, applied to this country, has nearly always been some form of Sin, Chin, Sinæ, China. The region in question was known to the ancients as the land of the Seres; to the middle ages as the empire of Cathay. The name "Chin" has been supposed to have come to Europe through the Malays, like many another word and name connected with the trade and geography of the far east, and to have been applied by them to the great eastern monarchy, from the style of the dynasty of Thsin, which a little more than two centuries before the christian era enjoyed a brief but very vigorous existence, uniting all the Chinese provinces under its authority, and extending its conquests far beyond those limits to the south and the west. There are however reasons for believing that the name of China must have been bestowed at a much earlier date, for it occurs in the laws of Manu, which assert the China race to have been degenerate Kshatriya, and the name occurs in the Mahabharat, compositions many centuries older than the imperial dynasty of Thsin. Marco Palo says, "I shall take another occasion to establish that the statement in the Laws of Manu is partially true, and that people from India passed into

Shensi the westernmost province of China, more than one thousand years before our era, and at that time formed a state named Thsin, the same word as China." It is remarkable that, as the same scholar notices, the name of China is used in the Japanese maps.—*Lassen*, i. 857-8; *Panthier, Marco Polo*, p. 449, 550. See China.

THSUN, or Tsum, a Chinese long measure nearly 1¼ inches.—*Simmond's Dict.*

THUAR. HIND. Euphorbia antiquorum.

THUCKKALI. TAM., also Sime thukkali-pallam, TAM. Solanum lycopersicum.

THUG, a class of murderers and robbers, who sprung up under the first mahomedan dynasties. 500 were executed in Etawa in the reign of Akbar. It was on the discovery of thirty dead bodies in different wells of the Doab, that thuggeeism again came to the knowledge of the Calcutta Council in 1810. About the year 1830, it became known that no part of the whole of India was free from these murderers, and a department was formed by the British Indian Government, empowered to suppress them. This was effected by the officers of the Thuggee Department tracing out the members of the gangs by inducing prisoners to become approvers, and reformatories were established to reclaim both the children and the adult. By the year 1860, the gangs had become almost wholly destroyed. Gano is a class of thugs.—*Saunder's Magazine, September* 1852. *Tr. of Hind. Vol.* 1, *p.* 373. See Dacoity.

THUGGANEE JOGI. See Jogi.

THUHAR. HIND. Euphorbia nivulia.

THUJA, a genus of plants belonging to the natural order Pinaceæ, of the section Cupresseæ. T. Orientalis *Linn*, the Chinese Arbor-vitæ, grows in Siberia, Nepal, China, and Japan, and T. excelsa, *Bong*, also grows in Japan along with T. pendula, *Lamb.*, the weeping arbor-vitæ of Tartary. See Evergreens.

THUJOPSIS DOLABRATA. *S. & Z.* A tree of Japan.

THUKALLUM. MALEAL. Elettaria cardamomum.

THUL. HIND.

T'hur,	CHALD.	Tur,	PERS.
Taarn,	DAN.	Tor,	SAX.
Tur, Sos,	GREEK.	Tur,	WELSH.
Thurm,	GERM.		

The Rajputanah desert, running to the Indus, is marked with t'hul, rooe and sand ridges, or Thul-ka-Tiba, some of which are very lofty. Thu'l means an arid bare desert; rooe is equally expressive of desert, but implies the presence of natural vegetation, in fact, the jungle of the desert. The word Maroost'hulli is compounded of the Sanscrit mri, to die; and st'hali, arid or dry land; which last, in the corrupted dialect of those countries, becomes t'hul, denoting tracts particularly sterile, the converse of the Greek oasis. Each t'hul has its distinct denomination, as the t'hul of Kawar; the t'hul of Goga, &c.

T'huls are numerous in western Marwar, which is a corruption of Maroo-war, classically Maroo-st'hulli or Maroost'han, the region of death. It is also called Maroo-desa, the country of death, which is synonymous with Mor-d'hur used by the bards, and though the term Marwar is now restricted to the country subject to the Rahtor race, its ancient application was to the entire desert between the Sutlej and the ocean.

The t'hul of the Looni embraces the tracts on both sides of the river forming Jhalore and its dependencies. Jhalore is one of the most important divisions of Marwar, but the region south of the river cannot be included in the t'hul. When the Pramara race held paramount rule in Maroo-st'hali, Jhalore was one of the nine castles of Maroo. Jhalore has only the desert plants, the jhal, babool, and karil.

The t'hul of Tirruroe intervenes between that of Gogadeo and the frontier of Jesulmir. The name is from tirr, moist, and rooe. The t'hul of Khawur lies between Jessulmir and Barmair and abutting at Giraup into the desert of Dhat, is in the most remote angle of Marwar. The Sahrai find pasture for flocks of sheep and herds of buffaloes in this t'hul.

The Malli-nat'h t'hul is also called Barmair formerly occupied by the Malli or Mallani, of Chohan, or as some declare, of Rahtor origin; great numbers of camels, the best in India, are reared here.

Kherd'hur, the land of Kher, from the Kher plant, and from it also called Kherala and Kheraloo, the home of the Kher, was formerly occupied by the Gohil race, who robbed the caravans or kafila, as they crossed the desert, The Rahtor race drove out the Gohil, who are now the lords of Goga and Bhownuggur near the gulf of Cambay, and till lately swept the ocean as far as Sofala or the Gold Coast, as pirates and slave-hunters. Junah Chotun are two ancient towns. Nuggur Goorah, between Baymair and Nuggur Goorah, is one immense rooe containing deep jungles of Khyr, or Kher Kaijri, Karil, Keip, p'hok.

Gogadeo-ca-t'hul, the t'hul of Goga, a name celebrated in the heroic history of the Chohans, is immediately north of Eendovati, and one description will suit both. The sand-ridges (t'hul-ca-teeba) are very lofty in all this tract; very thinly inhabited; few villages; water far from the surface, and having considerable jungles. T'hul is the general term by which the sand ridges of the Rajasthan deserts are designated. The term is identical with the Tor

and Thur, and Tull of other languages ; thus the Coptic T'hul has the same meaning. T'huls are bare and arid tracts, contradistinguished from rooe, jungle desert.

The Thul, or desert of drift sand in the Sind Sagor Doab, has Leia, Muzaffarnaggar, Dehra Ghazi Khan, Jampore, and Dhoondoo on its skirts. The sand lies in huge wreaths and hillocks, the latter often reaching the height of 40 or 50 feet above the general level of the country, which is, for the most part, destitute of vegetation, a few of the leafless pogh bushes, with some jhund and bur or peeloo, also occur, and occasional oases occur. There are small patches of ground, free from sand and like little valleys surrounded by low hills. The soil is everywhere strongly impregnated with kullur, (impure nitrate of soda.) *Tod's Rajasthan, vol.* ii. *pp.* 296-300. *Annals*, ii. 289. *Captain Dias in P. P.* 265 *of* 1861. See Thurr.

THUL-I-TAUBA. AR. the hill of repentance is on the Tigris, and is so named because of the tradition that when Jonas threatened the Ninevites, they went to this hill and vowed repentance. The Gaelic Tillee Beltein, i. e., the hillock of the fire of Baal, is a town in Perthshire, where the Beltane festival is held on old May-day.

TAURUS is a mountain of Asia. Jab'l Tur is the mountain near Mount Sinai.—*Elliot.*

THUL KOOREE. BENG. Hydrocotyle Asiatica.

THUL-PUDMO. BENG. Hibiscus mutabilis.

THUM. HIND. Berchemia, sp. In Bassahir, Thum is the Fraxinus xanthoxyloides, or crab ash, and in Kanawar it is Puliurus aculeata.

THUMBATAN-KAI. TAM. Dolichos ensiformis.

THUMI SAMBHUTA. See Tibet, Magar.

THUNBERG, C. P., a Swedish botanist, who visited Ceylon in 1777, author of the Flora Japonica. He also laboured in Java.

THUNBERGIA, a genus of climbing plants of the natural order Acanthaceæ, called after Thunberg. Amongst the species are T. alata, of Zanzibar, T. angulata of Madagascar, T. fragrans of Hindustan and the ghats of the peninsula, and T. grandiflora of all India. These plants are grown from seed in any good soil and bear flowers of various colours. T. grandiflora has large flowers with no inner calyx ; the leaves are angular, cordate : the anthers bearded and spurred and it hangs in beautiful blue racemes, and is adapted for covering trellis work. T. fragrans has a climbing stem, with cordate acuminate leaves somewhat angular at the base. A large beautiful creeper, N'way h'myo, BURM, with azure flowers, belonging to the genus Thunbergia, is a conspicuous plant in the forests of Burmah. The species are handsome climbing plants, with a fragrant odour, with white, yellow, and blue flowers ; they require a free rich sandy soil and plenty of drainage. The large varieties with blue flowers should be planted out and trained upon pillars, trellises or trees. Natives of the tropics ; raised from seeds, cuttings, layers, and suckers.—*Riddell. Eng. Cyc. Mason.*

THUNDA, HIND. Cold, cool. Thundachuri a cold-knife. Thunda-karna (lit. to cool), laying the ullums, &c. away. Thundamussala, seasonings.

THUNG-BAIN. See Shan

THUNG-HSEN-PAN. BURM. Gardenia florida, *Linn.*

THUNG-SHIN-PAN. BURM. Garlic.

THUNIR. HIND. Thunu ? HIND. Taxus baccata.

THUNKU-PUSHPA. MALEAL. Clitorea ternatea, *Linn.*

THUN-NA-KA. TAM. A wood of Tinnevelly, of a whitish brown colour, used for making trunks.—*Colonel Frit.*

THUOC, the Chinese "chih," cubit, or foot, and the generic name for the measure of length in Cochin China, which varies according to circumstances. Those more commonly employed are :—

		Metre.	Eng. Inches.
1.	That used for measuring ships for the service of ports ...	0·405	= 15·945255
2.	That used for wood at Turon ...	0·425	= 16·732675
3.	That mentioned by Taberd in his valuable Anamitic Dictionary..	0·48726	= 19·18391346
4.	That used by the king for measuring silks and other cloths in his transactions with foreigners ...	0·594	= 23·386374
5.	That used by the natives in the Turon market...	0·61	= 24·01631
6.	That used according to Morrison ...	0·64968	= 25·57855128

—*Simmond's Dictionary.*

THUP-TEE. A musical instrument.

THU-RA-PEE. BURM. Calophyllum species.

THURB—? Sanseviera zeylanica.

THURLKURI. BENG. Hydrocotile Asiatica, *Linn.*

THURNEL. PUNJABI. Benthamia fragifera.

THURR and Parkur, is a sandy desert in Sindh. The desert talookas of Omerkote consist of a narrow strip of sand hills and waste lying north of the Runn of Cutch, and stretching about 130 miles from district Mahomed-

Khan's Tanda on the west, to the Jodhpore frontier on the east. The principal town is Omerkote, situated between the desert and the plains. It has long been the acknowledged capital of this part of the country, and with its mud fort, was considered the key to the desert, commanding the high road between Marwar and Sindh.

THUS—— ? Frankincense.

THUT. HIND. Salvia lanata.

THUTU VELI, MALEAL. Solanum trilobatum.

THUYA. See Thuja.

THWOOT-TA-BAT. BURM. Achras sapota, *Linn.*

THY——? A tree of Akyab, which grows to a large size, and is plentiful in the Ramree, and Sandoway districts. Its wood is used for posts and firewood.—*Cal. Cat. Ex.* 1862.

THY-KA-DAH. BURM. Erythrina, species.

THY-KA-DO——? A tree of Akyab, which grows to a large size, but is not very plentiful. It is used for furniture.—*Cal. Cat. Ex.* 1862.

THYM-BRO. BURM. A good strong durable wood of Tavoy, used in boat building.—*Wall.*

THYMELACEÆ, LINDL. A natural order, the Mezereum tribe of plants, 22 Gen. 17 species occurring in India, viz. 14 Daphne ; 1 Linostoma and 2 Cansjera. Daphne viridiflora, *Wall*, occurs in China. D. Cannabina, *Lour*, grows in Nepal and Cochin-China, and a soft, smooth and tough paper, the celebrated Nepal paper, is made from its inner bark. This order of plants is very uniform in character, and is formed of shrubs or herbs with simple and alternate leaves, axillary or terminal flowers. An acrid stimulant principle abounds in most of the species hitherto examined, which possesses very valuable medicinal properties, though not devoid of dangerous powers, if taken in excessive doses. A crystalline substance named Daphnine has also been separated from the bark of some species of Daphne.—*O'Shaughnessy, page* 599. *Voigt.*

THYME LEAVED GRATIOLA. Gratiola monnieria.

THYMUS CITRIODORUS. Lemon Thyme. ENG.

THYMUS VULGARIS. LINN.

Hasha,	ARAB.	Ipar,	HIND.
Garden Thyme,	ENG.		

An erect plant, sometimes procumbent at the base, or clothed with a hoary pubescence. It is a native of the south-west parts of Europe, in dry plains and on hills and uncultivated places free from woods. It has a pungent aromatic odour and taste, is cultivated for culinary purposes, used in soups, &c., and many varieties of it are met with in gardens. It is a delicate plant to rear, best by seed, grown in pots, but it may be increased by slips, and dividing the root. It is raised from seed, requires a sandy soil and free drainage.—*Riddell. Jaffrey.*

THYNAN. BURM.—? A tree of Akyab, a small wood used in house building It is not very plentiful.—*Cal. Cat. Ex.* 1862.

THYRSUS of Bacchus, was brought by him from the east.

THYRUS. See Eurylepis.

THY-VALA VER. MALEAL, roots of Gynandropsis pentaphylla.

THY-ZAU-HOONG—BURM.? A tree of Akyab. It is small and plentiful, and its wood is used for colouring thread.—*Cal. Cat. Ex.* 1862.

TIAMLE. HIND. Ficus Roxburghii.

TIAN. HIND. Acer criticum.

TIANAC——? See Simiadæ.

TIAN-SHANG. See Arians.

TIARI, HIND. Solanum verbascifolium.

TIARIDUM INDICUM. SCHM.

Heliotropium Indicum *L.*		H. cordifolium	*Mœnch.*
Hati Shuru.	BENG.	Tel koduku.	TAM.
Indian turusole.	ENG.	Tal maui.	TEL.
Benja patsja.	MALEAL.		

This annual plant grows in Chittagong and Travancore amongst rubbish in rich and rank soils. It is used in medicine.

TIAR, a race in Malabar who form the mass of the field labourers, but their chief avocation is to collect and form coarse sugar from the juice of the palm. Their women are exceedingly pretty, with masses of long hair. They follow the polyandric custom for all the brothers to have but one wife among them.—*Markham, p.* 346. See Teer, Teyar.

TIAULANDHA. HIND. Viburnum fœtens.

TIAYANG. See Coyan.

TIBA, in the Punjab, inferior sandy, dry soil. Tiba means hillock, and the term is especially applied to uneven sandy ground of a somewhat high level. See Bhur.

TIBARENI. See Chaldea.

TIBBA, a mound, hill, mountain.

TIBBAN ASAAD ABOO KARIBA. See Kaba.

TIBBOO. In the Berber group of languages, all that is not Arabic in the kingdom of Morocco, all that is not Arabic in the French provinces of Algeria, and all that is not Arabic in Tunis, Tripoli, and Fezzan, is Berber. The language also of the ancient Cyrenaica, indeed of the whole country bordering the Mediterranean, between Tripoli and Egypt, is Berber. The extinct language of the Canary Isles was Berber ; and, finally, the language of the Sahara is Berber. The Berber languages in their present geographical localities are essentially

inland languages. As a general rule, the Arabic is the language for the whole of the sea-coast, from the Delta of the Nile to the Straits of Gibraltar, and from the Straits of Gibraltar to the mouth of the Senegal river. On the southern borders of the Sahara the Berber language is conterminous with the Woloff, Serawoolli (?), Fulah (?), Sungai, Howsea, and Bornu (?) languages; its southward extension, on the eastern half of Africa, being sufficiently wide to embrace the whole area of the Great Desert. To the east its extension from north to south is less; the Tibboo language being spoken as far west as Fezzan, and as far north as the oases of Augila and Siwah. The remarkable magnitude of the Berber area was known to the authors of the Mithridates.

Tibbu of Lyon and Hodgson seems to belong to the Nubian class, and to be Libyan or Lybes. For Egypt and the parts connected with Asia by the Isthmus of Suez, the permanent influence of Arabia began under the successors of Mahomed. For Abyssinia, and the parts about the Straits of Babelmandeb, the permanent influence of Arabic began at a period anterior to history, as manifested by the constitution of the old Æthiopic language and its derivatives.—*Dr. Latham in Rep. Brit. Ass.* 1847, *pp.* 210, 215.

TIBELEBU, the name of a tree in Canara and Malabar, also named Nambogum. The wood is close grained, and for general house building purposes used as a strong durable wood. It may be procured from eight to thirty-six inches in diameter, and from twenty to thirty-five feet long.— *Edye Forests of Malabar and Canara.*

TIBERIAS, a lake in Palestine anciently called the Sea of Chinnereth, from its vicinity to the town of that name. Its Scripture names are the Sea of Galilee, so called from its situation on the western borders of that division of Palestine, and the Lake of Gennezareth, from the neighbouring land of the same name, and also the Sea of Tiberias, from the contiguous city of Tiberias, now known by the name of Tabaria, the only large city existing on its shores. The lake is about fifteen miles in length, and six to nine in breadth. Lake Tiberias was the scene of one of our Lord's miracles, Luke viii. 23,24. "There came down a storm of wind on the lake, and they were filled with water, and were in jeopardy. Then he arose, and rebuked the wind and the raging of the water, and they ceased, and there was a calm." The town of Tiberias is situated on its western shore, nearer the northern than the southern end. Within about a mile from the town, and close to the edge of the lake, are some hot springs enclosed by a small square stone building surmounted by a dome. Their waters consist of a strong solution of muriate of soda with a considerable intermixture of iron and sulphur. There are several other springs in the immediate neighbourhood, but they are not turned to account. The place is known by the name of El Hamam, the generic word for baths. Its ancient Hebrew name, Emmaus, has a similar signification. Above the springs, on the sides of the western hills, from this as far as to Tiberias, are numerous caverns.—*Robinson's Travels, Palestine and Syria, Vol. I.* p. 124.

TIBET is arranged by its people into Kham Yul or Eastern Tibet, called also Potchen or Great Tibet; Wei Tsang or Tibet Proper, and Ari or N. W. Tibet. Tibet is also called by the people Pot or Bod, or Bod Yul, the land of Bod, and is called by the Chinese Si-Tsang. Tibet, in the language of Ladak, is called Bod, and a Tibetan Bod-Pa, whence the word Butan of the plains, applied to Tibet. Tibet is also divided into upper, middle, and little Tibet, and extends from Lhassa to Gilghit, a distance of 1,200 English miles. Little Tibet contains about 12,000 square miles, is about 170 miles long, and lies between 74° and 76° 35' E. Little Tibet or Bultistan, is called by the Kashmiri Sri Butan. Tibetan districts are Khapolor, Chorbad, and Keris, on the Shayok river. Khartakshe, Totte and Parguta on the Sing ge chu; Shigar on the Shigar river, and Balti and Rongdo on the Indus. Tibet is mentioned by Abu Zaid ul Hasan in A.D. 915, by Ibn Haukal in A. D. 950, by Abu Rahan in 1030, and by Edrisi in A D. 1154. Some suppose that Marco Polo entered Tibet, but the wonderful stories which he tells of its people indicate that he wrote from hearsay. Marco Polo sojourned in the hills of Badakshan for the sake of his health, and he describes the countries of Wakham, Pamer, Bolor, and Kashmir. And notwithstanding the wide-spread fame of Prester John, the first Europeans seem to have visited this country in the middle of the seventeenth century. Yul-Sung or L'hassa, the residence of the grand Llama, is the capital of Butan or Northern or Upper Tibet. Leh or Ladak is the chief town of that part of Butan, called Middle Tibet, and Iskardo is the principal place in Little Tibet. The Bulti or natives of Little Tibet say that Ladak, Iskardo, Khopalu, Purik, Nagyr, Gilghit and Astor, are distinct Tibets. The people of Ladak are buddhists; those of Little Tibet are shiah mahomedans. In their marriages the bride comes to the house of the groom. Cultivation in Little Tibet is carried on entirely by irrigation. The language of Tibet

has thirty simple letters, out of which fifteen different sets are formed, which may be used with a prefix of some other letter. Thumi Sambhuta was the first who taught the Tibetans the use of the Kashmirian characters, which remain unchanged to this day. More rain falls in Tibet than in Ladak, approaching even to a rainy season. Slavery is a Tibetan institution. Polyandry is common. The gravel of its steppes yields gold, but the value of the crude borax of its lakes is far greater than its precious metal. The tea trade of Tibet is carried on in the form of blocks, weighing about 8 lbs. and which sell at from 12 to 48 shillings each. According to Dr. Scott in vol. XV. of Asiatic Researches when the Boti of Upper Tibet fight with a Deb raja or governor, or with Pilos, if any one be killed, both parties rush to obtain the body, and the successful party take out the liver and eat it with butter and sugar. They also mix the fat and blood with turpentine, and make candles which they burn before their idols. The bones of persons killed in war are used for musical pipes. They make beads from the skulls, or set them in silver as water cups to be used in their religious ceremonials. Chevalier Bunsen observes (*Report Brit. Assoc.* 1847) that according to Chinese traditions, Tibet is the land of their earliest recollections, and Dr. Latham (*Rep. Brit. Assoc.* 1845) says that in addition to their grammatical analogy, there is an absolute glossarial affinity between the languages of Tibet and China : and that the Chinese, Tibetan, Bhutan, Burmese, Siamese, and all the so-called monosyllabic languages are allied to each other. Bhot according to Latham, is a word traceable under the appellations of Bult in Bultistan. But in Butan, Bet in Tibet, or in such words as the Bhooteya or Bhotya ; and, in ethnology, comprises the Little Tibetans, the natives of Ladak, the Tibetans of Tibet Proper, and the closely allied tribes of Butan. Balti, or Balti-yul is called Palolo or Balor by the Dard, and Nang Kod by the Tibetans. It is preserved by Ptolemy in Byltæ. Part of the Bhot country is frequently called Skardo or Iskardo from the name of its well known fort and capital. Balti proper is a small table land, and with that of Deotsu, is about 60 miles long and 36 broad, the mean height of its villages above the sea is about 7,000 feet. The Balti people of Little Tibet, the Byltæ of Ptolemy, though Tibetan in language and appearance, are all mahomedans, and differ from the more eastern Tibetans of Le (who call themselves Bhotia or inhabitants of Bhot,) by being taller and less stoutly made. Their language differs considerably from that of Le, but only as one dialect differs from another. The Bhot of Ladak is strong, hardy, short and square, with a decidedly Mongol physiognomy—by which is meant a flat face, broad cheek, depressed nose, very large ears, oblique and narrow eye curtained at the coners, black hair and low stature, their average height being 5 feet 6·1 inches : the skulls are less Mongolian, having a capacity of 72 cubic inches, 80 cubic inches being a fair capacity for a European.

The Grand Llama is a Bhot. The ordinary monk or priest in Tibet is the Gylong, above whom are the Llama or presidents, and below whom are the Tohba and Tuppa. The Tuppa is a probationer who is admitted into the establishment to which he would attach himself at the age of 8 or 10, and receives instruction accordingly. At 15 he becomes a Tohba, and at 24 a Gylong, provided his acquirements be satisfactory. There are two sects, the Gyllupka, who dress in yellow, and the Shammar in red, the Shammar Gylong being allowed to marry. The Bhot of the Tibetans have been extending westward. As a general rule, the Himalaya divide Hindustan from Bhotland, but there are Bhot in several parts south of the crest of those mighty mountains in Garhwal and Kumaon. The people of Le, the eastern Tibetans, call themselves Bhotiah, or inhabitants of Bhot. They are not so tall and are stouter made than the Tibetans of Balti or little Tibet, who, though Tibetan in language and appearance, are all mahomedans. M'hon is the name given in Tibet to all the hill people between the plains of India and Tibet. The Tibetans and Nepalese are Mongols, and have all the characterstics of the Mongol race. In Tibet, the sovereign Llamas are deposited entire in shrines prepared for their remains, which are ever afterwards regarded as sacred and visited with religious awe. The bodies of the inferior Llamas are usually burnt and their ashes preserved in little metallic idols, to which places are assigned in their sacred cabinets. Ordinary persons are treated with less ceremony—some are carried to lofty eminences where they are left to be devoured by ravens, kites, and other carniverous animals. But they also have places surrounded by walls where the dead are placed. The Mongols sometimes bury their dead ; often they leave them exposed in their coffins, or cover them with stones, paying regard to the sign under which the deceased was born, his age, the day and hour of his death, which determine the mode in which he is to be interred. For this purpose they consult some books, which are explained to them by the Llamas. Sometimes they burn the corpse, or

leave it exposed to the birds and wild beasts. Children who die suddenly are left by their parents on the road. In Spiti, in the N. W. Himalaya, when a person dies, the body is sometimes buried, or burnt, or thrown into the river, or cut into small pieces and burnt, admonitions are made over the body to the departed spirit, such as do not trouble yourself, you cannot enter it (meaning the dead body), in summer it quickly becomes corrupt, in winter it freezes and is too cold for you.

Bhot means Tibet; Bhotan the end of Tibet: Balti includes Hasora, Rongdo, Rong-yul, Shagar, Skardo, Balti, Parkuta, Tolti, Khartaksho, Kiris, Khaybalu and Chorbat.

Ladak or the Bot Pa of Tibet, includes Spiti, Zangskar, Purik, Suru, Hembako (Dras) Ladak proper or Le, Nubra, Rong, Rupshu and Hanle.

The language of the Bhotiah of Tibet, the Bhutiah or Tibetan, is also that of Bhutan and is a connecting link between the polysyllabic and monosyllabic languages. Garhwal is to a large extent Bhot.

Dras adjoins Kashmir the intercommunication being by the Zoji pass a remarkable depression of 11,300 feet, through which flow the moist winds of Kashmir and Dras is the most humid and fertile province of Tibet. Tibet is reckoned by Gutzlaff in his 'Life of the Emperor Taou Kwang,' page 227, to comprise an area of 30,200 square miles; and to have a population of about six millions. Tibet, as thus indicated in the enumeration of the dependencies of China, embraces Little Tibet or Balti, the capital of which is Iskardo; Western Tibet, the principal town in which is Leh, and Tibet Proper or Eastern Tibet, having Lassa as its capital and chief city. Following Humboldt, Dr. Thomson divides Tibet into two grand divisions: the western one, and the eastern one. Western Tibet, is a highly mountainous country, lying on both sides of the Indus, with its longer axis directed like that river, from south-east to north-west. It is bounded on the north-east by the great chain of mountains, to which Humboldt, following Chinese geographers, has given the name of Kounlun, by which it is separated from the basin of Yarkund. On the south-east, its boundary is formed by the ridge which separates the waters of the Indus from those of the Sanpu." To the north-west and south-east, its boundaries are somewhat arbitrary, unless the political division of the country be had recourse to, which, depending on accidental circumstances, entirely unconnected with physical geography or natural productions, is so liable to change that its adoption would be extremely inconvenient. In drawing a line of separation between India and Tibet, in those parts where mountain chains are not available for the purpose, regard the latter to commence only at the point where the aridity of the climate is too great to support forest trees, or any coniferous tree, except juniper. As limited by these boundaries, Western Tibet includes the whole valley of the Indus and its tributaries, down to about 6000 feet above the level of the sea: a considerable portion of the upper course of the Sutlej down to between 9,000 and 10,000 feet, and small portions of the upper course of the Chenab, of the Ganges (Jahnavi) and of the Gogra. The above very elaborate definition of boundaries, however, is founded mainly, as regards the limits of India and Tibet, on the geographical distribution of plants.

The second grand division, or Eastern Tibet, is an exceedingly mountainous country; it contains immense masses and ranges of the most rugged mountains in the world interspersed with extensive plateaus and deep level-bottomed valleys along the streams and rivers.

The Tibetans do not recognize a continuous chain of mountains running parallel to the Himalaya; nor are they acquainted with "Kounlun" as the name of any mountain range. They are familiar with the Himalaya on one hand and call it "Kangri," which simply means *Snowy region*, and they know that the country of the Mongols, or Mongolia, lies parallel to it on the other hand. A great distinguishing feature in the physical geography of Eastern Tibet is the Yaroo river or Sanpoo of English maps. Thus characterised, in popular estimation—which is not founded on the physical features of the country, on its natural productions, or on political divisions of territory, separately or jointly,—Eastern Tibet is bounded on the north-west by the Kangtisee range of mountains. The highest portion of the "Kangtisee" range is believed to be the "Kylas," of Strachey and a greatly elevated tract of country extending from the base of this range; on the north by Mongolia, on the east by the Sifan and Sechuen provinces of China, and on the south by the Himalaya, from the point at which it is pierced by the Brahmaputra on the east, to the meridian of the Mansarowar and Rawan Rud Lakes on the west. The general direction of the Kangtisee range is north and south, and it is said to connect the Himalaya and Mongolia, as by a cross-bar. It runs to the east of the Mansarowar and Rawan Rud Lakes, its highest point is said to exceed in elevation any portion of the Himalaya, and four large rivers have their sources in different parts of the range, viz., the Singh Khawab or Indus, the Langehoo Khawab

TIBET.

which runs through Ladak, the Marchaœ Khawab which is known as the Gogra, and the Tamchoo Khawab or Yaroo, the great river of Eastern Tibet. In the city of Lassa and over the whole of Tibet, "Geawa Remboochi" or the "Grand Llama" is nominally the supreme authority in temporal and spiritual affairs. His residence is in Patala Goompa, which is on the north side of Lassa. M. Huc says, that "Lassa" in the Tibetan language means "Land of Spirits." The Mongolians on the same authority call this city "Mon-che-dhot," i. e., Eternal sanctuary. Cheboo Llama gave the following interpretation, "L'ha" means God, "Sa," abode or resting place, hence it is the city of God, or the Eternal city. There are two resident envoys from China called "Ampa" stationed at Lassa, subordinate to them are two great officers—Chinese, designated Daloo-he: their rank and occupation are those of general officers. Next to these are two Phopun who act as Paymasters of the troops, and perform the duties of our Adjutant and Quarter-master Generals. They are also Chinese. One of the Daloo-he, and one of the Phopun are generally stationed at Digarchi. These officers constitute the general staff of the army in Tibet. Next in rank are three Chonghar. They are Chinese, and Military Commanders; one is generally stationed at Digarchi and another at Tingri near the Nepal frontier of Tibet. Below these are three Tingpun, non-commissioned officers —also Chinese. There are no other Chinese military officers in Tibet. The usual number of Chinese troops, all Mantchoo Tartars, in Tibet, does not exceed 4,000 men. Stationed at Lassa 2,000, Digarchi 1,000, Giangtchi 500, Tingri 500. The above shews that the Chinese functionaries in Tibet are political and military officers only. All Civil appointments are held by Tibetans. The local temporal government of Tibet is headed by the Grand Llama, entirely guided in all political and military affairs and mainly so in civil affairs by the Chinese Ampa and the emperor of China.

The first officer is the Chemeling, the second Kandooling, the third Tengeling; they are all Tibetans, and the Chief Llamas—Awatari—of Goompas bearing those names. The principal Goompas at Lassa and its vicinity are the

Genden Goompa.	3,500	Llamas resident and itinerary.	Chemchung.	200	Llamas resident and itinerary.
Lassa	5,500	"	Kandooling.	200	"
Depoong.......	7,500	"	Tengelling..	200	"
Gentoo	500	"	Chechooling.	300	"
Grume	500	"	Monjida Taeling..	1,000	"
Chenamge.....	1,000	"			
Chalang.......					

From the three Llama counsellors, the emperor of China nominates the Noume-hen, "Nome Khan" of M. Huc, who may be called President of the Council, or Prime Minister. Gealohup Noume-hen is the proper title, which being translated, is "the image of Geawa" or the Grand Llama. He is Regent when the Grand Llama is a minor, and at all other times is the *alter et idem* of his holiness. The Noume-hen is always one of the three great Llama above named. At his death or removal from office, he is succeeded in the Noume-hen's office by one of the two remaining counsellors, always however under orders of the emperor. His successor must, as in the case of a "Grand Llama," be an awatar, i. e., he must re-appear in the flesh as a child and be raised to that position. Of equal rank with the Noume-hen, but having no temporal authority, is the Genden Tepa Llama; he is next to the Grand Llama himself, the highest clerical authority. He is finally appointed by the emperor, being in the first instance chosen on account of his superior attainments and sanctity by the local authorities. He is chief of the great monastery of Genden. The persons privileged to take a part in the selection and recommendation of the Genden Tepa, for his holy office, are the Noume-hen, the two Ampa, and the four Shapee. They propose him for election to the Grand Llama; after his approval, the Ampa procure his appointment from the emperor. The Genden Tepa is chief Llama of a Goompa, but not an awatari Llama. Next in rank and power to the Noume-hen are the four Shapee. They are not Llamas, are always Tibetans, and the principal executive officers of the Government in the Financial, Revenue and Judicial departments. These departments are not separated and under distinct officers. The Shapee are the highest Judicial officers in the Civil and Criminal Courts. Next to the Genden Tepa is the "Llama Yeung'ing" the private guru, or high priest of the "Grand Llama." He is also appointed by order of the emperor, and is sometimes an awatari Llama, but not always. His office is to teach and train the Grand Llama in childhood and youth, and lead him, if he can, afterwards. This is indeed an important personage in the Buddhist world, being no less than the keeper of the Grand Llama's conscience. The nomination to this post being in the hands of the emperor, furnishes an interesting clue to the extent of the imperial power over the church of Tibet.

The Che Kap Kempu Llama is a churchman of great influence in the Government. He appears to represent the Grand Llama in the council of state and in the deliberations of the Shapee. He may be called Secretary

or Minister for the church, and the Shapee may, correctly enough, be called the Financial, Judicial, Revenue and Home Secretaries, or ministers.

The Treasury is managed by two officers named Jhassa; both are Llamas, and act conjointly, although one of them is treasurer on behalf of the "Grand Llama," and the other on behalf of the Noume-hen or temporal estate. They are assisted by two sub-treasurers styled Shonjote. Four officers designated Da-pun are the commanders of the Tibetan troops, and act as Civil and Political Commissioners on occasions of frontier or other disturbances; they are Tibetans, and not Llamas. The ordinary course of official promotion is from a Da-pun to a Shapee; of equal rank to the Da-pun is the Che pun, who is however a Civil officer and acts in all departments as deputy to the Shapee. Shate Shapee was the energetic Commander-in-Chief of the Tibetan army which opposed the Nipalese under Jung Bahadoor. The Shapee is often employed as Commissioner on deputations in Civil affairs either judicial or fiscal, and all the cases sent up by the Police for trial before the Shapees are forwarded through this officer. All appointments to the offices above noted, require the confirmation of the emperor. There are seven classes of officers, viz.:

Tinkpun.—Superintendent of Police and Jails.

Sherpankpa.—Assessors to the superintendent, and to act as checks on his proceedings.

Boopun.—Military officers subordinate to the Da-puns, but also employed in civil affairs when required.

Jongpun.—Collectors of revenue and magistrates in the interior. They hold office generally for three years only. They are all laymen. One of these officers who is employed in the district of Gar, known to us as Gartope, is named the Garpun. He has charge of the salt and gold-diggings in that direction, both of which are valuable. In the Kampa country to the east of Lassa, these officers are styled Markam teje.

Giapun.—Subordinate military officers, non-commissioned.

Dingpun.—Ditto, ditto.

Choopun.—Ditto, ditto, privates are called Ma Mi, which means "fighting men."

The patronage of these seven classes of officers nominally lies with the Gealchup Noume-hen, but the Chinese Ampa have a veto if they desire to exercise it, and the working of the system is to procure the approval of these high officers to the appointments before they are made.

One of the Ampa annually visits the Nepal and Ladakh frontiers. In 1846, Keshen was the only Ampa or representative of the emperor in Tibet, but he was one of the eight Tongtoug of the empire, and specially deputed to arrange Tibet affairs at that time, and the usual system of two Ampa was then suspended. When Keshen was ordered to be executed for having sold the interests of his country to the British during the war, his life was spared at the entreaty of "Sac Llama," the friend of the emperor "Taokwong," and sentence of banishment in chains was substituted. Subsequently, at the urgency of the same Llama, Keshen was appointed viceroy to Tibet. Affairs at Lassa and throughout Tibet were in great confusion at the time; three Grand Llamas had died by poison in a few years, and the Noume-hen was suspected of the crime. Keshen had the opportunity given him of redeeming his fame, and he did so by re-establishing order in the country, and convicting the Noume-hen. It is a curious fact, however, that he proceeded from his banishment in Manchouria to his Government at Lassa in chains, that is to say, he wore a gold chain, the badge of punishment, round his neck, concealed by his garments, nor was it removed, and his forgiveness complete until he quitted Lassa as Governor of Sechmen. The Noume-hen and the four Shapee have the entire control of the land assessment, commerce, customs, and other sources of revenue, and no accounts of the revenues or the disbursements of Tibet are required by the emperor. The Chinese troops and all the Chinese officers in Tibet are paid by China and in money; the Tibetan troops by assignments of the Government share of the land tax. There is no money revenue sent to Pekin, an annual embassy with presents only in cloths, images, books, incense, &c. There is a fund in Patala Goompa to which 100,000 rupees is added annually, never opened except in time of great war expenses; it was opened to repel Zorawar Sing the Sikh general, who invaded Tibet from Cashmere in 1842. The Ampa's pay is 140 rupees per day, and he gets large presents while travelling in Tibet. A Shapee's pay is 140 rupees per mensem from China, and he has lands and other emoluments from the Grand Llama. They have no artillery in Tibet; the cavalry is mounted on ponies; the principal troops are infantry, and great pains are taken to make them good marksmen. Prizes and promotions are the invariable rewards of good marksmen. The Chinese or Tartar troops are kept quite distinct from the Tibetan ones, which are only a militia called out when required, and not regularly paid. The Imperial troops quartered in Tibet

do not exceed 4,000 men, and the Tibetan force is not so strong. There are 2,000 Imperials at Lassa, 1,000 at Digarchi, 500 at Giangtchi, and detachments at Phari and Tingri. The last named post is on the high road from Kathmandu to Lassa, and is situated on a plateau called the "Tingri Maydan" by the Nepalese. The Imperial troops are armed with long matchlocks, to which a rest is attached. The Tibetans have very few firearms, being provided with bows and arrows and short swords. The powder is of a very inferior description, and it does not appear that the troops are ever practised in military manoeuvres. The Tibetans of the higher class wear Chinese satins in the warmer seasons, and the same lined with fur in the cold; all others, male and female, wear woollens in the warm, furs and sheep skins in the cold weather, and never go about without boots. The men do not go about armed. The common people never wash during the cold season; very sparingly at other times. The reason given for this being that the skin of the face cracks and ulcerates from the cold, if water is applied to it. The people of towns, who do not go much outside the house, wash occasionally, but the universal prejudice is strong against ablutions of the person, and it is equally extended to their clothing, which is worn in a filthy and greasy state. Soap is high priced and little used in Tibet; the supply is from India, through the Cashmere traders via Ladakh, and from Nepal. A small quantity also goes from Bengal through Bhootan and Sikim. There is a grass in the country, or a plant resembling grass, the root of which, pounded with water, makes a lather and is used for washing clothes. Travelling in the winter and indeed generally is performed on yaks. The women ride astride on them like the men, and they are so masculine, and dressed so much alike, that it is difficult to distinguish between them. A Tibetan village or town is never surrounded with filth, as in India. To every house there is a privy, and the contents are carefully preserved for manure. In towns the contents of the privies are sold annually, and those of people of wealth sell highest. In some situations, where the soil is suitable, saltpetre is made from the earth about the privies, but the regular supply of this article, which is used for making gunpowder only, goes from India. At the time of the Sikh general Zorawar Singh's disastrous incursion from Ladakh into Tibet as far as Gartope in 1842, there was a good deal of saltpetre taken into Tibet through Sikim, also sulphur and lead bullets.

The dead are not burned or buried, but are exposed on high places to be devoured by vultures. For this business there is a class of men who make it their sole vocation. They are called "Raga Tongden;" they are a low race held in dislike and shunned, but they are generally rich; they go about to the living, begging and extorting money. When refused or ill-treated, they retaliate with abuse, which is often successful. "Very good," say they, "you won't give us alms now, you will come into our hands some day, and we will put a rope round your neck, drag your body through the streets, and throw it to the dogs," and the latter part is the frequent fate of the poor man's body, as these men keep numerous dogs to devour the bodies. The bodies of the wealthy are carefully disposed of; they are carried in a litter to the top of a hill, set apart for the purpose, the flesh cut in pieces, the skull and bones pounded in a mortar, and when all is ready a smoke is raised to attract the vultures, who collect in thousands to eat it up.

The Chinese have spacious burial grounds at Lassa and Digarchi, and there, as in their own country and wherever they reside, they are well cared for and ornamented. The Lassa one is said to contain 100,000 tombs. In the time of Waugh, a celebrated raja of Lassa, there was an insurrection against the Chinese, which ended for the time in the annihilation of the whole army, and the massacre, by the Tibetans, of the whole Chinese population. The funerals of the Chinese at that time were estimated at 4,000. This massacre was punished by the emperor with signal vengeance, and since that time the Chinese supremacy has been finally established all over Tibet. There was a petty insurrection in 1843, in which many Chinese were killed. There are twelve great annual Festivals, viz. Bumteung, Kansupecha, Chushupecha, Gesupecha, Nesupecha, Gosungpecha, Gyajeepecha, Lallupecha, Chindupecha, Dudupecha, Kagyurpecha, Lukphopecha. Pecha is equivalent to Puja. On the anniversary of the death of a Chief Llama of a Goompa, there is a great festival and illumination. At Tashi Lumbu, three such are held annually. The "Lassea Morun" festival of M. Huc is properly called the "Lha-sa Meuhlum." It is the anniversary of the first proclamation of the religion of Budha by Sakya at Lassa. The year is divided into four seasons. First, Chid, or early spring, February, March and April. Second, Teuh, or spring proper, May, June and July. Third, Yirrh, or rains, August, September and October. Fourth, Gunh, or winter, November, December and January. Some showers and southerly winds occur in Chid. In Teuh, it is temperate and

dry, but showers, thunder and lightning occasionally prevail. In 1845, a great earthquake was experienced in the Province of Kham north-east of Lassa. It was most severe in the district of the Dirgi Raja. About 3,000 men were killed, and a Goomba destroyed by the opening of the earth. About the year 1820, the district of Komp in the province of Kham was visited by a severe shock; one village was destroyed by the opening of the ground. During Yirrh, there is constant but not heavy rain and hail in September and October. Frost begins early in November and increases all through the winter. Heavy falls of snow are rare except on the mountains. Only three kinds of soil are recognized; a blackish one, a reddish one, which is described as rather clayey, and a grayish colored one, which is also clayey and contains a good deal of sand. The last is found along the beds of streams and yields good crops. The reddish soil is also fertile; it frequently contains gravel and stones; it is the prevailing soil in the tract called Dingcham, which extends along the northern face of the great Himalayan chain from Tamang to Keroong, but this region is quite barren. Mean elevation 16,000 feet at least. The blackish soil most abounds in the districts or provinces of U and Chang; it is the most fertile of all, but also contains stones and gravel. The fertility of the culturable soil is highly spoken of, and 40 and 50 fold in wheat is considered the average. Crops are generally very certain, and blights or other accidents rare. Early frost sometimes overtakes the harvest and spoils the grain, when the grass is at the same time burnt up, and this causes scarcity and famine. It is then the granaries are opened and the corn merchants make their fortunes. There is no interference with the price of grain. It is always dear compared with India, but varies considerably; and the principal cause of scarcity appears to be the early setting in of frost. This is said to be induced by continued clear nights which are greatly dreaded in harvest time. Wheat, barley, and other crops sowed in April and May are reaped in September and October; all are irrigated. The peach ripens at Lassa in October and November. It is sun-dried and preserved. No grapes are grown at Lassa. The whole supply of raisins is received from Ladakh. The plough is used in all old cultivations: yak, bullocks and ponies occasionally are trained to it. The plough is the same as the Indian one, made entirely of wood, except the stock, which is pointed with iron. Timber for ploughs is imported from Sikim and Nepal. Rhododendron Hodgsoni and birchwood make the best ploughs. Cultivation in fresh lands is done with the hoe. The Tibetans do not use a harrow, the grain being covered in with the hand. Barley in Tibet takes the place of potatoes in Ireland; four-fifths of the population live on it. Neither wheat, barley, nor peas will come to maturity as a paying crop in any part of Tibet without irrigation, and the water flooding of the fields, by which they derive a fertilizing effect from the frost, is equally necessary to prepare the soil for these crops. Wheat requires three or four irrigations or waterings from the time the seed is sown till the ear bursts, after which it will ripen without further watering. The flooding of the lands in winter, and watering of the crops in summer, are principally effected from drains or canals cut from the rivers; very little watering is performed from wells. The whole of the arable lands along the Painom river, and the most of it on the Yaroo Sanpoo, are terraced, and have maintaining walls of stone raised a little above the surface of the fields. Great pains are taken for the equable distribution of the water by running it off from terrace to terrace, and it is applied from the leather bags when it cannot be brought to run on particular spots. Watering freely is indispensable to all crops in Tibet. The atmosphere is so dry, and the soil so destitute of moisture, that without it the sun burns up the crop before it comes to ear. In a land of so little rain, and with an atmosphere so dry and sun so scorching as to render irrigation and free watering indispensable, the questions which naturally arise are, what extent of area can be watered from the rivers by canals and drains? and is there more arable land in Tibet than admits of being irrigated from the rivers? To answer the first question, it would be best to refer to the statistics of the Nile irrigation, in illustration of the extent to which land on either side of a river may be irrigated by artificial means, not by the overflowing of its banks, which is not usual by the Yaroo of Tibet, and is therefore not to be taken into the comparison. But to reply to the second question: the culturable land on either bank of the Painom river, from its source to Digarchi, has not a maximum breadth any where of more than four miles, i.e., eight miles in all for the extreme breadth. In many places, however, the river is closely confined by mountains. From Digarchi to Giangtchi on the Yaroo, one day's sail, the culturable land on either side the Yaroo varies from two to four miles. From Giangtchi till the Yaroo escapes from the Kambola range, its course is exceedingly tortuous, generally through great mountains, and it has but a

very narrow bed of culturable land in a few places. It is closely pressed in by great mountain ranges in the Kambola district, and elsewhere in this portion. The utmost estimated extent of culturable land in the Yaroo valley, from the point at which it leaves the Kambola range entirely to the junction of the Kechooor Lassa river, is a total breadth, both banks included, varying from 20 to 40 miles. There is more flat land on the south than on the north bank of the Yaroo. The Kechoo river is closely hemmed in by mountains on the eastern bank; on the western bank it has a belt of about four miles of culturable land only. These particulars will afford some assistance for reckoning the culturable area of the finest part of Eastern Tibet, and will shew it to be very small indeed compared with the total area of this rugged country, and it is universally asserted that the land is every where dependent on river irrigation for its fertility. On this subject M. Huc says, "Paulon, fine purple cloth, scented sticks and wooden bowls, are the only good manufactures; neither is their agricultural produce remarkable. Tibet being almost all covered with mountains and intersected by impetuous torrents, furnishes its inhabitants with but little soil suited for cultivation; the valleys alone can be sowed with any prospect of reaping a harvest." When the Yaroo does overflow its banks, the sediment it leaves is fertilizing. The Yaroo soil deposit is generally light and sandy. Three feet of digging brings you to the water at Digarchi, which stands in the flat and low delta of the Painom and Yaroo rivers; 20 feet is required at Kambajong. Kambajong is a police station in Dingcham. (See *Hooker's Himalayan Journal and Map*). Many Tibetans believe that the Painom rises in Sikim, but its sources are no doubt, as given by Turner, in the vicinity of the Ramchoo Lakes north of Phari. A horse dak is four days from Digarchi to Lassa, a boat by the Yaroo takes 12 days to the disembarking place nearest to Lassa. It is 12 days' journey to the Salt Lakes from Digarchi due north.

The number of crops is very limited; wheat, barley, buckwheat, peas, turnips, and a little mustard comprise the whole. There is no regular rotation observed. As in India with all crops, so it is in Tibet. Wheat is grown for generations in the same ground varied in some places by barley or buckwheat, about three times as much barley being grown as wheat. All the Suttoo eaten with tea is roasted barley, and this may be considered as the staple article of food for all travellers. At Digarchi, Giangtchi, and generally in the province of Chang or Tsang, grain is more plentiful than in the neighbouring province of U; in the former 10 to 15 seers (20 to 30 lbs.) of wheaten flour per Company's rupee is reckoned cheap, and in the latter about half the quantity is so. The dung of animals is so much in request for fuel, that scarcely any is used for manure, nor is there any spare fodder or other vegetable matter available for composts. Human ordure and ashes are therefore the principal manures in use; both are carefully preserved, and very valuable. In the towns the contents of public privies are a source of revenue to the Government, and lodging-houses have privies attached to them which are most jealously watched. The contents of these places are removed by a class of people who principally live by the occupation, and are the filthiest of all the population, which is everywhere and in every grade very dirty. They work with their hands at their vile occupation, and in the middle of it, unwashed, may be seen drinking hot tea, and eating raw and sun-dried flesh close to the piles of ordure. Ashes are mixed with the ordure, and this is reckoned the best of all manures. Liquid manure (ordure with water) is also in use, but sparingly. This mode of using manure is probably taken from the Chinese. The crops grow nearly free of all weeds. The Tibetans reap with an untoothed sickle, the crops being all cut close to the ground to save the fodder. Wheat is tied up in small sheaves and stacked on the ground, or in yards near the houses. The corn is beaten out by the flail as in Europe, the women taking a part in the threshing with the men. This is done with great care, so that not a grain is lost. There is also a kind of hackle used for beating out the corn, a beam eight or ten feet long, toothed with iron spikes, through which the sheaves are drawn. The winnowing is performed in the open air. The grain is ground into meal by water-mills. In some villages mills are built by subscription, and the parties use them in turn. There are public mills also. The millers in these take one part in 20 as payment. There is a great press at the mills for two months after the harvest, when they are going day and night, as frost sets in in November so hard that they cannot be used again till the spring. There are no windmills in Tibet, although in no country in the world is there a more steady wind in the cold season. A Chinese soldier is very highly paid in Tibet; i.e., he gets as much as 12 to 16 India Rupees per mensem. The Tibetan soldier has no regular money pay. He is allowed the Government share of revenue on a portion of land, his own farm or another, and this does not exceed 40 or 50 India Rupees per annum.

Masons, carpenters and other artificers can earn from eight annas to one rupee a day in the towns; common labourers three and two annas. Gold and silver-smiths are highly paid, eight annas in the rupee for fine work is the usual rate. The bread in use is all unleavened, and cooked on heated stones or gridirons. The poor people make their bread with coarse wheaten flour and water; the better classes with fine flour and butter. It is a sort of heavy biscuit, made in a long twisted loaf-like shape. The sweet and pure farinaceous taste of the fine flour of Tibet equals the best Cape or American flour. Rice is only eaten in Tibet by the Chinese and the richer Bhotias. The whole supply is received from Bhootan and Sikim. The Tibetans do not cook and eat it plain as the Indians and Chinese do, but make it up into large balls with butter and sugar, using it as a pudding and sweetmeat. The staple food of the country is "Champa," called Suttoo in India; it is finely ground flour of toasted barley. It is universally eaten and without additional cooking, and is excellently suited to the people of a country which is so ill-supplied with fuel. Mixed up with hot tea and formed into solid balls, it is called "Paak." Prepared with lukewarm water, it is called Seu. Travellers often carry the "Paak" ready made in skins, and eat it as they go along; but if it is possible to get fuel, they prefer making a jorum of tea, and having the paak warm and fresh. The Tibetans are great eaters when they are in plenty. Tea is drunk at all houses, and at every meal, and is regularly used four times a day, i. e., in the morning early, about 8 A. M., at noon, and in the evening. For breakfast, which is always eaten at daylight and before washing of hands, face or mouth, the favourite dish is Took-pa, a sort of broth made with mutton or yak's flesh, champa, dry curds, butter, salt and turnips. This is eaten without bread, and followed by a cup of scalding tea. They never drink tea when it is the least cold, and if a foreigner allow his cup to cool and then drink it, he is considered a very careless fellow. An attendant is always on the watch when tea is being served, and replenishes the cup with a ladle or from the hot teapot, until you cry "Hold, enough," or empty out your cup, and put it in the breast of your cloak, the usual receptacle of many necessaries to a Bhotia. The snuff bottle, thick woollen nose cloth, tea cup, bits of dried flesh, &c., are all huddled here, without remorse, and it is a most filthy receptacle.

Pen, a carbonate of soda, is found all over Dingcham and Tibet, south of the Yaroo; it appears as a whitish powder on the surface of the soil, never in masses under ground. It is not used to make soap or otherwise in the arts; a small quantity is always put into the water with tea; it is considered to improve the flavour, and it gives a high brown colour to the decoction. It is generally used in medicine.

Chulla, or Borax, does not seem to be produced in any part of Tibet south of the Yaroo river. It is largely imported into Digarchi, whence it is distributed to the other parts of Tibet, and to India via Nepal, Sikim and Bootan, whence it finds its way to Calcutta and Europe. The general direction of the Yaroo is easterly.

Sicha, Saltpetre, is produced generally in Tibet, and manufactured at the large sheep-folds, where composts of sheep's dung and earth are formed to produce it.

Moghee, Sulphur, is not found in Tibet. India exports this article for consumption at Lassa, where gunpowder of good quality is made. The charcoal of the poplar (changma) and of the willow (langma) are considered the best for gunpowder, and this is fortunate, as these two trees alone attain to any magnitude near Lassa.

Lencha, common Salt. Three sorts are known in commerce, *Sercha*, white and best; *Chàma*, reddish and good, *Pencha*, yellowish and bad, contains soda or magnesia and earthy matter. All the salt consumed in eastern Tibet is said to be the produce of lakes or mines situated to the north of the Yaroo river, or comes from "Lache," a district lying between Digarchi and Ladak, which is traversed by the Yaroo. Still there are people who assert that it is also dug out of the ground. The salt-producing districts are the most rugged and inaccessible that can be imagined; men and sheep only can reach the salt deposits, and the elevation prevents their being worked, except for the warmer half of the year, April to November. Thousands of sheep are employed in carrying the salt from the deposits to places accessible to yaks. These latter animals carry it all over Tibet in loads up to 160 lbs. Sheep in open places will carry 20 to 24 lbs.: but in the vicinity of the deposits, the ruggedness is so great that eight to ten lbs. are as much as can be safely put upon them. Snow falls annually after November in the salt-producing tracts, and covers the ground or two months or more. The elevation of these places cannot, it is believed, be under 22,000 feet. At Digarchi, 1st quality, 2 Rs. per maund, or 20 lbs. for 1 shilling. At Giangtchi, 20 per cent. dearer. At Lassa, 5 Rupees per maund, or 8 lbs. for 1 shilling. Digarchi, the nearest salt mart, may be twenty days' journey on horse-back from the nearest salt lakes. It

is believed that salt is now in course of being deposited in a lake at Tinke in Dingcham—near one of the sources of the Arun river, but it is not worked, and great pains are taken to conceal the fact, as there is a prophecy that whenever salt shall be found in the lakes of Dingcham, the glories of Tibet shall be on the wane; which means, that a rush shall be made from all sides for the salt, which will render the exclusion of strangers ineffectual. Salt is given to sheep and cattle in Tibet, but not to horses.

Doh so, stone charcoal, or coal, is nowhere found in Tibet. It is known in that country as a produce of China, which is seen at Siling and other marts on the Tibetan confines of China.

Ser, or gold, is found in the sands of a feeder of the Yaroo which flows from a country called "Shapduk," and falls into the northern side of the Yaroo to the west of Digarchi. The greater part of the gold of Tibet is the produce of mines or diggings. The Yaroo itself does not yield any gold-washings. There are no mines of iron, silver, copper, quick-silver or lead in Tibet. All these metals, and their oxides, are imported from China.

Yellow Arsenic, "Pabea" is found at Teloongchurfoo, near the borders of China, to the north and west of Lassa.

Peu-she, Amber. Tibetans always wear large opaque amber-like beads in their necklaces; but the substance is not a produce of their own country, nor is it amber; it is believed to be expissated turpentine-gunda feroza, mixed with some hardening material. Friction makes it smell of turpentine. It is brought from Siling and other marts of China.

Turquoise, *Gya-yeu*, or China stone. *Pe-yeu*, Tibetan stone. *Te-yeu*, Cashmere stone, is greatly prized in Tibet, and every one wears it, real or imitation, in rings, necklaces, earrings and amulet cases. The best are very rare, and although found in Tibet, no one can give an intelligible account of the localities. "A great merchant of Tibet named Choongpo, who traded, ages ago, with India, and once crossed the seas beyond India, brought the finest real turquoise to his native country. From that time the stone has been known there, and like coined money, it continues to circulate in the country as a medium of exchange." The imitations brought from China are made of common earthen-colored or other compositions. They are easily detected. Those imported via Cashmere are real stones but not valuable. Their only test of a real stone is to make a fowl swallow it; if real it will pass through unchanged.

Digarchi to Punchooling 3 marches.

Direction at Digarchi north-west across the Yaroo.

Route to Salt Mines.

Stations.	Marches.		Stations.	Marches.	
Amring jong......	4	N. W.	Bomet	3	N.
To Nackchang....	8	N. W.	Lon-kurqun	10	N.
Sang-zang Lhoda	6	N. W.	Tarokchan..	2	N.
Sakojong...	7	N. W.	Borgpagege.	3	N.
Tot-hen...	8	N.W.	To Salt Mines	1	N.

Being 55 marches for loaded men, each 10 miles, say 550 miles.

Route to the Gold diggings is the same as far as Sangzang Lhoda, thence to Kasha 10 marches, N. by W. To Komunk, 5 ditto, N. Two more marches to Gold diggings, N. These marches may be each 12 to 15 miles.

The larger mammals are

The Goa—An antelope.

Gnow—The Ovis ammon.

Rigong—Hare.

Kiang—Wild ass.

Lawa—Musk deer.

Shaoo—A large deer, Cervus affinis vel. C. Wallichii.

Cheu or *Chiru*—Antelope Hodgsoni.

Dong—The wild yak of Tibet. The fiercest of all known ruminants. It will rarely allow a man to escape alive if it can come up with him. It is generally hunted on horseback, the great aim being to detach one from the herd. It affects open grassy places and goes in large herds. Its favourite pasturages being ascertained, in the midst of these the hunters, who are on foot, throw up circular enclosures of stone a few yards apart, the hunter taking up a position in one of them. When a "Dong" is within shot, the hunter having fired at him, instantly quits his enclosure for another; for as soon as the animal hears the shot, whether he has been hit or not, he, guided by the smoke of the discharge, rushes furiously on the enclosure, and commences knocking it to pieces. When the hunter gets another shot at him he retires again from his shelter to a fresh enclosure, and so on, till he has killed his game. The ordinary size of the "Dong" is four times that of the domestic yak, it is black all over, having occasionally a white streak in the forehead. The horns of a full grown bull are said to be three feet long, and the circumference must be immense. The common mode of describing it is to throw out the elbow, bring the fingers to the ribs and point to the circle thus formed as the size of the base, It is used by the grandees of Tibet at marriages and other feasts, when it is filled with strong drink, and handed round to the company. Nothing more commendatory of the host's jovialty can be said, than that "he regaled his guest out of the Dong's horn." The horns so used are finely polished, and mounted with silver, or gold, and precious stones.

It is common in a Tibetan goompa (Lamaserai,) to see a stuffed "Dong" standing in front of the image of Maha Kali, at whose shrine the animal is thus figuratively sacrificed; axes and other instruments of sacrifice are ranged around the image. Strange that buddhists should preserve *this* feature of hinduism in their places of worship; not more so however than, as Huc describes, that a Llama should nearly go into fits on seeing a louse from his tunic impaled for the microscope, while the whole of his countrymen and co-religionists are among the greatest slaughterers and consumers of butcher's meat in the world.

Pegoo—the Yak.

Cow—small, like the cow of Bengal. Hair long.

Sauh—cross between cow and yak.

Sauh Yak—produce of cow by yak bull.

Ba Sauh—produce of female yak by bull.

These are great milkers, better than yak or cow; tail half cow, half-yak. Females give young with bulls or yaks, best produce with yaks. Elevation of shoulder less than in the yak. Hair long but less so than the yaks.

Look—Sheep, four principal varieties; 1st, Chang Look, or northern sheep, very large with fine wool. Flocks of 400 to 1000 tended by one man;—2nd, Sok Look, rare, but greatly prized; it is a doomba or heavy tailed sheep, comes from the province of Sok situated to the east of Lassa; wool not very fine;—3rd, Lho Look, a very small sheep generally white, sometimes black, is bred principally about Lassa; wool very fine and like the shawl wool;—4th, Changumpo Look; abundant about Geroo and in Dingcham, generally very large fine sheep, all with wool white, very fine and soft. The flesh of all the Tibet sheep is fine grained and good.

Peu Ra—Tibet goat, small, hairy, of all colours. Hasan under coat of fine wool, similar to the shawl wool, but there is no shawl wool trade from Eastern Tibet to India at present. Flesh pretty good.

Phak—Pig, two varieties. The Lho Phak or southern pig, is most abundant to the south of Lassa, and is similar to the Indian village pig, and the small China pig now abundant in Lassa and other towns: no wild hogs anywhere in Tibet. The Chinese butchers in Lassa blow their pork and take in the country folks greatly by its fine appearance.

Cha—Common Fowl, generally small in Tibet, and there is no large kind as in Sikim, where the fowls are remarkably large.

Damjha—Ducks, not eaten by the Tibetans, but greatly prized by the Chinese, for whose use only they are bred near and in Lassa.

Damjha Cheemoo—Goose, not eaten by the Tibetans, but much liked by the Chinese.

Gang Sir, Gung Kur, Chaloong, and Toong Toong—comprise the numerous wild fowl, swimmers and waders, which migrate from India in March and April, and return in October and November; they are all eaten, but not extensively. There is a sort of prejudice against killing them; but as they all breed on the lakes and rivers of the country and are most numerous, the eggs are found in great quantities. The people who live by gathering and selling these eggs never rob a nest of all its contents, but take about half the eggs. This forbearance arises from the general aversion to taking life which prevails in Tibet, and it has its reward, as it is supposed that the birds if entirely deprived of their young, would not again return.

Chungoo—a wild Dog, reddish colour.

Koong—the Civet, is brought from China and inhabits the Chinese borders of Tibet. It is mottled rather than striped.

Sik—Leopard. Tibet or contiguous countries.

Tagh—Tiger do. do.

Somb—Bear. A red and a black species.

Nekor-nehu—a large sheep, or goat, or antelope, found in the very rugged mountains north of the Yaroo river, and in the neighbourhood of the salt mines or lakes. It is four feet high, has very large horns, sloping back, and four feet long, has a tail 15 inches long, is shaggy, and of various colours, sometimes black and red.

No leeches, musquitoes or peepsa in Tibet; and maggots or flies are never seen there. There are no bees or wasps in Dingcham or Tibet proper. In the valley of Choombi, a good deal of fine honey is found, which is exported to Tibet.

The lakes in Tibet are full of fish; one kind named "choolap," grows to the weight of 8 lbs.; it is not well flavoured or delicate. Enormous quantities are taken by the hand in the winter season; when the lakes are frozen over, a hole is made in the ice to which the fish immediately rush, and are then pulled out by the hand. Salt is not used to preserve fish, they are gutted, split up, the tail put in the mouth and allowed to dry in the open air, they keep in this way for a year. The principal lakes on this side the Yaroo are Yamdo, Yeumtso, Ramchoo, Kala, and Chomotetoong near Dobta.

The number of sheep in Tibet is extraordinary. The flocks are immense, and a person of no consequence whatever will have 2,000 or 3000 sheep. The large owners have as many as 7,000. The fleece is taken once a year in May or June. The ewes breed twice a year. The great lambing season is in April and May, the other in October and November. Many

of the autumn lambs die from the cold, but this is not considered any great loss as the skins are so valuable. A cloak of lamb skins made of fourteen skins is worth 25 Tibet rupees, or 10 India rupees. The rams (two or three for every hundred ewes) remain with the ewes always, but after the ewes are in young, the rams have a sort of breeching put on to prevent annoyance to the pregnant ewes. The males are gelded when quite young or up to a year old; the prices vary from five to seven Tibet rupees per head, i.e., two to three India rupees.

The Government dues on sheep farms is 10 per cent. in kind, every three years; this is in addition to a general tax of one rupee per door on all houses per annum.

During the summer season, but little fresh meat is used. The Tibetans do not like to boil it, and are not partial to it raw unless it has been dried. In November there is a great slaughtering in the towns, and a wealthy man in the country will kill two hundred sheep at this time for his year's consumption. The animal is butchered, skinned and gutted, and then placed standing on its feet in a free current of air. It becomes in a couple of days quite hard, and white, and is then ready to eat. It is kept in this way for more than a year, and undergoes great vicissitudes of climate without spoiling. It has been seen at Darjeeling in the rains quite dry and hard, and in no way decomposed. When long exposed to the wind of Tibet it becomes so dry that it may be rubbed into powder between the hands. In this state it is mixed with water and drank, and used in various other ways. The Tibetans eat animal food in endless forms, and a large portion of the people eat nothing else. The livers of the sheep and other animals are similarly dried or frozen, and are much prized. To a person unused to the dried meat of Tibet, the liver is represented as peculiarly distasteful; it is bitter, and nearly as hard as a stone. The fat is simply dried, packed in the stomachs, and thus sent to market or kept for home use. The skins furnish clothing for the working classes and servants. All classes in Tibet put on furs of some kind at the commencement of the winter. It is not reckoned reputable to kill your own meat, and therefore every hamlet has its professional butcher. In towns it is a great trade from the enormous quantity of meat consumed. Some butchers will have five hundred carcases dried and ready at their stalls. The trade of a butcher —Shempa—is hereditary and a despised one. The horns of animals are not turned to any useful purpose in Tibet. Small houses are built in the suburbs of Lhassa with horns and clay mortar. Goats are also reared in considerable flocks, but principally on account of their milk. The flesh of the sheep is infinitely preferred. The milk of yaks, cows, sheep and goats is used alike for making dried curds and the various preparations of milk used by these people. The milk of mares does not appear to be used at all in Eastern Tibet. Although ponies are extensively bred there, the number of other cattle renders it unnecessary. Fowls are of a small breed, and are reared with some difficulty. The large fowls of Sikim and Bootan are much prized there. The Tibetans do not care about fowl as an article of diet, and it is only since the period of the Chinese supremacy that fowls, pigs, or fish have been used by them. Even now in the places remote from Chinese posts, pork and fowls are not to be had. The Chinese must have pork, eggs, fowls, and around Lhassa, Giangtchi, Digarchi and other places, and their stations, these are reared for Chinese consumption.

In July and August severe fevers are not uncommon; cholera is not known; dysentery occurs, and is often violent, sometimes proving fatal in four days. Cough and diseases of the chest are not prevalent.

Ophthalmia is very prevalent and very severe. Itinerant occulists go about the country and are in good repute: they never perform operations, but cure by application of unguents and washes. Three days travelling in the snow without hair-blinds is sure to produce ophthalmia.

Skin diseases are by no means common, although the people are so filthy in their habits. The most dreaded and the most fatal of all diseases is the small-pox. The people fly the contagion, leaving their homes in the most inclement weather. Inoculation is regularly performed annually in the warmer seasons. Two methods are in use, one by incisions on the wrist, the other is effected by inhalation. A plug of cotton which has been impregnated with small-pox virus and dried, is introduced into the nose and left there for two or three days, at the end of which time symptoms of the small-pox appear. This method was introduced from China, where it is largely practised. Dropsy is rather a common disease, and is generally fatal in the cold season. There is very little rheumatism in Tibet proper; at Bakchan in Choombi it prevails to a very great extent. There is a malady called the "Laughing disease" which is much dreaded; people die of it. It consists of violent fits of laughing with excruciating pain in the fauces and throat; men and women have it alike, and it is named "Joomtook" in the language of the country.

It frequently proves fatal in a few days, but is not accompanied with fever.

In Tibet the cycle of Jupiter, Vrihaspati Chakra, is used. Their epoch occurs in 1025 A. D. Mr. Csoma de Koros mentions that in the Tibetan sacred books, three periods of their compilation are expressly stated, first under Sakya (520 to 638 B.C.), then under Asoka, king of Pataliputra, 110 years after the decease of Sakya; lastly by Kanishka, upwards of 400 years after Sakya. *Boom*, a Tibetan work in 12 volumes containing tracts of the Eloopka Section.

All the elevated country of Central Asia, situated to the north of the lofty snow mountains which encircle India from Kashmir to Assam, is familiarly known to Europeans by the name of Thibet or Tubet,—most properly, Tibet. This name is also commonly employed by the mohamedan nations to the north and west to designate the same country, but is not known in the language of the Tibetans themselves, among whom different portions of the country are usually known by different names. Tibet appears to be characterized by great uniformity of climate and productions, and perhaps also of physical features, but is naturally separable into two grand divisions. One of these, the waters of which collect to join the Sanpu, which in India becomes the Brahmaputra, is still scarcely known; the other, drained principally by the Indus and its tributaries, has been repeatedly visited by European travellers. The line of separation between these two portions lies a little to the east of the great lakes Manasarawar and Rawan, from the neighbourhood of which the country must gradually slope in both directions towards the sea. Western Tibet, according to the popular opinion on the subject of the countries to the north of the Himalaya, forms a plain bounded on the south by the Himalaya and on the north by Kuenlun; but this, however, is so far from being the case, that the greater part of the surface of the country is traversed in all directions by ranges of mountains in every respect similar to the Himalaya, of which in fact those south of the Indus are ramifications, while those on the north are branches of the snowy chain of Kuenlun. It is extremely difficult to describe in an adequate manner the extreme desolation of the most barren parts of Tibet, where no luxuriant forest or bright green herbage softens the nakedness of the mountains, but everywhere the same precipices, heaps of rocks, and barren monotonous deserts meet the eye. Tibet includes the mountain valleys of the Indus and Yaru or Brahmaputra, together with the whole axis of the Himalayas, and the heads of many of the valleys which descend on the Indian side, and which are situated beyond the mass of snow throughout a great part of the chain. Beyond the Indus and Yaru are the southern slopes of the Kuenlun. Western Tibet is considerably drier than Eastern Tibet. The chain of the Kuenlun, where it forms the northern boundary of Western Tibet, is not less elevated than the Himalaya, and is covered throughout a great part of its length with perpetual snow. Its axis has not been crossed by any European traveller, but has been reached by Dr. Thomson, who visited the Karakoram pass, elevated 18,300 feet. The Kuenlun chain has been called the Mus-tagh, Karakoram, Hindu-kush, and Tsungling or Onion Mountains, from the prevalence of a species of Allium. It is also called the Belur-tagh, which, according to Cunningham, is synonymous with the Balti mountains, and it is the Bulut-Tag or Cloud Mountain of Captain H. Strachey, who confines the term to the east of Samarcand and south of Khokand. The mean elevation of Western Tibet is estimated by Captain Strachey at 15,000 feet, but many ranges have a mean of 19—20,000 feet, with peaks innumerable 21—25.000 feet. Many extensive areas, Guge, Nari, Nubra, Rupchu, and Zanskar, are above 15,000 feet continuously for many miles in all directions, and the majority of the passes are above 17,000 feet. The basin of the Indus at Le is 117,800 to 12,000 feet. The climate of Western Tibet is arid; rain and snow at moderate elevations are scarcely known. Cultivation is luxuriant below 12,000 feet, and attains the height of 15.000 feet. Eastern Tibet is supposed to have the same general aspect as Western Tibet, as far east at least as Jigatzi or Teshu Lumbu and Lhassa. That the mountain system of East Tibet is an enormously elevated mountain mass, is proved by the statements of many intelligent Tibetans, by the Chinese geographers, by the narrative of M. Huc, and the fact of so many of the large rivers of Asia flowing from several directions. Showers of rain are frequent about Jigatzi in the summer months. The mountain chain to the north of the Yaru is enormously elevated over a belt of many miles in breadth, and many of the greatest rivers in Asia rise within the area. At Lhassa the country is open and stony, and without trees, except such as are cultivated just as in Western Tibet. Further east in the direction of China, the mountains are covered with forests, while in the S. E. in the valley of the Yaru, a subtropical climate is soon reached.

Western Tibet is a country of such general elevation, that, only in the province of Balti, villages are to be found below a height

of 6,000 feet. As a whole, Tibet is very thinly populated, the greater portion of the inhabitants living at heights varying between 9,000 and 11,000 ft. Some of the chief towns of Tibet have been built at considerable elevations; Leh, the capital of Ladak, and one of the most important commercial places of Western Tibet, lies 11,527 ft. above the level of the sea. Tibet, like the Himalayas, has its summer villages. One of them, Gartok, on the Indus, at a height of 15,090 ft., has a special interest attaching to it from the commercial importance of the place. Every year, in August, a large fair is held there, and occasionally visited by several thousands of natives from almost every part of the Himalaya and Central Asia. The houses in Gartok being few in number, the people have to encamp in the black or coloured cloth-tents which they bring with them, enlivening the usual quiet aspect of the place with the appearance of a second and larger town under canvas. This is certainly the greatest height at which man is known to congregate for mercantile purposes. Some of the other Tibetan summer villages, as Norbu (15,946 ft.) and Puga (15,264 ft.), are built on sites, near which salt and borax, important export articles of Tibet, are found, and serve only as occasional sheltering places to shepherds.

Tibet has long been famous throughout Asia, and even in Europe, for its numerous herds of sheep, and the superior quality of the wool which they provide; with the rearing of these herds many of its inhabitants are exclusively occupied. In summer, the flocks are driven to pasture grounds, some of which reach an elevation of 15,000 to 16,349 ft., beyond which the Tibetan shepherds venture.

In the Kuenlun, even the foot of its southern (Tibetan) slopes is so elevated, that no villages or pasture grounds exist at all; by combining with recent observations a variety of reports received, we obtain for its northern slopes 9,400 ft.; as the limit of permanently inhabited villages (Bushia 9,310 ft.); summer villages reach about 10.200 ft.; and pasture grounds do not occur above 13,000 ft. There are several routes into Tibet, one by the northern banks of the Lohit, and through the Mishmi hills into Tibet, called the Mishmi route. Mr. Georgia Bogle, who was sent in 1775 by (Mr. Hastings) the Governor of Bengal on an embasssy to the Grand Llama of Tibet, in 1774, travelled by way of Coos-Behar, Tassasudon, and Paredrong, to Chanmanning, the then residence of the Llama, and nearly in the same parallel of latitude with Lhassa.

Through Darjiling is the shortest mountain passage across the Himalaya into Tibet and Central Asia, and there is no doubt that a large commerce in British manufactures could be established for these countries. Mr. Moorcroft gave it as his opinion that "it is at our option whether Central Asia shall be supplied with goods from Russia or England." The brothers Schlagintweit corroborate that view. Mr. Bogle said that the trade must have been a very considerable one in broadcloths, and that the demand for it was still very great in his time. Dr. Hooker, in his evidence before the Colonization Committee, said there was nothing the Tibetans admired more than the cloth of his garments, and he believed, if they could obtain British woollens, they would gladly use them. The principal products of Tibet are gold, jewels, shawl-wool (the same as the Cashmere shawls are made of), ponies, immense quantities of borax, and salt. Almost all the salt consumed in the Himalaya is from Tibet, and it is brought with immense labour, upon the backs of men, women, children, and animals; with communication easy and cheap by rail roads from Calcutta to Darjiling, the salt of the sea coast of India will entirely supersede that of Tibet in the Himalaya, and the natives, too, much prefer it.

The great Tibet road leads from India to Central Asia, runs in the gorge through which the Sutlej passes. All the inhabitants of the snow valleys trade; they reside from March until November in the valleys just under the ghats, where a scanty cultivation is carried on by their women, and whence the men take flour, rice, cotton, sugar, &c. into Tibet, bringing back borax, salt and wool. But from November to March they abandon the snowy ranges for the banks of the Alaknanda about Kurupryag, Naudpryag, &c., and carry on interchanges with the traders at Najibabad. They use the Chour-gai or yak for transport; it carries 150 to 200 lbs. It is purchased at from 10 to 15 rupees. Gold, like all else of a yellow colour in Tibet, is sacred to the grand Llama. The gravel of the northern steppes of Tibet yields gold in grains, but the value of the crude borax of the lakes surpasses, as an article of trade, that of the precious metal. Gold is found on the banks of the Basha stream, in Little Tibet. Vigne has no doubt that the drun or marmot of Little Tibet are the "ants as big as foxes" noticed by Herodotus as throwing up gold. Nagyr is celebrated for its gold washings. Tavernier tells us (p. 156) that "toward the Tibet, which is the ancient Caucasus, in the territories of a raja beyond the kingdom of Chachemir, there are three mountains close one by another, one of which produces excellent gold, the other granats, and the third Lapis Lazuli."

Thokjalung, in latitude 32°, is the chief gold field of Western Tibet. It is a large desolate plain about 16,000 feet above the level of the sea, and in 1868, the pundit sent by Captain Montgomerie saw a nugget weighing 75 tolas or 2 lbs. In Tibet the gold fields are said to extend from Rudok to Lhassa, or eleven degrees of longitude = 700 miles. They also extend northerly to between Aksu and Ili. Numerous parts of Central Russia and China also contain gold. Marco Polo relates that in Tibet, they eat raw meat and worship images, and have no shame respecting their wives. Ibi-gamin is a glacier in Eastern Tibet, in height 22,260 feet English = 20,886 French feet. The Chong are a hill tribe on the side of the Mekong basin, but towards the sea, between L. 11° and 12° N. They preserve more of the Australo-Tamulian character than any of the neighbouring tribes. Their hair, instead of being stiff or harsh as in the Mongolian, Tibetan, and prevalent ultra-Indian and Malaya-Polynesian races, is comparatively soft, the features are much more prominent and the beard is fuller. The majority of the Afghan and Tibetan plants are also natives respectively of the Caspian steppes and North Persia on the one hand, and of Siberia on the other. They have been described by Russian botanists, and especially by Ledebour, Bunge, Turczaninow, C. A. Meyer, and Fischer, besides being rendered classical by the labours of Gmelin and Pallas. Boissier's Diagnoses Plantarum Orientalium, published in the 'Annales des Sciences Naturelles,' contain descriptions of many new Persian and Levantine plants, mainly from the collections of Kotschy and Aucher-Eloy, which are also common to Western Tibet, Afghanistan, Sind, and Beluchistan.

Middle Tibet, or Ladak, in the reign of Aurungzebe, was invaded by the Kalmuks, and the ruler of the country, unable to repel them, applied for aid to the Mogul governor of Cashmere, who granted it on condition that Ladak became tributary to the Mogul empire. On the eastern frontier of Ladak lies the large province of Chantan, known to the Booteas as Himdes or Hemdes, the 'Region of Cold,' comprehending what has been called Upper Tibet. This country was formerly subject to independent princes, but their authority gradually merged in that of H'lassa (the name of the capital of Bootan), which is under the nominal authority of China, a Chinese governor residing in the city. By virtue of some ancient agreement, the wool of the shawl goat, of which this cold country is the chief resort, is sold exclusively to the people of Ladak: hence probably arose some constructive claim on the part of the Sikhs.

Moorcroft speaks highly of the cultivation of wheat and barley in Tibet, and he once saw a field of the latter grain in that country such as he had never before beheld, and which he says an English farmer would have ridden many miles to have looked at.

The Tibetan postfixes po, mo, &c. are found in Serpa (be, ba, me, mo,) Lepcha ; (bo, mo,) ; Kiranti (ba, ma, va, vo,) ; Sunwar (Pha), but they are rare, save in Serpa, with substantives. As qualitive affixes they occur in Serpa (generally contracted to m,) Limbu (ba, pa, va, ma, euphonically la, ra,) : Kiranti, Murmi (ba, pa) ; Guning (ba, va, bo.) The Tibetan ka, ga, occurs in Newar (ku, ko, go, gu) ; Magar and Sunwar have cho (generally so in Sunwar). To numerals Kiranti suffixes ya and Limbu sh. Verbal postfixes occur in all the vocabularies le, re, ne, e Limbu ; ra, na, a (apparently) Kiranti ; ni, na Magar &c. Mr. Hodgson says the Murmi, Gurung, Magar and Sunwar in speaking always add a terminal of to the imperative.

The Tibetan pony, though born and bred 10,000 to 14,000 feet above the sea, is one of the most active and useful animals in the plains of Bengal, powerful and hardy, and when well trained early, docile, although by nature vicious and obstinate.—*Hooker, Vol. I. p.* 118, *to p.* 131. *Travels, Moorcroft's*.269,280. *Cunningham's History of the Sikhs, p.* 2. *Journal of the Indian Archipelago, No. IV. and V. April and May* 1853, *p.* 193-194. *HumboldAsie Centrale. vol.* 1. *p.* 14. *Dr. Thomson's Travels in Western Himalaya and Tibet. p.* 457,376,390. *Latham's Ethnology. Journey to Peking, vol.* II, *p.* 312. *Mason. Campbell, p.* 48. *Tomkowski. Hooker and Thomson's Flora Indica. A. Cunningham in Journ. Asiatic Society of Bengal, No. CCXVIII. No.* 3 *of* 1855. *Prin. Indian Antiq. page* 40. *Rennell's Memoir, p.* 301. See Balti, Byltæ ; Dard Kailas : Gangri Range ; Kara-koram ; Ladak.

TIBETO-BURMAN TRIBES. See India.

TIBETO-CHINESE. See India.

TIBETO-INDIAN. See India.

TIBETO-INDONESIAN REGION. See India.

TICA, a commentary, most of the Siddhantas which have been written by modern hindu authors, such as the Arya, Parasara, and other treatises known by that designation, as well as the ticas of Bhascara Acharya, Varaha Mihira, and others, may be considered as commentaries on the four principal Siddhantas of the hindoo religion.

TICAL, a Chinese weight, also money of account ; as a weight about 4¼ oz. or the 16th of the catty, as a money reckoned at the third of a pound sterling. It is also called a ly-

ang ; another name in Burmah for the kyat, a weight which consists of 252 grains. In Siam the tical coin and weight is 236 troy grains, and its value in England is about 2s. 6d. sterling.—*Simmond's Dict.*

TICHODROMUS MURURIA, or Wall Creeper of S. Europe, is very common in the Himalaya, Afghanistan, &c. It occurs in rocky situations, and on the scarped sides of mountain roads, and it is often observed in the N. W. Himalaya. At a distance it looks like a very large grey and scarlet butterfly, as with expanded wings it noiselessly creeps over the rock, poking its long awl-shaped bill into every little nook and crevice. —*Adams.*

TICKEL, COLONEL, 31st B. N. I, wrote on the Birds of Borabhun and Dhalbun in *Bl. As. Trans.* 1833, *vol. II.* 569, and contributed largely to the stock of knowledge regarding the ornithology of Central India and Burmah.

TIC-POLONGA. A name given in Ceylon to a poisonous snake about 3 or 4 feet long.

TIDES. The usual vertical rise and fall of the tides along the peninsula of India is small. In the straits of Malacca it is from twelve to fourteen feet, while in other parts of the world, in the same latitude, there is scarcely any variation. The tides at Singapore correspond in this respect with those in the Straits. The vertical rise and fall of the tide upon the coast of Cochin-China varies from six to fourteen feet, and the periods and duration of the ebb and flood are by no means regular. In latitude 12°, on the same shore, there is but one tide in the course of twenty-four hours. It has been said that the tides in the tropics rise and fall very little. Although it is granted that in high latitudes the perpendicular flow and ebb is generally greater than in low, still there are many examples of considerable tides in the latter. At the head of the Gulf of Cambay, in latitude 22°, Horsburg states that the perpendicular depth of the rise and fall of the tides is from thirty-six feet at the full and change of the moon. So, also, according to the same authority, in Surat road, it is from twenty to twenty-one feet, and from fifteen to seventeen in Bombay harbour ; again, in the Gulf of Martaban, which is far within the tropics, the rise and fall of the tide, at the full and change of the moon, is twenty-three and twenty-four feet, and of Rangoon bar about twenty or twenty-one feet. In Gasper straits, within 2½° of the equator, there is occasionally, from local causes, a rise and fall of sixteen or seventeen feet on the spring tide, but this is rare in other places so near the equator. These instances, all mentioned by Horsburg, show that very considerable tides occur within the tropics. The range of the tides, however, greatly varies, from 1½ feet in the open ocean at the Mauritius to 20 feet at Rangoon, 21 feet at Mergui and Martaban, and 30 feet at Surat.

	L. N.	L. E.	Rise ft.
Balasore ..	21° 28′	87° 0′	10
Bankest ...	17 57	73 1	12
Basein ...	19 18	72 49	17
Bombay ...	18 54	72 48	12
Beyt ..	22 28½	69 9	14
Chittagong ...	22 20	91 48	15
Daman Bay ...	20 22	72 49	17
Keshm Island ..	26 57	56 17	12
Makemba ...	15 42S	45 58	17
Martaban ...	16 32N	97 35	21
Malinda ...	3 13S	40 11	11
Rajapur ...	18 16N	73	12
Rangoon ..	16 47	96 10	20
Surat ...	21 12	72 47	30
Tavoy Island ...	13 6	98 14	17
Versava ...	19 7	72 46	16
Zanzibar ...	6 9S	39 14	10

American Expedition to Japan, pages 148 *and* 156. *Horsburg.* See Bore.

TIDHARA. HIND. Euphorbia antiquorum.

TIDORE, on the west coast of Gilolo, is about six miles long. A mountain on the N. E. end of the island, is in lat. 0° 40′ N., long. 127° 22½′ E. Tidore is over 4000 feet high. Tidore, like Ternate, from which it is two or three leagues distant, is formed in its southern part of lofty hills. The soil is of great fecundity, and plentifully watered by streams from the peaks. The people appreciate these blessings, and labour more earnestly on the land than those of the sister isle, distinguishing themselves by an aptitude for agricultural occupation. Near is Batchian, the largest of the chaplet of isles surrounding Gilolo, fertile as Tidor, but neglected and rotting in its wealth and beauty, under the hands of a population universally indolent. The soil is volcanic, and below the active crater springs of sulphureous water break from the ground in the most picturesque situations. Among the people here, as in Amboyna, the christian converts are the most inert and servile. The situation and aspect of the island are beautiful, its fertility is abundant, its climate leaves little to desire, yet is all but a waste, with a scant and scattered population immersed in poverty. Monkeys are to be found nowhere else in the Moluccan archipelago. The Molucca sea is sprinkled with smaller islands interesting and curious in themselves, but too little important, and too numerous, to be separately noticed. Among them may be enumerated Tawali, Mandola, Lutta, Hanika, Saparua, Ghissa,

the Keffing Isles, Amblow, Manifra, Kilang, Bono, Harekoe, Hominoa, Noesa Laut, Hila, Kilwari, Binoa, Nelany, Manipa, Manok, Myo, Tesory, Serua, Motir, Bally, Tomoguy, Selang, Gag, and Battang Pally. There is considerable variety in their aspect, form, and size. Some, like Battany Pally, are not half a mile round, though bearing a grove of trees. Others, considerably larger, are of moderate elevation, and wooded over their whole extent. Pulo Gag, unlike most of its companions, presents an English appearance, being luxuriantly fertile, but with the exception of a few tall timber clumps, entirely bare of trees. Many are wholly uninhabited. The greater and the lesser Keffing, however, now little known islets S. E. of Ceram, are well peopled by mahomedan Malays, and sprinkled with houses of traders engaged in traffic with the Nassau, the Ki, and the Tenimber isles, where they sell the produce of their fishery, tortoise, and trepang. The isles are low, but remarkably picturesque.—*St. John's Indian Archipelago, Vol. I. p.* 140. *Forrest's Voyage to New Guinea*, 37, 39, 545. *Temminck, Possessions Neerlandaises, Vol. III. p.* 151, 154. *Hogendorp, Coup d œil sur Java. Kolff, Voyage of the Dourga.* See India.

TIELLA, in Malayala and Tamil, a tree which is not much known in Ceylon. It grows from eight to twelve inches in diameter. It is used by the natives in the frames of country boats; and, from its strength and durability is found to answer the purpose well.—*Edye, Ceylon.*

TIEN CHING—? See Dyes.

TIEN-DZA. CHINESE, a title of the emperor of China. The emperor has in his palace a bell for the use of the oppressed who claim his protection, but it is now as much off duty as the cymbal or drum of the mandarins. The idea of the family is the grand principle that serves as the basis of society in China. Filial piety, the constant subject of dissertation to moralists and philosophers, and continually recommended in the proclamations of emperors and the speeches of mandarins, has become in the views of the Chinese the fundamental root of all other virtues. All means are made use of to exalt this sentiment, so as to make of it an absolute passion; it assumes all forms, mingles in all actions, and serves as the moral pivot of public life. Every crime, every attempt against the authority, property, or life of individuals, is treated as filial disobedience, whilst, on the other hand, all acts of virtue, devotion, compassion towards the unfortunate, commercial probity, or even valour in battle, are referred to filial piety; to be a good or a bad citizen, is to be a good or bad son. The emperor is the personification of this grand principle, which dominates and penetrates more or less deeply all the strata of society in this immense agglomeration of four hundred millions of individuals, and in the Chinese language he is called Hoang-te, August Sovereign, or Hoang-chou, August Elevation; but his name *par excellence* is Tien-dza, Son of Heaven.—*Sirr's China and the Chinese, Vol. I., p.* 423. *Huc. Chinese Empire, Vol. I. p.* 358.

TIEN PAK OR TIEN PE HIEN, is the principal place, on the south coast of China, where salt is produced, and several hundred junks are annually employed in transporting it to Canton.

TIEN TSING ——? See Dyes.

TIE THIE. BURM. Ficus carica, *Linn.* The fig.

TIFTEK PERS. TURK. Goat's hair.

TIGA MUSHADI. TEL. ? Cocculus acuminatus, *DC.*

TIGE. TEL. A creeper.

TIGE BACHCHALI. TEL. Basella cordifolia, *Lam.* B. alba, *Linn.*

TIGE CHIRRI. TEL. Chirri is Amarantus tige, a climber. The Sanscrit syn. Marishah is said to be Am. oleraceus.

TIGE GADDI. TEL. A creeping species of grass.

TIGE GARIKA. TEL. A creeping or bent grass called Agrostis stolonifera. Garika is Cynodon dactylon.

TIGE GUMMUDU. TEL., or China mandula mari. Vitis Linnæi, *Wall.* Cissus vitiginea, *R.* i. 406.

TIGE JEMUDU, also Somalata and Palla tige, TEL. Sarcostemma acidum. S. brevistigma, *W.* S. viminale, *R. Br.* Asclepias acida, *R.* ii. 31.

TIGE JILUGA. TEL. Æschynomene Indica, *L.* Hedysarum nalitali, *P.* iii. 365.

TIGE MUSHIDI. TEL. or Tige mushini, or Kappa tige. Tiliacora acuminata, *Miers.*

TIGE POKA, or Nela-poka TEL. SANSC. Calamus, *Sp* Yojanam, also Yojana valli, the latter word answering to tige a climber, is said to be Rubia.

TIGERS occur throughout India, in the Malay peninsula, Chinese Tartary, Eastern Russia, but unknown in China. The tiger uses its fore paw in self-defence and in fighting, but it seems to use its teeth in catching its prey, grasping the neck. After killing it frequently lets its prey remain till nightfall, when it returns to feed upon it. The aborigines of Central India reverence in a mild inoffensive way, the sun, the moon, the tiger and the bhut or household spirits. They use tiger's claws as charms, heap up cairns, and tie bits of rags to trees, but in these last they resemble the hindu and buddhist. It ranges on the mountains of India up to 6000 and 7000

feet. In hot weather, the tiger harbours near rivers, in thickets of long grass, brushwood, or amongst the tamarisk bushes of river islets. The tigers of Lower Bengal and Central India are particularly savage and ferocious. The average size of a full grown male tiger is from 9 to 9½ feet, but occasionally in India a tiger is killed measuring ten feet in length. They catch the wild hog, the sambar, and the spotted deer, but they often prey on cattle and seize the villagers. It is naturally a cowardly animal, and always retreats from opposition unless wounded or provoked. A herd of cattle will attack a tiger and compel it to relinquish its prey. On one occasion, a herd of buffaloes rushed on a tiger that had seized their herd-boy, and compelled it to drop him. The wild boar sometimes kills a tiger; they eat frogs, the porcupine, animals that have died of disease, and also their own kind. They are partial to particular localities and to old ruins, old temples, and three or four may be seen lying together on the tops of the walls. An old tiger will kill a cow about once a week, remaining near the carcase for two or three days, and sometimes longer, gnawing the bones before returning to its retreat. A tigress has from two to four cubs at a birth, which remain with her till they be able to kill for themselves. Tigers that have killed a man, generally continue to take that food. In the Mundlah district east from Jubbulpore, in 1856, and previous years, on an average between two or three hundred villagers were killed annually, and Mr. Jardine found several villages of the Bastar country deserted owing to the ravages of tigers. The clavicle of the tiger lies loosely imbedded among the muscles near the shoulder joint, and is considered of great virtue by the natives of India. The whiskers are supposed to constitute a deadly poison, and are carefully burned off the instant the animal is killed: but in some parts of the South of India, they are supposed to endow their possessor with unlimited power over the opposite sex; the claws are mounted in silver and set as bracelets. In Cochin China many of them obtain their livelihood by tiger-catching, the skin of this animal being valuable. They use a novel mode of ensnaring these savage beasts. Two Malays generally go in company, and travel over many parts of the country. Those who follow this business regularly have chops, or permits, from the Quong of Saigon, allowing them to build a hut for their use in any place they think fit. The hut is built on the top of four bamboos, from fifteen to twenty feet high; and, as the tiger cannot climb these, the two men can remain in it, and watch their snares in safety. The snare consists of large leaves, or sometimes pieces of paper about six inches square, covered on one side with a substance of the same nature as bird-lime, and containing a poison, the smallest particle of which, getting into the animal's eyes, causes instant and total blindness. They are laid about thickly, with the bird-limed side upwards, in the track of a tiger; and as surely as the animal puts his paw on one of the treacherous leaves, he becomes a victim; for, finding it stick to his foot, he shakes it, by which means other leaves adhere to it; he then probably rubs his paw over his head, in the attempt to rid himself of these leafy encumbrances, but they stick to his head and face; he then perhaps rolls himself on the ground, when he becomes fairly covered; and, while scratching and rubbing himself to get free, some of the poisonous bird-lime gets into his eyes and blinds him. He growls and roars in agony, and this is the signal for his captors to come and despatch him. The Malays then skin the animal, and take away parts of his body that may be valuable. They leave the carcase, well strewn with more leaves, as a bait for other tigers; they also ensnare other animals and birds in the same manner. Captain F. Nelson, of Siddapore and Peddacheroo, recommends poisoning tigers. Buffaloes or bullocks should be picketed in the most likely cross-paths in the jungle. As soon as one is killed and any part eaten, a tea-spoonful of strychnine should be inserted under the flap of the skin next the part eaten. The skin should be raised with a bamboo knife like a paper-cutter. No human hand should touch the carcase, and one person only should approach to insert the poison: a watcher in a tree would keep the vultures off till sunset, when he should quit the place.—*Adventures in Cochin China, Amoy, China, by Edward Brown. Jerdon.*

TIGE KRANAGA. Tel. Pongamia uliginosa, *D. C.* Galedupa uliginosa, *Roxb.*

TIGER BEETLES occur amongst the Coleoptera of Hong Kong.

TIGER LILY. Pardanthus Chinensis.

TIGER FLOWER. Tigridia conchiflora.

TIGER'S FOOT IPOMÆA. Ipomæa pes-tigridis.

TIGER'S MILK TREE. Excœcaria camettia, *Spreng.*

TIGE VEMPALI. Tel. Tephrosia, Sp.

TIGE VISESHAH. Tel. A climber.

TIGLIA. Lat. Croton tiglium. Tiglii oleum. Lat. Croton oil, Nepala oil.

TIGLIUM KLOTCHIARUM. Rheede. Croton tiglium.

TIGE MODUGA. Tel. Butea superba, *Roxb.*

TIGO-GIN. A silver coin of Japan of 40 mas, worth about 13 shillings.—*Simmond's Dict.*

TIGRANES, of Armenia. See Greeks of Asia.

TIGRE. See Semitic races.

TIGRIDIA CONCHIFLORA. The beautiful Tiger flowers, are grown like other lilies, the flowers open in the morning, and are of short duration: a second blossom appears on the same stem about the third day after the first has withered.—*Riddell.*

TIGRIS, near Baghdad, is in lat. 33° and 500 feet above the level of the sea, 800 feet across, and from 6 to 25 in depth. It is in flood from the rains in December, after which it falls until February, when it has a second rise, of much greater magnitude than the first, in March and April, and it descends again till October. The Tigris has two principal sources in Central Armenia, both of which spring from the southern slope of the Anti Taurus, near those of the Araxes and Euphrates, and not very distant from that of the Halys. It was called Dijlah by the Chaldeans, and the designation applied to it in the Scriptures is Hiddekel, a name which it bears at the present day among a large portion of the people living near its banks. The western branch rises at a spot which is about twenty miles westward of Arghani Maden, and near ten southward of the centre of the Ghuiljik lake: its course is north-eastward along the deep valley at the foot of the elevated ground of Kizan (4,568 feet above the Black Sea), and, after having continued in the same direction towards the heart of Kurdistan, when a little more than twenty-five miles from the spring, it makes a sweep so as to take the direction of Arghani Maden, or nearly south. Diyar Bekr on the Tigris in its prosperity contained forty thousand houses, with numerous cotton-looms constantly at work; and it enjoyed an active trade in gall nuts, not only with Kurdistan, but also with India, on one side, through Baghdad, and with Europe, through Aleppo, on the other: but at present there are scarcely 8,000 houses, 1,500 Armenians and 6,300 Turks, and its commerce is almost annihilated. Below Diyar Bekr the Tigris contains several islands. Its banks are thinly peopled, and the country about them is only partially cultivated; but the pasture grounds are rich and well suited for the visits of the nomadic tribes which come occasionally to the river from the neighbouring countries. The windings of the Diyar Bekr river thus far have a length of rather more than 150 miles, whilst those of the tributary by Myafarekin are less than 100 miles. The Lesser Zab, or Altun Su, is augmented by a considerable stream coming from Koh-i-Sanjak, a town of 1,000 houses, and distant about 40 miles north, 35 miles east: from thence it becomes navigable by rafts. At their junction, the Tigris is about 500 yards broad, and a little below there is a kind of cataract, called Kelah, where the descent is so rapid that the river appears as it were to run down hills. This place is much dreaded by the people when descending in boats; but it does not seem in reality to offer any serious impediment to the rafts so frequently passing between Mosul and Baghdad. The Euphrates steamer not only passed over this difficulty, under Lieutenant Lynch, but also proceeded as high up as the bund opposite the ruins of Nimrud. After the Tigris has succeeded in forcing its way through the Hamrin Hills, at a spot called El-Fattha, on the left bank, there is an abundant supply of sulphur; and, directly opposite, naphtha rises in great quantities from the bed of the river. The Tigris may be considered as having an average width of 200 yards from Mosul to Bagdad, with a current in the high season of about four miles and a quarter per hour. The country is highly cultivated from Mosul to Nimrud on both sides of the river; but from the latter place to Tekrit, all cultivation nearly ceases; and it is but partially found in the tract along the river between Tekrit and Bagdad. The Tigris is navigable for rafts at certain seasons from the bridge of Dyar Bekr to Mosul, a distance of about 296 miles. Below the latter place it is more or less so throughout the year, and the descent to Bagdad is performed with such ease and speed that the river is known by the expressive name of the cheap cameliar. Large rafts supported by 200 or even 300 inflated skins are much in use for the transport of goods, and, when the merchants are on board, a small room is raised on the raft in order to give shelter from the sun and rain. During the flood season the voyage is performed in three or four days, whereas at another time it requires about fifteen days. The Euphrates steamer, under Lieutenant Lynch, went as high as the bund of Nimrud in 1838, and this officer made a map of the river, from Bagdad to Mosul, by trigonometrical operations between points which were determined by astronomical observations. The raft constructed to carry the Right Honorable John Sullivan from Mosul to Bagdad in 1781, was supported by 200 skins, and had on it a small cabin. Below the Tak-i-Kesra or arch of Chosroes, and which marks the site of the ancient Ctesiphon, and a little lower down the remains of the ancient Seleucia, the continuations of the Tigris bear the well-known appellation of Shatt-ul-Dijlah as far as Kut-ul-

amarah, a small town on the left bank nearly midway between Bagdad and Kurnah, being about 178 miles by water from the former city, and 97½ miles directly S. S. E. from the latter. Lower down, after passing for about forty miles through marshes and coming near the tomb of Ezra, the river resumes its former size and character, as it winds in the general southern direction to Kurnah, which place is 232 miles from Kut-ul-amarah by the windings, and 144½ in direct distance. The whole course thus briefly described may be estimated at 1146 miles, which is little more than half the length of the sister stream, the Euphrates, from the sources of the latter to their junction at Kurnah, but it discharges more water, owing to the numerous tributaries which it receives on its eastern side, among which may be particularly noticed the two Zab rivers, and the river Diyalah. There are, however, only two feeders of any moment on the western side throughout the long distance from Diyar Bekr to Kurnah. A considerable increase of the river Tigris takes place during the rains of November; subsequently it decreases, and swells irregularly at intervals, till the different feeders are bound up by the frost and snow of January in the Kurdistan mountains. This serious check retards for a time the swelling of the river, therefore its permanent rise, like that of the Euphrates, does not usually begin till the middle of March. There is an active commerce along the Tigris, between Basrah and Bagdad, by means of the large country boats, which go in fleets, and above the latter city it takes place chiefly by means of rafts from Mosul. The regions through which the Tigris and Euphrates rivers run, and the countries intervening have, since remote ages, been occupied by races who have taken a prominent place in history. Aram-Nahrain is the Syria between the rivers of Gen. xxiv. 10 and Deut. xxiii. 4. The greater part of what was called Mesopotamia, in latter times, constituted the territory of ancient Babel, and was the Aram-Nahrain of scripture. The same territory in Gen. xxviii. 2, is called Padan-Aram, or Champagne Syria, both of which designations agree with the description of the country given by Strabo. He says that the Tigris washes the eastern side of Mesopotamia, and the river Euphrates its southern and western; whilst the Taurus separates it from Armenia on the north. Pliny is still more distinct; he says that Mesopotamia has the Tigris to the east, the Euphrates west, the Persian Gulf south, and the Taurus north, with a length of 800 miles and a breadth of 360 miles, the city of Charax being at the extremity of the Gulf. (*Lib.* vi. c. xxvii). Mesopotamia extends above 10° in longitude from Balis, in 38° 7′ 10″ east longitude, to the estuary of the old Karun, in 48° 45′ 16″, and 7° 31′ 5″ in latitude from the shores of the Persian Gulf, in 30° to Sumeisat, in 37° 31′ 5″ north latitude; its greatest width being about 170 miles from Jaber Castle to Husn Keifa, on the Tigris, and its extreme length nearly 735 miles. The irregular triangle thus formed has a superficies of nearly 76,117 square miles, including the shores of the Gulf from the Pallacopas to the old Karun. The principal towns of Mesopotamia are Diyar-Bekr, Husn Keifa, Jezireh, Mosul, Tekrit, Sammara and Kut-ul-amarah along the Tigris; and along the Euphrates, Erzingan, Kemakh, Egin, Kebban Maden, Malatiyah, Rum, Kal'ah, Bir, Rakkah, Deir, Rawd, Anah, Hadisah El Uzz, Jibbah, Diwaniyah, Lamlun, Sheikh-ul-Shuyukh, and Kurnah; in addition to Suverek, O'fah, Haran, Seroug, Ras-el-ain, Mardin, Nisibis, Sinjar, El Hadhr, Kerbelah, Mesjid Ali, Samawah, Zobeid, and many other villages, both in the mountains and along the streams, between the two great rivers. Grane, or Quade, Mohammarah, and Basrah are the ports; and the last, being the principal, is next in importance to Bagdad, the capital. The races that have ruled here from the most remote times have been many, and remnants are still to be traced of former dominant peoples in the varied languages still spoken. The inhabitants of the region at present consist of Arabs, Osmanli Turks, Kurds, Turkomans, Syrians, Jews and Christians. Arabic is the general language; Turkish, Kurdish, Chaldee, Syriac, and Syro-Chaldean dialects being the exceptions. The Sunni mahomedan religion is prevalent; but, in Upper Mesopotamia, there are many christians of the creed of Nestorius, some of whom have become Roman Catholics, and Jacobite as well as Roman Catholic Syrians. Professor Rawlinson believes that Chaldea was a part of the great Mesopotamian plain bordering the Persian Gulf on the south with Arabia on its west, and the limit between lower and upper Mesopotamia on the north. Chaldea seems to have been divided into a northern portion from Hit to Babylon, and a southern portion from Niffer to the shores of the Persian Gulf. In each of these there seems to have been a tetrarchy, viz., Babel, Erech, Accad and Calneh, in the land of Shinar (Gen. x. 10), and Hur or Huruk, Nipur and Larsa or Larancha, which seem to be the scriptural Ur of the Chaldees, Erech, Calneh and Ellasar, the northern tetrarchy was Babel or Babylon, Borsippa, Cutha and Sippara, the last the Sepharvaim of Scripture. A Semitic or Aramaic race is usually supposed

to have early occupied the great alluvial plain at the mouth of the Euphrates and Tigris. They called themselves Aram, and the Greek called them Assyrians or Syrians, and Niebuhr regards the early inhabitants of lower Mesopotamia as pure Aramæans closely akin to the Assyrians, from whom indeed he regards them as separated only politically, and this view is taken by Bunsen and Muller: but Professor Rawlinson (i. 54) regards as correct the scriptural statement that they were Hamites, Cushite or Ethiopian. The first Babylonish dynasty began B.C. 3784, by a powerful Chaldee kingdom in southern Babylonia, and the historical city of Babylon is supposed to have been built B. C. 3250. The Chaldean dynasty lasted for 1550 years to B. C. 2234, when Babylon was taken by Zoroaster, a Mede, who then founded there the second Babylonian dynasty. The Median dominion ended B. C. 2011, after a rule of 224 years. The Chaldees were on several occasions the dominant race. The term Chaldæa is derived by Pococke from Kula, a tribe, and deva, a god or brahmin. Chaldæans were undoubtedly the first people who dwelt in cities and formed a nation in the south of Persia. They settled in Mesopotamia, but it is supposed that they originally came from near Ararat, and that they had spread north towards the Caucasian range, where they engaged in astronomical pursuits. The ancient Babylonia is the modern Iraq-i-Ajam. The temple of Belus, the sun-god of the Babylonians, in the City of Babylon, was built about B.C. 3,500 or B.C. 3,250 in the era of the largest pyramid, but five centuries before the pyramids generally. This temple was built many thousand years after, and was quite distinct from, the watch tower mentioned in Genesis. The temple of Belus was in the centre of the city of Babylon, and was the vastest monument in Babylon and the world, and seems to have been erected 323 years before the birth of Abraham. It was a temple, but also meant as the watch tower of Babylon. The Chaldee was an Aramaic dialect, differing but slightly from the proper Syriac: Ezra iv. 8, to vi. 8, and vii. 12-26; Daniel ii. 4, to vii. 28; and Jeremiah x. 10, are written in the so-called Chaldee. There is also a Chaldee gloss in Genesis xxiv. 47. The Babylonian language in the time of Nebuchadnezzar is very close to Hebrew. The Chaldee language may have been that of Terah, but the possibility of the language of Abraham remaining in its original state during the 216 years that he and his family resided in Canaan; and the 430 years that the Hebrews abode in Egypt; and the 400 years from the Exodus to David, is supposed by Rawlinson to be untenable; nevertheless, in S. Asia, where races become secluded and keep themselves segregated, such does often occur. The jungle on the banks of the Tigris is composed of arbor vitæ and liquorice plant, which is tall and very luxuriant, being in some places about the height of a man.

The mouth of the united Tigris and Euphrates is called Bar. From the southern slope of the Anti-Taurus range, there springs the two sources of the Tigris, in central Armenia, both near those of the Araxes and Euphrates, and not very distant from that of the Halys. —*Rawlinson. Bunsen, Vol. IV, pp.* 479, 491 *&* 654. *Rich's Residence in Koordistan. Vol. II. p.* 394. *Colonel Chesney's Euphrates and Tigris.* See Iran, Kasr, Kush, Kellek, Kerkha, Koorna, Khalis, Leedes, Mesopotamia, Mosul.

TIHAI. HIND. The third part.

TII ——? See Dracæna.

TIK. HIND. Andrachne telephioides.

TIKA. HIND. A round piece of clay, paint, or tissue on the forehead of a hindu. The application of the Tika is the right of sovereigns, and Rajput chiefs claim it as the rite of investiture; but amongst hindus generally, it means the circular mark made with coloured earths or unguents upon the forehead. See Bhakta Mala, Maths. Tilak.

TIKAL. A coin in use in Burmah, the name of which Major Phayre believes to be derived from Ta-kyat, one kyat. The Tikal or kyat in Burmese weights is equal to 14 tolas, or 100 tikals are equal to 140 tolas. See Ticul.

TIKAL. HIND. Garcinia pedunculata, *Roxb.*

TIKAR. JAV. A straw mat.

TIKARI. See Kelat.

TIKA TIVVA. TEL. Entada pusætha, *DC.*

TIK-BOOMA. BENG. Aplotaxis circioides.

TIK-CHAMA. BENG. Microrhynchus asplenifolia.

TIKEE-OPRA. BENG. Lochennia corchorifolia.

TIKHTA-RAJ. BENG. Amoora rohituka.

TIKHUR. HIND. Curcuma leucorrhiza, C. angustifolia. Arrowroot.

TIKIA KACHUR. HIND. Hedychium spicatum.

TIKIARU. HIND. The flat or Chinese peach, the best kind on the plains.

TIKKARI, also Tikkarika. See Inscriptions.

TIKOR. BENG. Curcuma angustifolia, C. leucorrhiza, C. rubescens.

TIKRI. HIND. or Thikri, Boerhavia procumbens. Tikri-ki-baji, Tikri-ki-jar, DUK. Greens and root of B. diandria, also of B. tuberosa.

TIKOOR, also Tikul. HIND. Garcinia pedunculata.

TIKOOS ? See Penang, Lawyer.

TIKSHNA MULA. SANS. Alpinia galanga, *Swz.*

TIKTA-RAJ. BENG. Amoora rohituka, *W. and A.*

TIK TIGMA. HIND. Convolvulus arvensis.

TIKTO SHAK. BENG. Cratæva Roxburghii, *R. Br. W.*

TIKUL. See Tical. Tikal.

TIKUR. HIND. Garcinia pedunculata, *Roxb.*

TIKUR. BENG. HIND. Curcuma leucorrhiza, *Roxb.*, also C. angustifolia, *Roxb.*

TIKURA. BENG. HIND. Ipomœa turpethum.

TIL. BENG. Sesamum Indicum, *Linn.*, Gingelly. Til-ka-tel, Gingelly oil. Black-til, Verbesina sativa.

TILA. SANS. Sesamum orientale. See Argha, Sati.

TILA is the word commonly applied in Eastern Bengal to low and often isolated hills starting up from the plain. At the town of Silhet there are several such, on which the houses of the European officials are built.—*Yule Cathay, II. p.* 516. See Thur.

TILAI-BAJ. BENG. Spilornis cheela, *Daud.*

TILAK, the sectarian mark on the forehead of a hindu, but most of the non-Aryan races also use it. See Tika. Tilak. Tilaka.

TILAK CHANDRA, a tribe of Bais Rajputs at Dundhia khera.

TILAKA. TEL. Clerodendron phlomoides, *Linn.*

TILAKA or Viseshaka. SANS. A mark with some colored substance in the middle of the forehead.—*Wils. Hind. Th.* See Tica ; Tilak.

TILA KORA. BENG. Cocculus acuminatus, *DC.*

TILAOR. HIND. Houbara Macqueenii, *Gray.*

TILATS. HIND. Viburnum fœtens.

TILEA-GURJUN. BENG. HIND. Dipterocarpus lævis.

TILES.

Tuiles,	FR.	Ubin ; Jobin,	MALAY.
Dachziegel,	GER.	Tscherepiza,	RUS.
Kaprail,	GUZ. HIND.	Tejas,	SP.
Tegole, Embrici,	IT.	Odugal.	TAM.
Ganteng, Gandeng,	MALAY.	Penkalu,	TEL.

Tiles are made of clay and baked in an oven or in the open air, to harden them. They are of various shapes and sizes, and are used chiefly for covering roofs, and occasionally also for paving floors and making drains.—*Faulkner.*

TILE-TEA, a kind of flat brick tea, of much solidity, made in China, and taken to Kiachta, where it is sold to the Armenians and Tartars, who distribute it through the Caucasian provinces and Eastern Siberia. The Kalmuck, Kirghis, and Buratria nations consume the greater part of it. It is prepared in a different manner from common tea, being stewed with milk, butter, salt, and herbs, constituting rather an article of food than a dietetic beverage.—*Simmond's Dict.*

TILI. HIND. of Muzaffargarh, the pith of the culm of sirki, Saccharum moonja.

TILIACÆ. JUSS. The Linden tribe of plants, consisting, in India, of 5 genera, 32 spices, viz. 5 Corchorus, 4 Triumfetta, 21 Grewia, 1 Berrya, 1 Brownlowia. The general properties are mucilaginous and emollient. Corchorus olitorius, the "pat" of Bengal, is cultivated for the fibre of its bark, which is employed to form cordage for agricultural purposes and boats, also to form gunny, a coarse cloth, and likewise to form paper ; and C. capsularis, the "ghi-nalita-pat" of Bengal, is grown from India to China for the same purposes. Triumfetta angulata is the "bun okra" of Bengal ; several species of Grewia yield useful products. and Berrya ammonilla yields the valuable Trincomallee wood of commerce.—*Voigt.*

TILIACORA ACUMINATA. MIERS. *Hook. & Th.*

Cocculus acuminatus, *W. & A.*
Menispermum acuminatum, *Roxb.*

Kappa tige,	TEL	Tige mushidi,	TEL.
Tige mushini,	,,	Tivva mushidi,	,,

TILIACORA RACEMOSA. COLEB. Cocculus acuminatus, *DC.*

TILIA GARJAN. BENG. RAKHU. Dipterocarpus angustifolius, also D. lævis, and D. natus.

TILIA KACHANG, also Mitha tilia, HIND. Aconitum napellus.

TILING, the nation speaking the Telugu language ; the Tiling and Canarese are almost of similar physical frame :—have tall, graceful figures, but as a rule, the Tiling are fairer than the Canarese. The great similarity of the two languages, Canarese and Telugu, imparts an impression that they are of the same stocks, who have separated in more recent times, and that circumstances have modified their characters and personal appearance. As a rule, the inland tract of table-land country occupied by the Canarese from the southern part of the Mysore country through Bellary in the Ceded Districts, up to Bejapore, is arid, and the soil yields as food crops small cereal grains, Eleusine corocana, Setaria italica and germanica, Panicum, and Pencillaria spicata, which even the humbler labourers of the south of India only use on pressure, when scarcity or dearth prevails, and

a hot, arid climate, with a less nourishing food, may have led to their darker complexions. See India. Teloogoo.

TILPATRA, or Tilpattar. HIND. Acer creticum, A. cultratum, and A. sterculiaceum, also Marlea begonifolia.

TILPHAR. HIND. Impatiens, *sp.*

TIPPOO, son of Hyder Ali, and commonly known as Tippoo sultan, a ruler in the peninsula of India, whose capital was Seringapatam, a fortress which was taken by the British in 1799, and Tippoo fell in the storm. See Tipoo.

TILUM. SANS. Oil, vegetable or animal.

TILUN. HIND. Edwardsia mollis.

TIMA, also Falagh. MAL. Tin.

TIMALIA, a genus of birds of the sub-family Timalinæ, of which several species, T. pileata, *Horsf*, the "red capped wren babbler," occurs from northern India to the Eastern Archipelago; T. nigricollis, *T.*; T. erythroptera, *Bl.*; T. maculata, *T.*; and others occur in the Malay peninsula and E. Archipelago. Horsfield observes that T. pileata is not unfrequent in the groves and small woods which abound throughout Java. It often, he says, approaches villages and plantations, constructing its nest in the hedges; and he speaks of it as one of the social birds that delight to dwell in the vicinity of cultivation. In large forests he did not notice it. He describes its flight as low and interrupted, and adds that wherever it resides it is a welcome neighbour, in consequence of the peculiarity and pleasantness of its note, which consists of a slow repetition of the five tones of the diatonic scale (C, D, E, F, G), which it chants with perfect regularity, several times in succession, and at small intervals of time. Dr. Horsfield further remarked that the sixth tone was sometimes added; but as this required apparently an extraordinary effort, it was by no means so agreeable to a musical ear as the simple repetition of the five notes, which appear to be the natural compass of the bird's organs.—*Jerdon, Birds of India. Eng. Cyc. quoting Horsfield's Zoological Researches in Java.*

TIMBAL. Ficus Roxburghii, also F. macrophylla.

TILLANG-CHING. See Nicobar Islands.

TILLA CHETTU. TEL. Excœcaria agallocha, *Linn.*

TILLA KADA. TEL. Euphorbia dracunculoides, *Lam.*, also E. Rothi, *Wight's Icones*, also Mucuna atropurpurea, *DC.* 782.

TILLARI. KARN. TAM. TEL. A night watchman.

TILLAWEE NUDDY is near Mijereah in Chuprah.

TILLI TANDRI. TEL. Father and mother, answering to the Appa-amma of the Tamul race, and the Ma-bap of the Urdu: any protector.

TILLUK, or Peshwaz. See Tica.

TILONG. HIND. Quercus dilatata.

TILOTTAMA. SANS. From tila, dark spots on the skin, and oottămă, excellent.

TILIYA-KURA. BENG. Cocculus acuminatus.

TILIYA-LAOO. BENG. Bottle gourd, Cucurbita lagenaria, C. punctata.

TILJOOGA, a river near Soopul in Muzaffur nugur.

TILJOR. SW. Deals.

TILK. TURK. Talc.

TILKACH ALU. HIND. Saxifraga ligulata.

TIL-KA-TEL. GUZ. HIND. Gingelly or Sesamum oil.

TILKHAN. HIND. Acer creticum.

TILLA. HIND. Umbelliferæ, *sp.*

TIMBER, from Saxon, timbrian, to build.

Arunyavu	CAN.	Aruneya.	MAHR.
Timmerhout	DUT.	Hez'm	PERS.
Nath'h.	DUK.	Chob.	,,
Bois de charpente.	FR.	Cembrowina.	POL.
Bois a batir.	,,	Stroewoi Gess.	RUS.
Lakaru.	GUZ.	Davou.	SANS.
Bauholz.	GER.	Madera de construccion	SPAN.
Zimmer.	,,	Kadu kambu.	TAM.
Lakra.	HIND.	Maram.	,,
Legname da fabbricare.	IT.	Chettu.	TEL.
Arunuyum.	MALEAL. SANS.	Karra.	,,
Lakara.	MAHR.	Koia.	,,

In contradistinction to dye-woods, woods for engraving, ornamental woods, &c., says Tredgold, wood felled and seasoned, and fit for building purposes, is called timber. It is met with in commerce in various forms. Mr. Poole in his statistics of commerce, mentions that the trunk of a tree, with or without boughs or branches undressed, is termed round timber; when hewn into logs, square; when quartered, billets; when split, staves and lathwood; when sawn, deals, battens, planks, boards and scantling. The stems or trunks of several kinds of young trees are called spars, poles and rickers, also prop wood and postwood. In India, there are peculiar terms applied to timbers of different kinds. Reepers, in southern India, are the split stems of the palmyra tree. Timbers are also sometimes classed according to the purposes to which they are applied; oak, teak, green heart, black mara, are designated ship-building woods; teak, saul, padouk, &c., are recognised ordnance woods; while Trincomalee, rosewood, red-wood, satin wood, snake wood, mahogany, ebony, kyaboca, zebra, tulip, and other furniture woods, are usually called fancy woods. Timbers, says Tredgold, are also

spoken of as hard, soft, and tough, but there are no established degrees of these qualities, and Tredgold, in defining them, merely says that a hard wood yields less to a stroke or impression than a soft wood, and that wood is the toughest which combines the greatest degree of strength and flexibility. The timbers of commerce are also recognised as from the sap-wood or heart-wood. Sap-wood is that part of the wood next the bark, and the heart-wood is near the centre of the bole or stem. Sap-wood is softer, and generally lighter coloured than heart-wood, and is found to decay more rapidly, and to be more subject to attacks of insects. The proportion of sap wood varies much in different trees. In many trees, such as those that produce the ebonies of commerce, the line of demarcation between the heart and sap-wood is so strongly defined as to arrest attention, and permit the application of those two parts of the timber to different economic purposes, and the sap-woods and heart-woods in such cases, though the products of the same tree, receive in commerce distinct names. In other trees, the change from the sap-wood to the heart-wood is gradual; but, in all cases, the sap-wood preponderates in young trees, and the heart-wood in the old. Also, he says, according to Buffon and Duhamel, in trees that have not arrived at maturity, the hardness and solidity of the wood are greatest at the heart and decrease towards the sap-wood. But, in the mature or perfect tree, the heart-wood is nearly uniform, while that of a tree on the decline is softer at the centre than it is next the sap-wood. Tredgold quotes the opinion of Sir Humphry Davy (*Agricultural Chemistry, p. 220, 4th ed.*) that the decline of trees is caused by the decay of the heart-wood. And in India, where vegetable life abounds, the correctness of that opinion can be testified to by every observer. As with the animal world, so with the vegetable creation, trees have the three stages of infancy, maturity, and old age; and Tredgold (p. 196) tells us that the oak and chesnut trees, under favourable circumstances, sometimes attain an age of about 1000 years; beech, ash and sycamore to half that age. The plain tree, the Chinar of north-western India, is said to live to a great age. In forestry, therefore, the rule deducible from our knowledge of these principles and facts, as indicated in Tredgold (p. 197), is to fell timber trees when in their maturity. For, if felled too young, there is much sap-wood, and even the heart-wood has not acquired a proper degree of hardness, and such timber cannot be durable. On the other hand, if the tree be not felled till on the decline, the wood is brittle and devoid of elasticity, is tainted and discoloured, and soon decays. The rule therefore is to fell the mature tree when the quantity of sap-wood is small, and the heart wood nearly uniform, hard, compact and durable; but too early is worse than too late. Therefore, for south-eastern Asia, a tabular statement showing the ages at which its various timber trees reach maturity is very necessary, though still a desideratum. Dr. Brandis tells us that in British Burmah, a full grown teak tree of 9 feet in girth cannot be supposed to be less than 160 years old, and it is somewhere mentioned that it should not be cut for timber under 80 years of age. In England, as Tredgold tells us (p. 198), oak is never cut for timber under 50, nor above 200 years of age. Dr. Brandis tells us that the strength and density of teak timber vary exceedingly, according to the locality where the tree is grown. The extremes observed in preliminary experiments were, as to weight lbs. 40 to 50 per cubic foot, and 190 lbs. to 289 lbs. breaking weight. It is well known that the timber of those trees which grow in moist and shady places, is not so good as that which comes from a more exposed situation, nor is it so close, substantial, or durable. The preservation of timber naturally arranges itself into the preservation of growing timber, and that of timber when felled. Since the close of the 18th century, it has been a growing belief that the climate of a country is greatly modified by the scarcity or abundance of its trees and forests. Some years ago, in 1845, Dr. Balfour furnished the Madras Government with a memorandum of all existing information on this subject, and it was a matter of enquiry at a subsequent meeting of the British Association. Other writers, since then, have written on the connection between the amount of rainfall and the number of trees in a country, and it is now generally recognised that they do exercise a powerful influence on the climate of the region or district in which they grow. In a tropical country like India, therefore, the preservation of existing trees, and their extension in arid districts, is a matter of much climatic importance. Dr. Cleghorn, in a report for 1860, gives on this point the following extract from a letter :—"The higher sholas clothing the ghats on both sides are of the utmost importance, and the climate is believed to suffer the greatest detriment from their removal. I would therefore suggest that the high wooded mountain tops overhanging the low country (such as Hoolicul) should be preserved with rigid care, the forest there should not be given over to the axe, lest the supplies of water be

injured. It is the opinion of many persons, in which I concur, that the vast clearings which have taken place have had a share in producing the irregularity of the monsoon, which has of late years been so much complained of in Coimbatore. In order that the course of the rivulets should be overshadowed with trees, I conceive that the hills should be left clothed to the extent of about half of their height from the top, leaving half of the slope and all the valley below for cultivation; this available portion would far exceed in extent "the higher ridges, which should be considered reserved. It is not, however, merely from legitimate use, that the forests are decreasing:— all the conservators notice the conflagrations which arise naturally, and are caused by the wild races who, alike in India and in Burmah, effect a clearance by fire, in order to obtain a fresh soil for a temporary cultivation. Dr. Cleghorn, in another report, says that "the forest conflagrations in the Madras Presidency are of frequent occurrence; the unextinguished fire of a camp of Binjara, the sparks from the torches or cheroots of travellers, the spontaneous ignition from friction of bamboos, but much more frequently, the wilful burning of grass by the hill tribes, as heather is burnt in Scotland, in order that the ashes of the herbage may nourish the roots of young grass, and thus improve the forage of their cattle, are, he says, among the causes of this devastation, which extends annually over large tracts. The largest trees skirting the forest suffer more or less from these fires, the saplings are scorched and mutilated, and the smaller seedlings perish. If the same spot is again visited by conflagration in the following year, the largest trees which escaped the first time are often consumed. But the main economic value of timbers, apart from considerations of strength, durability, texture and color, will depend on the quantity in which they can be produced for buildings, for railways, and the many purposes for which timber is indispensable. Nor is the supply of timber for building and furniture making purposes all that we have to consider. In countries for all practical purposes destitute of coal, the supply of fuel for manufactories, railways, and steam flotillas, as well as its domestic consumption, is another important item in the consideration of timber resources."

The preservation of the forests of India, and the search for timbers and fancy woods suitable for the purposes of the State and wants of the people, have long been objects of attentive interest to the Governments of the several Presidencies in India. Amongst the earliest of the scientific investigators we find recorded the names of Drs. Roxburgh Ainslie, Wallich, Royle, Gibson, Falconer, McClelland, Mr. Graham, Dr. Wight, and Rev. Dr. Mason. Dr. Balfour of the Madras Medical Department, published a book on the Timber Trees of India, which went through three editions between 1858 and 1870; while Mr. Edye, Colonel Frith, Captain Dance, and Mr. Rohde, applied a large practical knowledge of the qualities of timber to ascertain the woods suitable for the manufacturing industries of India. The course adopted by the principal of the scientific inquirers in identifying the plants, has been to endeavour to identify the tree botanically, and then supply the names by which it was familiarly known to the people of the country; and there is no doubt that if not the only proper mode, it is a more correct method than to endeavour to trace out the botanical name of a plant from its native name. In following the latter course, it is impossible but that, from the twenty or thirty languages spoken throughout the regions of the East Indies, the same plant must come to be described repeatedly under different names, and true progress will not be made until having properly identified the botanic relations of the plant, the subject be completed by endeavouring to supply all the synonyms by which it is known. One point which practical men should particularly be made aware of is that the vast extent of the regions of the East Indies, their various climates and physical conditions, render it impossible that the same tree can produce the same quality of timber in every locality where it grows, and this indicates the necessity of not pinning the faith on to any one wood merely because a wood from the same species, the growth of another district, may have been found highly suitable for the work, to which it was put. Ordnance officers in particular should keep this point in view, and not use a wood, however lauded, unless the timber have been brought from the same place as it was obtained by those whose praise they act on, or until severe trial has proved that when grown in the new locality, the timber it yields is equal to all that is required of it. As an instance of this, may be cited the majestic teak which grows to an immense height in Malabar, on the Godavery, in Pegu and Tenasserim, proceeds far into the interior of India, and may be seen in the mountains of Bundelcund, but is there only in the form of a moderate sized shrub; and even where it presents the same form of a gigantic tree as in Malabar and Pegu, the quality of the timber it yields is essentially dissimilar.

In examining the comparative value of different sorts of wood, it is of the first importance to ascertain the nature of the encrusting

matter deposited throughout the cells and tubes of the wood. For all practical purposes, those woods appear to be best in which the cells are lined with resinous matter; those filled with hygroscopic gummy matter are for the most part of less value; they are seasoned with difficulty, and are always more liable to decay. The best woods are those having a strong fibre protected from all external influences by a coat of resinous matter, or at least of a matter insoluble in water, and one which does not attract atmospheric moisture. It is probable that some of the ornamental and other woods of India will become articles of import into Britain when their properties and use are better known and appreciated by that country's artizans.

The most important application of wood is in the building and repairing of houses and ships, and in the construction of machinery. For this purpose the larger trees which come under the denomination of timber are employed. Great Britain long supplied its own wants; but increasing population led to an extensive demand on other countries for the supply of timber, which was met chiefly by vast pine forests on the shores of the Baltic and northern Europe, and also from Canada. Timber from the latter country, however, was soon found to be inferior in strength and durability to that of the north of Europe, and fell into disesteem among ship-builders; hence arose the practice of introducing the words "Memel fir" in specifications for building. The preservation of growing timber is an art of considerable importance, and can only be said to be cultivated in countries where timber is comparatively scarce. The practice of thinning out plantations is of importance not only as affording a supply of wood, but, by admitting an increased supply of air and light to the remaining trees, their growth is greatly promoted. Forest trees are often planted on soil that is unfit for other purposes, and by the annual fall of leaves they accumulate in time a certain depth of soil. The proper time for the felling of trees is that in which the largest quantity of hard and durable wood can be obtained as free from sap as possible. It is a common fault to fell trees before they have attained their maturity. If suffered to complete their growth they would have the heartwood of equal weight and strength throughout, whereas in those cut down prematurely, the centre wood alone possesses this requisite strength, the outer concentric rings being considerably softer: such timber may be said to decrease in hardness and strength in arithmetical proportion as it approaches the sap-wood. Timber is felled during the cold months, when the natural juices are most inactive and the tree is in a measure dormant. But before the timber can be used, the juices must be got rid of from the capillary vessels, or the wood will remain moist or green for a considerable period, and the planks formed from it will, in a confined situation, become stained, and then subject to decay or dry rot: these effects are prevented by free exposure to dry air. It is usual in the royal dock-yards of Britain to cut out the timbers for ships of the required shape and dimensions about a year before they are framed together, and the skeleton frame is usually left another year to complete the seasoning. Other mischiefs, almost as fatal as decay also occur to unseasoned woods; round blocks, cut out of the entire circular stem of green wood, or the same pieces divided into quarterings, split in the direction of the medullary rays, or radially; also, though less frequently, upon the annual rings. Such of the round blocks as consist of the entire section contract pretty equally, and nearly retain their circular form, but those from the quarterings become oval from their unequal shrinking. In general, woods do not alter in any material degree in respect to length. Boards and flat pieces contract, however, in width; they warp and twist, and when they are fitted as panels into loose grooves, they shrink away from that edge which happens to be the most slightly held; but when restrained by mills, mortices, or other unyielding attachments, which do not allow them the power of contraction, they split with irresistible force, and the materials and labour thus improperly employed will render no useful service. The natural juices of the tree must be got rid of by seasoning in order that the wood may become dry and hard. After the tree has been lopped, barked and roughly squared, it is left for some time exposed to the weather, and may be soaked in fresh running water (as some think) with advantage, or boiled or steamed. This dilutes and washes out the juices, and they more readily evaporate from the wood at a subsequent period, and the colour of white wood is said to be improved thereby. In this way, fir timber, on its arrival at the port of London, is commonly formed into floats on the Thames, and allowed to remain for some time. When removed from the water, it is left to dry thoroughly before it is taken to the pit to be sawn; usually it is blocked up from the ground so as to have a free circulation of air, and if it be cut into boards, they should be piled one on the other with billets of wood between them, or laid in a triangular form, with their ends alternating so as to allow the air to have free access to them. Thin pieces will be seasoned in about a year, but thick

wood requires two or three years before it is removed into the house to complete the drying. The warm air of a stove heated room will then act upon it with benefit. When cut trees are killed and left to dry in the forest, the sap rapidly disappears if left standing with all their branches; and sawn wood is most rapidly dried by being stacked on end with the highest end of the tree uppermost. In the stacking of timber for the purpose of seasoning, the pile should be so far raised from the ground as to allow the air to circulate below, as well as around and through it; and if not sheltered from the rain, care should be taken to prevent the wet from lodging in any part. It is now usual in dockyards to have elevated supports of iron or of stone for the stacking of timber, and ships are now built under covered sheds. The drying of timber should be gradual, for if rapid, it suffers a loss in toughness as well as in pliability: the pores at and near the surface become contracted, and prevent the interior moisture from escaping. Plans for the more rapid drying of timber by means of kilns have, however, been tried, as in Price's patent, in which timber destined for building purposes is placed in a room, into the lower part of which hot and dry air is introduced, and this, charged with the moisture of the timber, is allowed to escape at the upper part. By this, timber can be seasoned in one third of the time required in the open air. Oak loses nearly two-fifths of its weight by proper seasoning. All timber should be dry before it is cut into planks, or they would be liable to warp and shrink. The presence of air, light, and moisture seem to be necessary to the revegetation of timber, or the growth of that fungus which leads to its destruction. Mr. Fincham of Her Majesty's dock-yard, bored a hole in one of the timbers of an old ship built of oak, the wood being sound, and in 24 hours the admission of air caused the hole to be lined with a white mouldiness due to the growth of a peculiar fungus, which some time after became so compact as to admit of being withdrawn like a stick. Cracks or splits in timber would therefore predispose it to decay in damp situations by admitting the air. There are great differences in woods as to their power of resisting decay; some perish in a year or two, others are sound and even fragrant for centuries. Teak has been found to last six or seven times as long as oak when used in green houses, as boxes for growing plants, the latter wood not existing more than two or three years; but the moist atmosphere, light and heat of a greenhouse, form a severe trial for any wood. In addition to timber-trees, a vast variety of woods are used for ornamental purposes. In a series of papers contributed by Professor Forbes to the Art Journal, on "Wood used for Ornament and Purposes of Art." some clear distinctions, definitions, and descriptions are given, which Mr. Tomlinson abridged. The term wood he says, is commonly applied to those portions of the vegetable axis that are sufficiently hard to offer considerable resistance and solidity, so as to be used for purposes requiring various degrees of firmness and strength. Every flowering plant is composed of an axis, and the appendages of the axis; the former consisting of the stem and root, the latter of the leaves and flowers. In trees, shrubs, and under-shrubs, the axis is said to be woody; in herbs it is termed herbaceous. In the former, stems are permanent, and do not die to the ground annually, as is the habit of the latter. A shrub, a tree, an undershrub, a bush, are merely gradations of magnitude in perennial plants; woods valuable for purposes of art and manufactures are derived from all of them. But as bulk and dimensions are necessary to make timber available for extensive use, by far the greater part of the ornamental woods are derived from trees. There are, however, some remarkable exceptions. The wood of roots is different in structure from the wood of stems, and the same tree may furnish two very different kinds of ornamental wood, according as they are derived from its ascending or its descending axis. The wood of the inner portions of a stem may be of very different colour and quality from that of its outer parts. In the immediate neighbourhood of the origin of branches, it may exhibit varieties of pattern, such as to render it greatly more ornamental than elsewhere, and in some cases, when under the influence of morbid growth, reveals additional beauties, so as to be prized for qualities which in nature are defects. If we compare a cross cutting of teak, or oak, or mango, with a like portion of palmyra wood, the differences between them will be seen strongly contrasted. In the former, the layers of wood are ranged in concentric circles round the central pith, and are encased externally in a binding of bark, itself composed of distinct and differently organized portions. In the latter there is an uniform appearance throughout the section, the substance not being disposed in concentric rings, but appearing as if a bed or ground of one kind was studded with specks of another order of tissue. These are not slight dissimilarities; they indicate differences of the greatest structural importance in the economy of the respective trees. Corresponding with them are peculiar modifications of every portion of the plant's organization.

The external aspect of the plants of either type is altogether unlike that of the other. The appearance styled silver-grain in wood is dependent on the cellular tissue of the medullary rays, and is, therefore, exhibited by exogenous woods only. It gives the streaks a glancing satiny lustre that are so ornamental in many kinds of woods. In the oak and beech this appearance is conspicuous. The inner layers of wood, after the tree has become aged, often become compact, and frequently different in color from the new wood. They are then styled the heart-wood. Botanists term them the duramen, and apply the name alburnum to the outer layers or sap-wood. In the former, the tissues have become dry and dense, and charged with solidifying deposits, so as to prevent them aiding in the ascent of the sap. Often, too, they become more or less deeply coloured, so as conspicuously to contrast with pale sap-wood. This difference is especially conspicuous in the ebony-tree, the black portion of which is the duramen, or heart-wood. In the oak, they resemble ebony. Furniture of exquisite beauty has been constructed of yew-wood; indeed it is admirably adapted for fancy cabinet work, either in mass, or inlaid as veneers: the supply is said, however, to be insufficient. The wood of yew was once extensively used in Britain in the making of bows. The cedar is a native of the warmer temperate mountainous regions of Asia. The celebrity of the cedar of Lebaucn dates from a very high antiquity; and the reputed value of its timber for ornamental and cabinet purposes, has been placed on record from very ancient times. Either, however, more coniferous trees than one have been included under the popular appellation, or the qualities of the wood have sadly degenerated, for that of the existing cedar of Lebanon is by no means remarkable for beauty, durability, or sweetness of odour, all of which properties were pre-eminently ascribed to it. The tree itself is as grand as ever; one of the most majestic of arborescent elements in the landscape. It was extensively used among the ancients. Nevertheless, this wood, such as we now know it, is not one to choose for carving or house construction. It is very light and spongy, of a reddish white colour, scented like ordinary pine, and not at all durable. It is possible that other kinds of coniferous trees were confounded by the ancients with the true cedar. The Himalayan "deodar," a tree very closely related to the cedar of Lebanon, really possesses all the good qualities for which the latter has been so long celebrated. Even now travellers in the East, in writing about cedars, often confound various kinds of arborescent juniper under that name. The numerous race of pines and firs for the most part are more useful than ornamental, so far as their timber is concerned. Some of them, however, afford wood with many desirable qualities for furniture-making. Among the natural orders that have affinities with catkin-bearing trees, are the walnut and the nettle tribes. The box belongs to the spurge tribe. It produces a warm yellow wood, much used by the turner, and well adapted for the construction of flutes and similar musical instruments. It is often used for rules and scales, and it is also the chief wood employed in wood engraving. It is sometimes beautifully mottled. In Britain the box grows wild and luxuriant in Surrey, as at Box-hill, but the chief supply of this wood is derived from the southern parts of Europe, and from Asia Minor. A distinction is drawn between "Turkey" and "European" boxwood. The latter is more curly, softer, and paler than the former. Dr. Royle and Major Hay have called attention to a species of Buxus, a native of the Himalayas, yielding a wood possessing similar qualities with that in common use, and having the advantage of being found of considerable size and thickness. The ash and the olive are members of the olive family. The former familiar tree yields a timber remarkable for toughness and elasticity, and excellent for machine and agricultural purposes, but not much used for finer applications. When, however, the grain is zigzag, it is adapted to the making of furniture of considerable beauty. Olive-wood is imported from the Mediterranean countries. It is veined with dark grey, and resembles boxwood in texture, but is softer. The knotted and curled roots are made into embossed boxes. This is done by means of pressure in engraved moulds of metal. The Araliaceæ, a natural order to which the ivy belongs, may be mentioned here incidentally on account of the substance so well known as rice-paper. This was long supposed to be the pith of a leguminous plant; its true nature was first made known by Sir William Hooker, who demonstrated that it was the pith of an araliaceous tree. It was said to be exclusively a native of the island of Formosa, but Mr. Fortune found the Aralia growing in other parts, and it was introduced by him into India. The almond-tree, especially when wild, is said to furnish a valuable wood, but which is little known or used. The great order of leguminous plants, the Pulse tribe, is rich in trees, but not much so in temperate climates, nor is there any ordinary tree of the group upon which stress can be laid. There are now eight descriptions of timber admitted by the British as first-rate for ship-building purposes, and one of these has only been so ranked

since the opening of the Great Exhibition. They are :—1, English oak; 2, American live-oak; 3, African oak; 4, Morung saul; 5, East Indian teak; 6, Green heart; 7, Morra; 8, Iron-bark (a recently admitted wood). Of the above the Morung saul is an Indian tree, as well as the better known valuable Teak. The Iron-bark is from New South Wales, and has a density of 1426, and a strength of 1557, (English oak being called 1000). Wood is very valuable as a fuel: the excess of hydrogen contained in it, which, in burning and forming water, requires for equal weights three times as much oxygen as the carbon does in forming carbonic acid, gives out in burning nearly four times more heat than the carbon.

In all countries most of the woods in general use have a variety of names; the local name varies often in the same district. Many have likewise a commercial name, by which they are known in the market, as "Trincomallee" wood, "Coromandel" wood, &c. These names are sometimes given from the place of export, but it is often impossible to trace their derivation. Lastly, there is the botanical name, the sure determination of which is a matter of the first importance, and the means of doing this consists of a small shoot, bearing flowers, fruit, and full grown leaves, either together or separately, pressed flat and dried, so as to be fixed on a sheet of paper. For a complete collection of wood specimens, there should be several of each wood from various localities. 1st, A horizontal section of the tree with the bark complete, and about 3 inches thick. 2d, A plank about 3 inches thick and about three feet long, cut from the log about half-way between the pith and heart, the bark, sap-wood, &c. being retained. 3d, Two or three bars about 2 feet 6 inches long, 2½ inches square (if the plant grow so much) cut from the sound wood. 4th, A turned cylinder of hard or ornamental woods, 1 foot long and 3 inches in diameter.

The value of wood depends much on its age; the young tree possesses strength and elasticity in a greater degree than mature, i. e, when it would shortly cease to increase in diameter; as it increases in age it acquires its maximum of stiffness and durability; in its aged state, it will probably best suit the purposes of the cabinet maker. The grain of the wood depends greatly on the nature of the soil, being generally straight and open in a tree growing rapidly, in a rich, and the reverse in a poor soil. In some cases, the root affords wood of great resisting power for furniture; the root of a healthy oak is prepared for spokes of wheels, and veneers from that of an aged specimen often bear a high value for cabinet makers' purposes. In collecting specimens of the characters of wood, there are several points to which attention should be directed, viz:—

a. The uses to which the several parts of the tree is applied, and those for which experienced natives consider it specially adapted.

b. Its distribution in the district, the localities where the best is procurable, with the nature of the subsoil, the distance from the nearest seaport or town of any size: whether water carriage be available.

c. The extent of supply, whether this is increasing by self-sown seedlings of fresh plantations, &c., or decreasing; the average size in height and circumference of the native tree, its character, whether straight or crooked, the average length, &c. of the logs or planks, the time required for seasoning, and the amount of seasoned timber generally procurable.

d. The age at which the tree reaches maturity, i. e., when increasing age brings no further increase of diameter. This is a point of great importance, for on it depends the relative value of trees for planting. Thus, supposing there are two species of trees, of equal value as regards timber, &c., but one attains maturity in 25, while the other requires 35 years; it is obvious that the first is much the more valuable of the two, its money value being realised 10 years sooner.

Various methods have been adopted to render wood less combustible, by saturating it with solutions of phosphate of soda, and muriate or sulphate of alumina and chloride of calcium, but the utmost that can be reasonably expected from the most efficient protective coating or impregnating material is, *first*, that it should considerably retard the ignition of wood exposed for some length of time to the effects of a high temperature, or of burning matter in its immediate vicinity; *second*, that if the vapours which the wood emits by continued exposure to heat become ignited, the flames thus produced shall not readily affect the fibre of the wood, and shall cease almost directly on the removal of the wood from the source of heat; *third*, that the prepared surfaces of wood when in actual contact with burning unprepared wood shall have little tendency to ignite, and thus give no cause for the fire to spread. A plan proposed is to impregnate wood with silicate of soda, and to coat its surface with a silicate. The impregnating of the wood is effected by putting it into a solution of the silicate. The surface of the wood is then washed over with a somewhat diluted solution of the silicate of soda. After an interval of at least two hours, a coating of thick lime-wash is applied over the silicate; and finally, on the following day, a

strong solution of the silicate is applied over all. In this way a protective covering is given to the wood. The process may be used with benefit in the case of timber employed for wooden huts.

To protect timber against insects, use one ounce of corrosive sublimate to one gallon of water, having previously rubbed the mineral up with a little alcohol to increase its solubility; immerse the wood in the solution for one week, but allow carpets and cotton cloth to remain only for two days. The white ant will but very partially, if at all, destroy the substance of any thing macerated in the solution, and on discovering its nature, they immediately disappear. With woollen cloth the effects are less decisive, as the solution appears to be unable to penetrate the fibres of the wool, and is partially removed by washing; but under cotton carpets, rush mats, &c., the insects will burrow for the first day or two, and then disappear; and with regard to timber they are even more fastidious, and place, in their covert ways, a coating of earth between themselves and the wood; evidently anxious not even to come into contact with the poison. The advantages of preparing wood in the way recommended, are not, however, confined to its immunity from the attacks of the white ant, as it is now generally known that the same preparation (Kyan's patent) effectually resists dry rot, or other decay, and from the power it is known to possess of coagulating the albumen contained in the wood and indurating the fibres of the softer and cheaper varieties of timber, and rendering them immediately fit for use, if cut down even in a state of active vegetation, are circumstances well worthy of public attention.

The following list contains the names of the principal trees which are felled for timber or fancy woods throughout the various countries in the East Indies.

Acacia amara. Nulla balasoo, *Tel.* Woonja maram, *Tam.*
Acacia Arabica. Curvala, *Tam.* Tuma, *Tel.* Babool, *Hind.*
Acacia catechu. Wodahalay, *Tam.* Sha, also Kwonthee, also Sha-bin, *Burm.*
Acacia cinerea.
Acacia elata. Seet, *Burm.* Tella sopara, *Tel.*
Acacia ferruginea. Ausandra, *Tel.*
Acacia halkorn. Dulchirram, *Tel.*
Acacia leucophlœa. Velvaila, *Tam.* Tella tuma, *Tel.*
Acacia odoratissima. Caroovangay, *Tam.* Telsoo, also Shinduga, *Tel.*
Acacia serissa. Seet, *Burm.*
Acacia Smithiana.
Acacia speciosa. Velvangay, *Tam.* Ped-dulchirram, also Dirasana, *Tel.*
Acacia stipulata. Seet, *Burm.*
Acacia suma. Tella sundra, *Tel.*
Acacia sundra. Currangally, *Tam.* Nulla sundra, *Tel.*
Acacia vera? Andere, *Sing.*
Acer cultratum.
Adansonia digitata. Papara poolimaram, *Tam.*
Adenanthera pavonina. Kwæ-gyee, also Y-wai-gyee, *Burm.*
Ægle marmelos. Vilvay marum, *Tam.* Oo-Sheet, *Burm.* Maredu, *Tel.* Bael, *Hind.*
Agati grandiflora. Agathy, *Tam.* Pouk-ban, *Burm.*
Agathis loranthifolia.
Aglaia spectabilis.
Ailanthus excelsa. Peru marum, *Tam.*
Alangium decapetalum. Alinjee marum, *Tam.* Udugu, *Tel.*
Albizzia odoratissima.
Alstonia scholaris. Kori, also Kowun, *Can.* Satween, *Mahr.*
Anacardium occidentale. Moontheree Cotty marum, *Tam.* Thub-bam bu, *Burm.* Jidimamidi, *Tel.*
Anacardium latifolium. Bheela, *Hind.*
Ancestrolobus carnea. Zoung ali, *Burm.*
Ancestrolobus mollis. Yin-bya, *Burm.*
Andrachne apetala.
Anissaphyllum Zeylanicum. Welippiyenna, *Sing.*
Anogeissus acuminatus. Paussee, also Panchee, *Tel.*
Anogeissus latifolius. Sheriman, *Tel.*
Aponogeton crispum. Cocatiye, *Sing.*
Aquilaria agallocha. Aglay marum, *Tam.* A-Kyau, *Burm.*
Amoora (Aglaia) rohituca. Kha-yo, *Burm.*
Antidesma paniculata. By-it-zin, *Burm.* Jana palseru, *Tel.*
Areca catechu. Camoogoo, *Tam.*
Armosia dasycarpa. Thit-wa-jee, *Burm.*
Artocarpus integrifolia. Peing-nai, *Burm.*
Artocarpus echinata. Toung Peingnai, *Burm.*
Artocarpus hirsuta. Angelly wood.
Artocarpus pubescens. Aludel, *Sing.*
Artocarpus chaplasha.
Artocarpus *species* of Tavoy. Pyn-ya-the, also Tanabeng, *Burm.*
Artocarpus sylvestris. Ran funnus, *Mahr.*
Atalantia monophylla. Caatyaloo micha maram, *Tam.*
Averrhoa carambola. Zoung-ya, *Burm.*
Azadirachta indica. Margosa, Neem Tree; Vay pum marum, *Tam.* Neem ka jhar, *Hind.* Kama-a-pae, also Them-ba, also Kamakab, *Burm.* Yepa, also Yapa, *Tel.*
Bambusa. Bamboo. Bans, *Hind.*
Barringtonia acutangula. Kyai-tha, *Burm.*
Barringtonia speciosa. Kyai-gyee, *Burm.*
Bassia latifolia.
Bassia longifolia. Elooppa marum, *Tam.* Mee, *Sing.* Ippee, *Tel.*
Bauhinea brachycarpa. Bwai-jin, *Burm.*
Bauhinea parviflora. do.
Bauhinea, *Species.* Pul-i-Shinta, *Tel.*
Bauhinea racemosa. Arree, *Tel.*
Bauhinea dipbylla. Pa-lau, *Burm.*
Bauhinea tomentosa. Petan, *Sing.*
Betula bhojputra.
Berrya ammonilla. Trincomallee wood, *Eng.* Halmilile, *Sing.*
Bignonia, *Species.* Kala-goru, also Chinna kalagoru, also Mokka yepa, *Tel.*
Bignonia chelonoides. Kala-goru, *Tel.*
Bignonia suaveolens. do. *Tel.*
Bignonia quadrilocularis. Wursus, *Mahr.*
Bignonia xylocarpa.
Blackwellia spirale.
Blackwellia perpinqua.
Bombax heptaphyllum.
Borassus flabelliformis. Palmyra tree, *Eng.* Htan, *Burm.* Tal, *Sing.*

Boswellia thurifera.
Bridelia montana. Goonjan murral, *Can.* Assuna, *Mahr.*
Bridelia spinosa.
Bruguiera Rheedii.
Butea frondosa. Pouk, also Pouk-pin, *Burm.* Calukeale, *Sing.* Motku, also Modugu, *Tel.*
Buxus. Box.
Calamus. Canes, Rattans. Kyeing-nee, *Burm.* Bed, *Hind.*
Calophyllum acuminatum. Wal-dombe, *Sing.*
Calophyllum calaba. Gorru-keenee, *Sing.*
Calophyllum longifolium. Thar-ra-bee, *Burm.*
Calysaccion angustifolium.
Calyptranthes cummini. Mahadan, *Sing.*
Calyptranthes cariophyllifolia. Batte dombe, *Sing.*
Calyptranthes jambolana. Alubo, *Sing.*
Cannarium geniculatum.
Canthium didymum. Nulla regoo, *Tel.*
Canthium parviflorum. Balsu, *Tel.*
Capparis aphylla.
Capparis grandis. Reygutti, *Tel.*
Carapa, *Species.* Tai-la-oon, *Burm.* of Tavoy.
Careya arborea. Ban-bwæ, or Baub-wai, *Burm.* Buda-darmee, *Tel.*
Carallia lucida. Keerpa, *Beng.*
Carallia zeylanica. Davette, *Sing.*
Carpinus viminea.
Caryota urens. Kittul, also Nepera, *Sing.*
Cassia florida.
Cassia nodosa.
Cassia Sumatrana. Arramene, *Sing.* Mayalee, *Burm.*
Casearia pentandra. Tha-byai-ywet-kya, *Burm.* Kahatte, *Sing.*
Casearia, *Species.* Peda kal mesura, *Tel.*
Cassia cinnamomum. Dawol Kuroendoo, *Sing.*
Castanea indica. Theet-Khaya, *Burm.*
Castanea martabanica of Tavoy. Norne or Zitha, *Burm.*
Casuarina equisitifolia.
Casuarina muricata. Beef-wood tree, *Eng.* Hten-roo, *Burm.*
Cæsalpinia sappan. Teing-nyet, *Burm.*
Cathartocarpus Roxburghii. Uskiaman, also Urimiddee, *Tel.*
Cedrela toona. Toon marum, *Tam.* Thit-kado, *Burm.* Toon. Tunga, Poma, Jeea.
Cedrus deodara. The deodar, *Eng.* Kelon, *Hind.*
Chaulmoogra odorata.
Chickrassia tabularis. Aglay marum, *Tam.*
Choecarpus pungens. Hedde woke, *Sing.*
Cicca disticha. Nelly, *Sing.*
Cluytia amona.
Cluytia collina. Woadoogoo marum, *Tam.* Koorseya, also Koorse, *Tel.*
Cocos nucifera. Tenna marum, *Tam.* Cocoanut, *Eng.* Narel ka jhar, *Hind.*
Connarus speciosa. Gwai-douk, *Burm.*
Conocarpus latifolia.
Conocarpus robusta. Bai-bya, *Burm.*
Cordia, *new species.* Botku, *Tel.*
Cordia angustifolia. Chinna Botku, *Tel.*
Cordia myxa. Tha-nat, *Burm.* Irkee, also Peda botku, *Tel.*
Cratæva Roxburghii. Ka-dat, *Burm.*
Cupressus torulosa. Cypress.
Cynometra polyandra of Nepaul.
Cynometra, *Species.* Branch-flowered Halmendora, also Galmendora, *Sing.*
Cyrtophyllum fragrans.
Dalbergia frondosa. Yindike, *Burm.* Peda soopara, also Yerra patseroo, *Tel.*
Dalbergia lanceolaria. Nedoon or Nander wood, or Nendoon, *Sing.*
Dalbergia latifolia. Eroopoottoo, *Tam.* Yindike, *Burm.* Jitigee, also Yerroo goodoo, *Tel.*
Dalbergia sissoides. Bitty marum, *Tam.* Yindike, *Burm.*
Dalbergia sissoo. Sissoo, *Tam.* Yindike, *Burm.*
Dalbergia Oojeinensis.
Dillenia augusta. Zinbyewn, *Burm.*
Dillenia scabra. Byew, *Burm.*
Dillenia speciosa. Tha-byew, *Burm.* Peda kalinga, *Tel.*
Dillenia pentagyna. Chinna-kalinga, *Tel.*
Diospyros sylvatica. Nulla kaka mushti, *Tel.*
Diospyros chloroxylon. Ulinda, also Yelinda, *Tel.*
Diospyros racemosa.
Diospyros hirsuta. Calamander or Coromandel. Calu medirye, *Sing.*
Diospyros ebenaster. Ebony, Kudum Berye, *Sing.*
Diospyros melanoxylon. Ebony, Ouk-chin-ya, *Burm.*
Diospyros, *Species.* Muchi-twikee, also Wurungul, *Tel.*
Dipterocarpus alatus. Aing, *Burm.*
Dipterocarpus grandiflora. Ain or Ain-tha or Kunnyan-phin, *Burm.*
Dipterocarpus turbinatus. Horre, *Sing.* Kan-yeen, *Burm.*
Dodonea viscosa.
Dolichampia pomifera. Douk-ya-ma, *Burm.*
Dombeya melanoxylon. St. Helena Ebony.
Echites lanceæfolia. Kiri wala, *Sing.*
Echites scholaris. Book attene, *Sing.*
Ehretia aspera.
Ehretia lœvis. Yen-yai-myouk-myce, *Burm.* Pal dantum, *Tel.*
Ekebergia, *Species* of Goalpara.
Eleocarpus serratus of Ceylon.
Elæodendron integrifolia. Jouk bin, *Burm.*
Elæodendron Roxburghii.
Emblica officinalis. Usraka, *Tel.*
Embryopteris glutinifera. Timbery, *Sing.*
Eriochlæna Hookeriana. Nara Botku, *Tel.*
Erichlæna tilifolia.
Eriobotra japonica.
Erythrina indica.
Euphorbia tirucalli. Manchee jamudu, *Tel.*
Eugenia pulchella. Khway-tha-byai, *Burm.*
Eugenia myrtifolia. Tha-bai-jeen, *Burm.*
Eugenia caryophyllifolium.
Eugenia mallaccensis.
Eugenia jambolana.
Eugenia nervosa.
Eugenia ternifolia. Thab-yew-tha-byai, *Burm.*
Eugenia racemosa.
Eugenia vulgaris. Thab-yai-tha-pan, *Burm.*
Eugenia salicifolia.
Eugenia laurina. Wall-boam-boo, *Sing.*
Excœcaria agallocha. Agallocha wood.
Fagrœa fragrans. A-nan, also Anan-Beng. *Burm.*
Feronia elephantum. Vella marum, *Tam.* H-man, *Burm.*
Ficus cordifolia. Nyoung-gyat, *Burm.*
Ficus Indica. Banyan tree. Bar-ka-jhar, *Hind.* *Tam.* Marree, *Tel.*
Flacourtia sapida. Kanuregu, *Tel.*
Flacourtia montana. Sampga, *Can.* Tambut, also Hudkee.
Fraxinus floribunda.
Fluggea virosa.
Garcinia Cowa.
Garcinia purpurea. Moorghul mara, *Can.* Kokum, *Mahr.*
Gardenia gummifera. Chitla matta, *Tel.*
Gardenia latifolia. Peda karinga, *Tel.*
Gardenia lucida. Garinda, also Tella Manga, *Tel.*
Gardenia, *Species.* Telega, *Tel.*

Geloxium bifarium. Hsai-than-bayah, *Burm.*
Gmelina arborea. Coormmy marum, *Tam.* Kyoon-boe, *Burm.* Goomar tek, *Tel.*
Gordonia floribunda. Theet-ya, *Burm.*
Gordonia integrifolia.
Guaiacum officinale.
Guatteria longifolia.
Guettardia speciosa.
Grewia elastica.
Grewia floribunda. Myat ya, *Burm.*
Grewia Hookerii. Phet woon, *Burm.*
Grewia Rothii. Jana, *Tel.*
Grewia spectabilis. Phet woon, *Burm.*
Grewia tiliæfolia. Tharra, *Tel.*
Grewia paniculata. Huon kirille, *Sing.*
Gyrocarpus Jacquini. Poonkee, *Tel.*
Givotia Rottleriformis. Tella poonkee, *Tel.*
Hæmatoxylon campechianum. Logwood.
Hardwickia binata. Nar yepa, *Tel.*
Heritiera fomes. Soondree.
Heritiera litoralis. Kana zoe, *Burm.*
Heritiera minor. Soondree, *Hind.* Kana-zoo, *Burm.*
Hibiscus macrophylla.
Hibiscus tiliæfolia. Belygobel, *Sing.*
Holugarna longifolia. Holgen, *Can.*
Hopea odorata. Then-gan, also Then-gan-pha-yung, *Burm.*
Hopea floribunda. Than-the-ya, *Burm.*
Hymenodictyon excelsum. Dudippa, also Chetippa, *Tel.*
Indigofera, *Species.* Doun-Daloon, *Burm.*
Illecebrum latrum. Nerrelloo, *Sing.*
Inga dulcis, Coorkapooli marum, *Tam.*
Inga xylocarpa. Iron wood of Pegu, Py-in-ka-doe *Burm.* Boja, also Konda Tangadu, *Tel.*
Inga bijemina. Tau-yew, *Burm.*
Ixora parviflora. Koree, also Koravee Pal, *Tel.*
Jonesia asoca. Deree-ratem-bela, *Sing.*
Juglans regia.
Juglans tricocca. Ta-soung-let-wah. *Burm.*
Juniperus excelsa. Cedar of the Himalayas.
Kydia calycina. Boke-mai-za, *Burm.*
Lagerstræmia microcarpa.
Lagerstræmia parviflora. Chinna-ngee, *Tel.*
Lagerstræmia reginæ. Jarool. *Hind.* Murute, *Sing.*
Lagerstræmia pymmah. Pymmah, *Burm.*
Laurus Camphora. Camphor-wood.
Laurus (sassafras). Hman-Then, *Burm.*
Lawsonia inermis. Marooithanay marum, *Tam.* Dan, *Burm.*
Limonia acidissima. Torelaga, *Tel.*
Maba buxifolia. Nulla muddee, *Tel.*
Mangifera attenuata. Taw-sa-tha-yeet, *Burm.*
Mangifera Indica. Maah marum, *Tam.* Tha-yet, *Burm.* Mango tree, *Eng.* Mamadi, *Tel.*
Melanorrhæa usitata. Varnish tree, *Eng.* Ma-yan, also Theet-see, *Burm.*
Melia azadirachta. Malay Vaimboo, *Tam.* Persian Lilac, Pride of China, Pride of India, Bead tree, *Eng.*
Melicocoa trijuga. Jo-bin, *Burm.*
Memecylon tinctorium. Surpa, *Mahr.* Iron wood of Canara.
Mesua ferrea. Singalese Iron wood tree, *Eng.* Naga keshura, *Burm.* Naw, *Sing.*
Metrosideros vera. Iron wood of China.
Michelia Rheedii. Sumpanghy marum, *Tam.*
Michelia champaca. Sappoo, *Sing.*
Millingtonia simplicifolia.
Mimosa polystachia.
Mimusops elengi. Maghudam marum, *Tam.* also Kha-ya-gang, *Burm.* Moone mal, *Sing.*
Mimusops hexandra. Paloo, *Sing.*
Morinda citrifolia. Noanay marum, *Tam.* Nyau-gyee, *Burm.*
Morinda bracteata. Yai-yoe, *Burm.*
Morinda exserta. Nyau, also Mhau-bin, *Burm.* To-garee Mogillee, also Mogillee, *Tel.*
Morus alba.
Murraya.
Myristica amygdalina. Toung-sag-ga, *Burm.*
Myristica sphærocarpa. Kywai-thwæ, *Burm.*
Myrsine capitellata.
Nauclea cadamba. Vella cadamba, *Tam.* Maoo, *Burm.*
Nauclea cordifolia. Munja cadamba, *Tam.* Puspoo carambe, also Bundaroo, *Tel.*
Nauclea orientalis. Kuta murra, *Can.* Kudum, *Mahr.*
Nauclea parviflora. Helembe, *Sing.*
Nerium antidysentericum.
Nerium tinctorium.
Nepheleum, *species.* Gal morre, *Sing.*
Nyctanthes arbortristis. Tree of Mourning. Hseik-ba-la, *Burm.* Kar-cheea, *Tel.*
Odina wodier. Oodaya marum, *Tam.* Dumparee, also Goompinee, *Tel.*
Olax zeylanica. Melle, *Syng.*
Olea Europea.
Ougeinia dalbergiodes.
Pavia Indica.
Parkia biglobosa.
Pentapterus alata. Keudul, *Can.* Kinjul, *Mahr.*
Pentapterus arjuna. Touk-kyan, *Burm.*
Pentapterus coriacea. Mairtee, *Can.* Aeen, *Mahr.*
Pentapterus glabra. Touk kyan, *Burm.*
Pentapterus tomentosa.
Photinia serratifolia.
Pierardia sapota. Kana-yoe, *Burm.*
Pinus dammara of Tavoy.
Pinus excelsa.
Pinus Latteri. Hten-roo, *Burm.*
Pinus longifolia of Nepal.
Pinus Webbiana of Nepal.
Pistacia integerrima.
Platanus orientalis.
Poinciana elata.
Poinciana regia.
Pongamia atropurpurea. Lagun, of Martaban.
Pongamia glabra. Poonga marum, *Tam.* Karung, *Sing.* Kanigu, *Tel.*
Premna hircina. Chika gambhari, of Goalpara.
Premna mucronata.
Premna tomentosa. Kolcuttay Teak, *Tam.* Naoo-ru, also Nagool, *Tel.*
Prosopis spicigera. Parumbay, *Tam.*
Psidium pyriferum. Coaya marum, *Tam.* Ma-laka, *Burm.* Guava Tree, *Eng.* Jam ka-jhar, *Hind.*
Psidium pomiferum. Coaya marum, *Tam.* Ma-laka, *Burm.* Guava Tree, *Eng.* Jam ka-jhar, *Hind.*
Pterocarpus dalbergioides.
Pterocarpus indicus. "Pa-douk." Toung kha-yai, *Burm.*
Pterocarpus marsupium. Vengay maram, *Tam.* Yeggee, *Tel.*
Pterocarpus santalinus. Sevapoo Sandanum, *Tam.* Chandum, *Tel.* Red sanders wood, *Eng.*
Pterocarpus Wallichii.
Pterospermum Indicum. "Kyabooca."
Pterospermum aceroides. Tha-ma-jam-wai-zoke, *Burm.*
Pterospermum acerifolium. Na-jee. *Burm.*
Pterospermum subacerifolium. Na-jee, *Burm.*
Pterospermum ruberifolium. Velengee, *Sing.*
Putranjiva Roxburghii.
Pygium acuminatum.
Quercus, many species of oak. Tha-heik, also Thae-gha, *Burm.*
Quercus amherstiana.
Quercus dilatata.

Quercus semecarpifolia. Ghese cusroo.
Quercus Tirbbæ.
Quercus fenestrata.
Quercus lanceæfolia.
Randea, *species*. Nulla mauga, *Tel.*
Rhododendron arboreum.
Rhus decipium. Pehim-bive, *Sing.*
Rhizophora decandra.
Rhizophora gymnorrhiza. Pyu, *Burm.* Man-grove.
Ricinus dicocca. Taw-the-din-biu, *Burm.*
Rondeletea tinctoria. Tama-yoke, *Burm.*
Rottlera tetracocca. Kioun-la, *Burm.*
Rottlera tinctoria. Kioun-la, *Burm.*
Salmalia malabarica. Poola marum, *Tam.*
Sandoricum indicum. Theet-to, *Burm.*
Santalum album, Shandasum marum, *Tam.* Sandakoo, *Burm.*
Sapindus acuminata.
Sapindus detergens.
Sapindus emarginatus. Poocheecotay marum, *Tam.* Hseik-khyae, *Burm.* Kankadu, *Tel.*
Sapindus rubiginosa Hseik-khyæ, *Burm.*
Sapota elegenoides.
Schleichera trijuga. Kyet-mouk, *Burm.* Poosku, *Tel.*
Schrebera swietenoides. Makkam, *Tel.*
Sclerostylis atalantoides. Arawee neem, *Tel.*
Scytalea longa.
Scytalea trijuga.
Semecarpus anacardium. Chai-bin, *Burm.*
Sethia indica. Dewi-daree, *Tel.*
Shorea (Vatica) robusta.
Sibia glomerata. Thit-phyew, *Burm.*
Simonia citrifolia, Pamburoo, *Sing.*
Sonneratia acida. Ta-bu, *Burm.*
Sonneratia arapela. Kam-ba-la, *Burm.*
Sophora robusta.
Spoonia? Tellakaka mushtee, *Tel.* appears to be the Celtis Wightii of Wight's Icones.
Soymida febrifuga. Shem marum or Shourkullie marum, *Tam.* Soome, *Tel.*
Spathodea longifolia. Daanga, *Sing.*
Spathodea Roxburghii. Burray kala goru, *Tel. Hind.*
Sterculia fœtida. Peenary marum, *Tam.* Letkhoke, *Burm.* Telemboo, *Sing.*
Sterculia guttata.
Stereospermum chelonoides.
Stereospermum suaveolens. Padri marum, *Tam.*
Strychnos nux vomica. Yetti marum, *Tam.* Poison-nut, *Eng.* Kha boung, *Burm.* Mushtee or Musadee, *Tel.*
Strychnos potatorum. Taita marum. *Tam.* Clearing-nut, *Eng.* Chilla, *Tel.*
Stylocoryne Webera. Komee, *Tel.*
Swietenia chickrassia. Nga-bai, *Burm.*
Swietenia chloroxylon. Shodawah porsh, *Tam.* Bilugu, *Tel.* Satin-wood.
Swietenia mahogani. Mahogany marum, *Tam.* Mahogany tree.
Syndesmus tavoyana. Kee-tha, *Burm.*
Syzygium jambolanum. Nawel marum, *Tam.* Nerar, *Tel.*
Symplocos floribunda, of Nepal.
Tamarindus indica. Poolia marum, *Tam.* Chinta, *Tel.* Amlee ka Jhar, *Hind.* Tamarind tree.
Tamarix orientalis. Tamarisk.
Taxus baccata.
Taxus virgata. Dheyn, also Lolsi of Nepal.
Tectona grandis. Teak marum, *Tam.* Ky-won, *Burm.* Tek, *Tel.* Teak-tree. Sagwan ka Jhar, *Hind.*
Tectona Hamiltonii.
Tectona ternifolia. Ta-Hat, *Burm.*
Terminalia alata. Marudum marum, *Tam.*
Terminalia arjuna.

TIMBER.

Terminalia belerica. Cattoo eloopæ marum, *Tam.* Bau-kha, also Pan gah, *Burm.* Thaudree, *Tel.*
Terminalia Berryi. Vella murda marum, *Tam.*
Terminalia citrina.
Terminalia catappa. Natvadom cottay, *Tam.* Badama, *Tel.*
Terminalia chebula. Pillay murda, or Kadookou, *Tam* Kya-zoo, also Ka-yoo-bin, *Burm.* Karaka, *Tel.*
Terminalia coriacea. Nulla maddie, *Tel.*
Terminalia glabra. Curry murda marum, *Tam.* Tella maddie, *Tel.*
Terminalia tomentosa. Nalla maddee, *Tel.*
Terminalia violata. Lai-bwai, *Burm.*
Ternstrœmia of Tavoy. Puzzeen zina, *Burm.*
Thespesia populnea. Poorsungkai marum, *Tam.*
Ulmus alternifolia. Tha-lai, *Burm.*
Ulmus campestris.
Ulmus erosa.
Ulmus integrifolia. Tha-la, *Burm.* Namillee, also Nowlee, *Tel.*
Uvaria tomentosa. Peda chilka dudugu, *Tel.*
Vachellia Farnesiana.
Vateria lanceolata.
Vateria lanceæfolia.
Vateria indica. Pynie, *Tam.* Hal, *Sing.* Pynee Tree. *Eng.*
Visenia umbellata.
Vitex altissima.
Vitex arborea. Htouk-shah, *Burm.* Nowlee eragoo, *Tel.*
Vitex trifoliata. Caha milile; Meean Milile and Sapoo milile, *Sing.*
Vitmannia trifoliata. Samedera, *Sing.*
Webera cerifera. Tarrene, *Sing.*
Walsura piscoidea. Joebae, *Burm.*
Wrightia coccinea.
Wrightia antidysenterica. Veppaula marum, *Tam.*
Wrightia tinctoria. Palay marum, *Tam.* Tedlapal, *Tel.*
Xanthophyllum, *Species*, of Martaban. Sa-phew, Choo-moo-na. *Burm.*
Xylocarpus, *Species*. Keannan of Tavoy.
Zalacca edulis.
Zizyphus glabrata.
Zizyphus jujuba. Yellanday marum, *Tam.* Hysee, *Burm.* Renga, *Tel.*

The trees enumerated above belong principally to the following Natural Orders of plants, viz. :

Alangieæ.	Ericaceæ.	Rhizophoreæ.
Anonaceæ.	Euphorbiaceæ.	Rosaceæ.
Apocynaceæ.	Flacourtianeæ.	Rubiaceæ.
Areceæ.	Guttiferæ.	Salicariæ.
Aurantiaceæ.	Lauraceæ.	Sapindaceæ.
Bignoniaceæ.	Leguminosæ.	Sapotaceæ.
Bombaceæ.	Lepidocaryeæ.	Sterculiaceæ.
Borasseæ.	Loganiaceæ.	Styracaceæ.
Byttneriaceæ.	Magnoliaceæ.	Tamariscineæ.
Cedrelaceæ.	Malvaceæ.	Taxaceæ.
Cocoeæ.	Memecyleæ.	Terebinthaceæ.
Combretaceæ.	Moreæ.	Tiliaceæ.
Cordiaceæ.	Myrsineaceæ.	Ulmaceæ.
Dilleniaceæ.	Myrtaceæ.	Verbenaceæ.
Dipterocarpeæ.	Olacineæ.	Zanthoxylaceæ.

—*Drs. Wight and Cleghorn in Madras Exhibition Juries' Reports. Dr. Cleghorn, Punjab Report. Powell, Hand-book for the Punjab. Dr. J. L. Stewart, Punjab Plants. Dr. Mason, Tenasserim, Dr. McClelland Pegu Forests. Holtzappfel. Tomlinson. Cat. Ex.* 1851 ; *Cat. Ex.* 1862. *Barlow on the Strength of Timber. Mr. Adrian Mendis Master Carpenter Colom-*

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142

bo Government. Central Museum Madras. Mysore Museum. McCulloch Commercial Dictionary. Tredgold.

TIMBAR, also timaru, timbr, timber, timmal, timru, HIND. Xanthoxylon hostile.

TIMBERRI. SINGH. Embryopteris glutinifera, *Roxb.*

TIMBUL. PANJ. Ficus macrophylla, *Clegh.*

TIMBURNI, also Timru, MAR. Diospyros montana.

TIM-CHORNAM, TAM. the red mark, made of flour and turmeric, or of safflower, on the foreheads of hindus.

TIMMAH. JAV. Tin.

TIMMAL. HIND. Xanthoxylun hostile.

TIMMA RAJA VADIYAR. See Mysore.

TIMMUE of Nepal. Cubebs, Piper cubeba.

TIMMUN. MALAY. Cucumis sativus.

TIMOKO. For the hilts and sheaths of krises, the natives make use of the "timoko," of Java, of which the black and white variegated fragments are called "pelet." There are various kinds.

TIMOR. An island of 249 miles in extent, from lat. 10° 23′ S. to lat. 8° 21′ S., and long. 127° 15′ E. to long. 123° 30′ E. It is formed of high undulating mountains in the interior, though near the sea it is of moderate elevation. The Portuguese settlement of Dieli or Diely, is in lat. 8° 34′ S. and long. 125° 40′ E., and on the north side of the island. Amanoubang is an independent territory situated towards the south-west end of Timor, immediately to the eastward of the Dutch territory of Coepang. Its limits are unknown, and probably vary as the power of the chief becomes increased or diminished. It is the best organized and most powerful of all the petty states of Timor, and is the only one that can give uneasiness to the Europeans whose establishments are scattered along the north-west coasts of the island. About the year 1830, the chief of this territory took offence at some act of aggression on the part of the Resident of Coepang, the principal settlement of the Dutch on Timor, and kept that town in a constant state of alarm by incursions of horse-men armed with spears, and mounted on the small but hardy horses of the country, cutting off the supplies, and killing or carrying away the inhabitants from the very skirts of the town, until means were found to appease his hostility. The Bay of Amanoubang, the "Bay of the Pearl Bank" of the charts, is a deep bight situated 45 miles to the eastward of Point Ousina, the S. W. extreme of Timor. It is bounded by Butu Puteh, a steep white rocky head-land, 800 feet high, on the west, and Point Oubelow on the east. The head of the bight consists of low-land, covered with the "tuak" or Lontar Palm. The chief trading port of the territory is Outouke, about 15 miles to the east of Point Oubelou.

Timor is a word which means the east, and was probably imposed on this island by the Malays, to whose language it belongs, because this was the extreme limit of their ordinary commercial voyages to the south-east. Timor is about three times the extent of Jamaica. Its principal inhabitants are of the Malayan race, but it contains also Papuans or Negroes, and tribes of the intermediate race. The two languages of Timor are the Manatoto, and the Timori, the first spoken at the north-east end of the island, and the last used by many of the tribes as a common medium of intercourse. No alphabet has ever been invented in Timor; but judging by the specimens of its languages, the vowels are the same as those of the Malay and Javanese. From Timor to New Guinea, there runs a long chain of islets, forming, as it were, a wall or barrier to the south-eastern portion of the Archipelago. In these islets the inhabitants are of the same race with the Malays, and speak many languages. In the south-eastern parts of the Indian Archipelago, where opportunities of social intercourse between the various petty tribes are of rare occurrence, every island, every detached group of villages, has its own peculiar dialect, which is often unintelligible even to the tribes in its immediate neighbourhood. In some of the larger of these islands, Timor for example, these tribes are so numerous, and the country occupied by many of them so extensive, that it becomes impossible to form even an approximate estimate of their number. Of one language, the prevailing one, among several languages of the island of Kisa, one of the Sarawati group in the chain of islets already mentioned, Mr. Earl furnished a curious and instructive vocabulary of 330 words. The Kisa is an unwritten tongue, but its vowels are the same as those of the Malay and Javanese.

The Spice Islands, in the Molucca and Banda seas consist of many islands and numerous languages. Mr. R. Wallace says that Timor is occupied by tribes much nearer to the true Papuan than those of the Moluccas. The Timorese are dusky brown or blackish, with bushy frizzled hair, and the long Papuan nose. They are of medium height and of rather slender figure. They are said to be great thieves; the tribes are constantly at war with each other, but they are not very courageous or blood thirsty. They reverence the custom of "Tabu," which they call "pomali" and a palm across a door indi-

cates that the ceremony has been performed. In their excitable disposition, loud voices and fearless demeanour, the Timorese closely resemble the Papuan people of New Guinea. In the islands west of Timor, as far as Flores and Sandalwood island, a very similar race is found, which also extends eastward to Timor Laut, where the true Papuan race begins to appear. Timor is about 60 miles broad, and seems to form the N. E. end of the great range of volcanic islands, which extends N. E. and S. W. from Timor to Sumatra. It has only one active volcano, Timor Peak, near the centre of the island, which was blown up during an eruption in 1638, and has since been quiescent. Coepang in the west end of the island is the chief Dutch town, and Delli, in the eastern part of the island is the capital of the Portuguese possessions. There is nothing that could be called a forest and the whole country has a parched and dry appearance. There are Malays and Chinese, but the native Timorese preponderate and have nothing in common with the Malays, but are much more closely allied to the true Papuans of the Aru Islands and New Guinea. They are of the Papuan type, all have pronounced features, large, somewhat aquiline, noses, and frizzly hair. The women talk to each other and to the men with loud voices and with a self-asserting, quite different from Malay women. The mountaineers of Timor are a people of Papuan type, have rather slender forms, bushy frizzled hair, and the skin of a dusky brown colour. They have the long,somewhat aquiline nose,with the overhanging apex, which is so characteristic of the Papuan, and so absolutely unknown among races of Malayan origin on the coast. There has been an admixture of Malay, perhaps of hindoo as well as of Portuguese, and the coast occupants have wavy and frizzled hair, a lower stature with less prominent features, and the houses are built from the ground. The houses of the Papuan mountaineers are raised on posts. The dead of the Papuan Timorese are laid on a stage six or eight feet above the ground, sometimes open sometimes covered, and are retained there till money for a feast can be obtained, when they are burned. The "Pomali" exactly resembling the Taboo of the Pacific is in full operation here, and a few palm leaves stuck outside of a garden will preserve it from any thief. The people of the neighbouring island of Semao, are like those of Timor, with frizzly or wavy hair, and a coppery brown colour. Amongst the birds of Timor few are ornamental: there are Platycercus vulneratus, a green species of Geoffroyus; Tropidorhynchus Timorensis; Ptilonopus cinctus, a white headed pigeon; the pretty little lorikeet, Trichoglossus enteles, and T. iris; Sphæcothera viridis, a green Oriole; and the red Cyornis hyacinthina. Of the butterflies, Papilio ænomaus and P. liris, the swallow tailed butterflies occur, also Cethosia Leschenaultii; and several Pieridæ. Small quantities of copper and gold are found. The land mammals in Timor are only seven in number, Macacus cynomolgus, common all over the Indo-Malayan Archipelago; Paradoxurus fasciatus, a civet cat; Felis megalotis, a tiger cat; CervusTimoriensis; Sorex tenuis, and Cuscus orientalis. The S. E. coast near mount Allas is occupied by the Papuan race with frizzled hair in tufts on the head. Mr. Earl says that some of the people on the table land back of Dieli, have opaque yellow complexions with hair of a reddish or dark auburn colour, and that the hair of others is straight, fine, and of a reddish hue, and that every intermediate variety of hue and complexion between this and the black or deep chocolate colour and the short tufted hair of the mountain Papuan is found in Timor, and it is possible that the races are there mixing as its position is next to Papua.

In the Malayan Miscellanies, published under the auspices of Sir Stamford Raffles, at Bencoolen, in 1820, lists of two languages of Timor, and of the languages of the two small islands at its western end, Rotti and Savu, are given, amounting each to 95 words. —*Bikmore*, 116. *Wallace I*, 184 *to* 211. *Earl.*

TIMOR LAUT or the Tenimber islands, form a group which consists of the large island of Timor Laut, the islands of Larat and Virdati, and the numerous small low lands fronting its northern side. The inhabitants of the south-western part of Timor, in the neighbourhood of Coepang, are an exceedingly dark, coarse-haired people, and travellers have great difficulty in coming to a conclusion as to whether they belong to the Malayan or Papuan races, so equally balanced are their characteristics. The anonymous author of an excellent "account of Timor, Rotti, Savu, Solor, &c.," in Moor's "Notices of the Indian Archipelago," seems to have fallen into this state of perplexity; and as his observations are evidently the result of long experience at Coepang and its neighbourhood, the following are a few short extracts which bear upon the point. The natives are generally of a very dark colour, with frizzled, bushy hair, but less inclining to the Papuans than the natives of Ende (on the island of Flores.) They are below the middle size, and rather slight in figure. In countenance they more nearly resemble the South Sea islanders than any of the Malay tribes. Timor Laut means Timor of the Sea, or the Eastern Timor.—

Mr. G. W. Earl, p. 180 *to* 181. *Bikmore, p.* 127.

TIMOR ROTTO. See Rotto.

TIMUN-BIJI-MINIAK. MALAY. Cucumber seed oil.

TIMUNI. A tribe of the Aimak. The Char Aimak consist of four peoples, the Timuni, Teimeni, Feroz Kohi and Jamshidi, all of them of Iranian origin and all speaking Persian. The Timuni dwell at Gorian and Kuli, are seen on the western boundary of Herat, and in the villages and towns situated east of Iran, from Tarbat Shaik's Jam as far as Khaf. About a thousand of their families dwell near Herat. The Teimeni dwell in the Jolgha-i-Herat, from Kerrukh to Sabzwar, the few who have extended to Farrah being styled by the Afghans Parsivan. Each member of the Char Aimak knows no greater enemy than the Afghan, and all attempts to form Afghan colonies amongst them have failed. The Teimeni are of a wild nature. See Aimak; Char-Aimak.

TIMUR, also known as Timurlang or Timur the lame, changed in Europe to Tamarlane, was born at the village of Sabzwar, (Kesh or Shahr sabz?) forty miles from Samarcand. He was of one of those races of high Asia, to whom in Europe the general name of Turk has been given. One writer describes him as an Uzbek Tartar, Latham describes him as a Turk, and says, whatever the Mongols were elsewhere, the Moguls of India were Tshagatai Turk. They affected a Mongol lineage, just as Timur professed a descent from Tshingis; whilst the Tshagatai tribe to which he belonged took its name from Tshingis's huntsman, Zagatai, and, he believes, that Tshingis himself connected his line with the Mantshus. At any rate his Mongol son bore the name of a Mantshu predecessor. Again, he professed descent from a virgin. So did Apaoki and Kitan, both Mantshus, before him. He is also said to have been a descendant of Changis Khan. Also, the most famous of his ancestors was said to be Karachar Nevian, or Teragay Nevian, the minister of Zagatai or Chagatai, and the first convert to Islamism amongst the wild conquerors. In his memoirs written by himself, he says, "my father told me that we were descendants from Abu-ul-Atrak (father of the Turks), the son of Japhet." His father is described as a chief who commanded 10,000 horse. The country between the rivers Oxus and Jaxartes, known to the Arabs as Mawur-ul-nahar, had fallen to the share of Zagatai, on the death of his father Chengis Khan in 1227, and the land had been ruled by his descendants for more than a century, when Timur was born in 1337; but each succeeding sultan of Mawur-ul-nahar had become more degenerate, and more contemptible than his predecessor, under the insolent independence of powerful vassals. Timur succeeded in attaining supreme power. At the age of 34 he ascended the throne of Samarcand and made himself master of Central Asia. After subduing Persia, Mesopotamia and Tartary, Timur turned his arms (in 1397) against Hindostan. He sent his grandson, Pir Mahomed, to invade India, and joined him on the 12th September 1398 with 92 squadrons of horse. Like Julius Cæsar, he has recorded his own exploits in his work, "Timur Khan's Political and Military Institutions," which was translated into Persian by Abu Talib, and from the Persian into English by Major Davy. "I ordered," he relates, "1,000 swift-footed camels, 1,000 swift-footed horses, and 1,000 chosen infantry to march, and bring me information respecting the princes of India. I learned that Tonktumish Khan had been defeated by Auroos Khan, and sought assistance from me. Received information that the princes of India were at variance with each other; that Mahmud in Delhi, Mulloo in Lahore, and Sanring in Multan, were hostilely disposed towards each other. The conquest appeared to me to be easy, though my soldiers thought it was dangerous. Resolved to undertake it, and to make myself master of the Indian empire, did so. Received then the news that the Emperor in Rome had invaded my western provinces, and that the people of Georgia had conquered some of my fortresses in that country. Then I thought, if I pursue my conquests in India, Eran may revolt; therefore, I regulated my kingdom in Hindoostan, and marched from that country against the Roman emperor, whose provinces I conquered."

In his expedition to India, Bhatnair surrendered on terms, but they burned it to the ground. Timur then marched against Delhi; in December he had come under its walls and he defeated and dethroned the emperor Mahmud there, and a great massacre ensued. Timur then ordered a general massacre of Meerut, and in March 1399 he recrossed the Indus. Bhatnair, Ahruni, Fattahabad and Tohana all suffered at Timur's hands. Sirsa (Sirsooti) also was attacked and plundered. Those whom he carried into slavery formed a number so large as to overstock the slave-market at Samarcand, and sell at two rupees the head; among them were many of the wives and children of a proud aristocracy. His soldiers are said to have had a hundred and fifty slaves, and soldiers' boys had twenty slaves to their own share. Timur

in his route from Kabul towards Hindoostan, according to Sherif-ud-din, went by way of Irjal, Shenuzan, Nughz, Banou, (or Bunnoo), and thence to the Indus, at the very place where Jelal-ud-din, king of Kharazm, fought with Chengis Khan, and so heroically swam the river after his defeat in 1221. Timur crossed an extensive desert in his way to Bhatnair, but on his return from the banks of the Ganges, he proceeded to the north-west, along the foot of the Sewalik mountains, by Meliapur, Jullindhur, and Jummoo, to the Indus, which he crossed at the same place as before, and in the same manner; and returned to Samarcand by way of Bunnoo or Banou, Nughz or Nagaz, Kabul, Bacalan, and Termed. On his return to Samarcand, his first piece of justice was inflicted upon Dina, a chief magistrate, who, as is related, was the greatest officer in all the land of Samarcand. Timur had left him in the city as his magistrate when he departed, for six years and eleven months; during which time this man had neglected his duties; so Timur ordered him to be hanged and confiscated all his goods. The justice inflicted upon this great man, caused terror amongst the people, and the same punishment was ordered to be inflicted upon another man, who had interceded for this magistrate. A councillor named Burado Meerza, asked for his pardon if he paid a sum of four hundred thousand bezants of silver, each bezant being equal to a silver real. Timur approved of this and when the man had given all he had, he was tormented to give more; and as he had no more, he was hung up by the feet until he was dead. Another piece of justice was inflicted upon a great man, who had been left in charge of three thousand horses, when Timur departed, and because he could not produce them all, he was hanged, although he pleaded that he would produce, not only three thousand, but six thousand horses, if he would give him time. He also ordered justice to be executed upon certain traders who had sold meat for more than it was worth, and upon shoemakers; and other traders were fined for selling their goods at a high price. The custom was, that when a great man is put to death, he is hanged, but the meaner sort were beheaded. On the 8th of January 1405, to invade China, he marched out of Samarcand, in a heavy fall of snow, and crossing the Jaxartes upon the ice he encamped at a place called Otrar. In February he was attacked by fever and ague, and he died on the 17th of that month, in the year 1405, aged sixty-nine, leaving thirty-six male descendants. Timur's body was embalmed with musk and rose-water, wrapped in linen, laid in an ebony coffin, and sent to Samarcand, where it was buried. Mirkhond mentions that he was subject to very severe attacks of illness: which not unfrequently succeeded to any sudden change from violent motion in the field to perfect domestic repose. Malcolm, in his history of Persia, thus sums up the character of Timur. "Though one of the greatest of warriors, he was one of the worst of monarchs. He was able, brave, and generous; but ambitious, cruel, and oppressive." His native language was the "Zagatai Toorki," which at that time prevailed from the Ulugh Tagh mountains to the Hindoo Koosh, and from the Caspian to the Cobi desert. On the death of Timur his vast empire soon fell to pieces; yet the greatest and best princes that ever reigned in mahomedan countries, were the descendants of Timur, who ruled in India until the year 1805, though only nominally, from the first years of the nineteenth century, and in 1857, by joining in a rebellion against the British, they made a final effort to regain supremacy, and the last emperor at Delhi was exiled to Rangoon in Burmah, where he died in 1862. The house of Timur and particularly that of Baber, Akbar and Jehangir, brought many of the trees of their native countries into India. Baber, whenever he found leisure in the midst of his active life, diversified with multitudinous vicissitudes, formed a garden. Akbar followed up the plans of Baber, and introduced the gardeners of Persia and Tartary, who succeeded with many of their fruits, as peaches, almonds, (both indigenous to Rajapootana,) pistachios, &c. To Jehangir's commentaries we owe the knowledge that tobacco was introduced into India in his reign; but in later years, the British have introduced cinchona, many of the acacias, the eucalypti, discovered the tea plant, introduced Sorghum saccharatum and Divi-divi and the Musa textilis, or Manilla hemp, was brought by Sir George Balfour from the Eastern Archipelago. Multitudes of exotic flowering plants have been introduced into India. The princes of the illustrious house of Timur, though despots by birth and education, present a more remarkable succession of great characters, historians, statesmen, and warriors, than any contemporaneous dynasty in any region of the world.—*Tod's Rajasthan. Outram and Havelock*, p. 60. *Markham's Embassy. vol.* xiii. *p.* 125, 150. *Latham's Nationalities of Europe, vol.* ii. *p.* 4. *Elliot's Supplemental Glossary. Yule Cathay I. p.* 135. *Bjornstjerna's British Empire in the East, p.* 97. *Ferrier Caravan Journeys, p.* 5. *Rennell's Memoir, pages* 112 *to* 121. See Afghan, India, Khiva, Khanat, Khiraj, Kandahar, Kesh.

TIN.

Ressas, Abrus,	AR.	Banda Stagnata,	IT.
Khai ma phyu	BURM.	Timmah,	JAV.
Yang-seih,	CHIN.	Staunum,	LAT.
Tin,	DUT.	Timah,	MALAY.
Etain	FR.	T. putch.	,,
Ferblanc	,,	T. sari,	,,
Bleck,	GER	Kalang,	,,
Weissblech,	,,	Falagh,	MALEAL.
Zinn	,,	Urziz,	PERS.
Kullai : Ranga,	GUZ.	Shest ;	RUS.
Kuthail,	,,	Blacha,	,,
Bedel,	HEB.	Trapu,	SANS.
Kallai, Ranga,	HIND.	Hoja de lata,	SP.
Kathel,	,,	Tagaram,	TAM.
Latta,	IT	Kalai,	TURK.

Tin is one of those metals which were earliest known, though it occurs in comparatively few countries, and though it does not occur in the native state, the acquaintance of the ancients with this metal is accounted for by the circumstances that the ore is found frequently near the surface, and is easily reduced by charcoal and a moderate degree of heat to the state of metal. Tin is found in England, Saxony, Bohemia, Hungary, in Chili, Mexico, the Isle of Banca, the Peninsula of Malacca, and Malacca furnishes the purest tin, and Cornwall the largest quantity. Tin occurs in two states of combination, the peroxide and double sulphuret of tin and copper : the latter is rather a rare substance, and it is from the former that the metal is almost entirely obtained. The peroxide of tin is found —1. In veins where it is intimately mixed with several other metals, as arsenic, copper, zinc, and tungsten : this is common tinstone. 2. In loose rounded masses, grains, or sand in alluvial soil, in which state it is called Stream-Tin. The former, when reduced to the metallic state, yields Block-Tin ; while the latter yields Grain-Tin, which is the purer of the two, and it is brought into commerce in these two forms. Wood-Tin is in reniform and botryoidal masses, or in wedge-shaped pieces, which have arisen from their partial destruction : the surfaces are generally water-worn. Stream-Tin has evidently been derived from the destruction of tin veins or lodes, the lighter portions of stony matter having been carried away by the water, which has rounded the fragments of the ore. Tin is mentioned by Moses under the name Bedel ; it was used by the Egyptians. The Greeks and Romans obtained it through the Phœnicians from England. It abounds in the Eastern Archipelago, from Mergui to the island of Banca, and is known in commerce as Malacca Tin and Banca Tin ; but to these Mergui Tin has lately been added, and it is now known to exist in large quantities in Borneo and other islands. Tin with the Egyptians formed an ingredient in some of their metallic compounds for hardening copper, and they used the alloy for forming swords and spear heads, and its use has long been familiar to the hindoos for forming various metallurgical compounds, as well as for tinning copper, and for various compounds with copper and tin, which are remarkable for their hardness, and for the fine sounds which they emit on being struck. Dr. Wight found that an alloy of ten grains of copper to two and a half grains of tin was the best mixture which a native made in his presence. British spear heads are found to consist of one of tin to ten of copper, and a knife, of one of tin to seven and a half of copper. Mr. Aikin found that eight grains of copper to one of tin formed the hardest alloy. Within the limits of the British province of Malacca are several productive mines of tin and gold, which are worked by thousands of Chinese and Malay miners. But the principal mines of both gold and tin exist in and about Mount Ophir. The depth of the gold mines is from 70 to 200 feet, and the process of pounding the rock and washing the gold dust is simple and rude. The tin is worked in the lowlands at the depth of a few feet, and some of the ores are so rich, that they contain about 80 per cent. of the metal. The whole Malayan Peninsula, from Perak and Queda (Kedah) on the north to the islands of Carimon and Banca, which were once probably connected with the main land, in the south, is one rich deposit of tin. Tin is found in the alluvium at the base of the mountains to the eastward towards Edelgashena. It is abundant in the Tenasserim Provinces, commencing from the mountains in which the Tavoy and Henzai rivers have their rise, the northern limit of tin in the Provinces, to the southern boundary of Mergui, Pakchan river. The richest locality in the province of Tavoy is nearly opposite the city of Tavoy on the eastern side of the mountains. That large quantities of tin must have been taken from Tavoy three hundred years ago, we have evidence in an incidental remark from Mr. Ralph Fitch, who, says Mr. Hough in the Maulmain Chronicle, "travelled in this part of the world in about the year 1586, or 1587." He says : "I went from Pegu to Malacca, passing many of the sea ports of Pegu as Martaban, the Island of Tavi whence all India is supplied with tin, Tenasserim, the island of Junk Ceylon, and many others." Captain Tremenhere found the richest deposit of tin in the provinces, at Kahan on Mergui Island, about eleven miles above the town, and near the Tenasserim river. Kahan itself, he writes, is the highest portion of a low ridge of hills, not more than 200 feet above the level of the river : it is composed of a soft

friable white sandstone rock, the upper portions of which are decomposed and irregular. The surface gravel does not contain tin. It is found in the crystallized form interspersed in decomposed granite, forming a vein about three feet wide, which is enclosed by the white sandstone rock, and dips down at a high angle with the horizon. Large scales of chlorite occur with it, which, as they are generally found where the tin is most abundant, is called by the natives 'the mother of tin.' The face of the hill is in one spot scattered over with these, which appear to have been brought down from the vein with other matter from which the tin has been separated by the usual mode of washing. The granite is completely decomposed, and the crystals are easily separated by washing. It was worked during the Burmese rule, and valued as supplying the richest ore of tin. A Burmese residing near the spot, pointed out the place where his operations had ceased. He stated that he had procured considerable quantities of tin daily, and that he often found it in large masses mixed with yellow ground. The crystallized form in which the ore is here found renders its separation extremely easy, and the whole processes of stamping and dressing, which in England are tedious and expensive operations, can thus be dispensed with. No arsenic or sulphur being mixed with the ore, it need not be roasted before it is placed in the furnace. This contains specimens of macled crystals, which in weight and size surpass any thing ever seen in Cornwall, or in cabinet specimens, and containing more tin in proportion to the bulking than any specimens before seen. The largest, which measured about fourteen inches square by twelve deep, was so heavy, as to require some exertion to hold it steady in both hands. Captain Tremenhere transmitted a box of average samples of the ore, to a smelting establishment in Cornwall, having extensive connection with the tin mines of that country. These samples of once-washed ore produced about 70 per cent. of tin, and the twice-washed yielded nearly 75 per cent. The metal very good, almost free from alloy : some of the samples from the Malayan peninsula contain titanium. The consumption of tin throughout the world increases so slowly, there is little inducement to speculate in tin mines. The produce of Cornwall is 6,000 tons per annum, and the quantity produced at Java together with what is raised in the Malayan peninsula, will rather exceed the produce of Cornwall. The average price of tin in Cornwall has been about 72*s.* per cwt., but it falls as low as 56*s.*, which is the present price of the best Straits tin, and tin mines are suffering greatly from the depreciation in the value of their metal.

The tin-ore of India and of the Archipelago is the same as that of Cornwall. It is the ordinary tin-stone, or binoxide of tin. It occurs in veins, and also in rounded masses or grains. It is often beautifully crystallized, interspersed with decomposing granite, and is generally free from sulphur and arsenic. At the two extremities of the Peninsular zone of elevation, Junk-ceylon and Banka, tin sand is diffused in such quantity that its collection has never had any other limit than the number of persons employed in it. In Junk-ceylon and Phunga, under a barbarous government, about 13,000 piculs are annually dug out of the soil. But in Banka, without any improvement on the usual Chinese modes of excavating, washing and smelting, the production increased from 25,000 piculs in 1812, when it was a British possession, to 60,000 piculs.

At numerous intermediate localities throughout the Peninsula tin is obtained, and from the robberies and massacres which from time to time terrify and scatter the little communities of needy Chinese, in whose hands it has remained, the wonder is that so much metal should find its way to the market. In the Siamese countries north of Kedah and in Kedah itself, it is sparingly extracted. From Perak 9,000 peculs per annum were formerly exported, but the produce has now greatly diminished owing to the miserable state of the country. Salangor and adjacent inland states yield about 9,000 piculs. The eastern countries from Kalantan to Phang yield about 11,000 peculs. The present produce of the whole peninsula, including Sinkep and Linga, the only two islands of the Johore Archipelago where it is now sought for, is probably above 40,000 peculs. The peninsular range, therefore, including Banka, yields upwards of 100,000 peculs, so that it equals or exceeds that of Cornwall (6,000 tons).

The annual importation of tin from these mines to Singapore is, on the average, as follows :—

Tringanu	150 peculs	or	178	cwt.
Pattani	100	„	118	„
Johore	250	„	296	„
Lauvan	2,000	„	2,375	„
Lingie	1,000	„	1,187½	„
Pahang	3,000	„	3,562½	„
Kassang	3,000	„	3,562½	„

The tin of Siam is worked in the provinces of Xa-lang, Xai-ja, Xamphon, Rapri, and Rak-Bhrek.

Tin mines of Larut, or as they are called, klians, in the Malayan peninsula, are about 100 averaging 60 or 70 feet in depth, and 700

feet in circumference. There were in 1867, 12,000 Chinese at work, earning 5 to 6 dollars monthly. In their superstition, no one is allowed to go near the water wheel with his shoes on, or with an open umbrella. The mines at Cassang near Malacca, north of Ayer panas, cover a space of five or six miles. Since the Chinese began to work them in 1844, their produce increased from 146 peculs to 12,000 peculs in 1852.

The Malay and Javanese term for tin, "timah," is a word used in the Archipelago as a generic term for both tin and lead, the epithet "white," or "flowery,"—"putih" and "sari," being given to tin itself, and that of "black," "itam," to lead, a metal with which, being entirely a foreign product, the Malayan nations are but little acquainted. What may be called the Malayan tin district, or tin field, is, beyond all comparison, the most extensive and the richest in the world, for it stretches from Tavoy in the 14° of north latitude, to Billiton, in the 3° of south latitude, that is, over seventeen degrees of latitude, and ten of longitude. Tin has been found or worked in a great many localities within these wide bounds, as in the British territory of the Tenasserim coast,—in the Siamese island of Junk-Ceylon,—in various parts of the continental territories of the Malayan states, and in several of the islands at the eastern end of the Straits of Malacca. The ore would seem only to become the more abundant as it approaches its termination at Banca and Billiton. The localities richest in tin are ascertained to be those near the junction of the sandstone with the granite, and all the countries rich in tin are also observed to be so in iron. All the ore heretofore worked, it should be noticed, has been found in the alluvium, or detritus of ancient mountains,—what is called in mining language "stream-works,"—obtained, in fact, by washing the soil in the same manner as, for the most part, gold in Australia and California; for no ore has ever been obtained by mining the rock containing veins of it, although it has been traced to them. The greater part of the tin district is covered with an immense forest, and has not been explored. The supply of tin from the Malayan countries promises to last for at least as many ages as that of the coal of England. In the beginning of the present century, the quantity yielded by Banca did not exceed 560 tons, and increasing yearly, in the middle of the century it is not less than 5540 tons. Yet the mines of Banca have now been worked for near a century and a half, being stated to have been first discovered only in the first year of the eighteenth century. The tin mines of Malacca were not worked at all, until as late as 1793, and not effectually by Chinese until 1840, but in 1840 they yielded, paying a seignorage of a tenth to the state, better than 250 tons. The production in the neighbouring Malay states had also greatly increased, so that the whole quantity exported from Malacca amounted in that year to above 960 tons. Mr. Logan estimates the whole quantity produced in the Malay peninsula at about 2350 tons, exclusive of the produce of the Siamese territory; and when this is added to the produce of Banca, namely 5540 tons, we have an aggregate annual yield of 7890 tons, or, making but a moderate allowance for the produce of the Siamese mines, of which we have no estimate, probably not less than double the amount of the tin of Cornwall. Probably, not less than five-sixths of this amount have been brought into existence in the course of the present century. The price has not fallen with this new supply to the market, and, as in the case of the gold of California and Australia, it may be asked how this has happened, and the answer must be the same, that new sources of consumption have been found, increased wealth and population keeping the demand equal to the supply. The tin found in the island of Banca is very abundant and of a pure quality. It is cast into ingots weighing from 20 to 60 lbs; the purity of these bars is superior to those from the mines in Malacca. All that is of a superior quality which is brought to China in bars, is called 'Banca tin,' while the inferior is known as 'Straits tin.' Complaints have been made that both are adulterated with lead. The former sells for about £17 and the latter for £14 or 15 a pecul. In China the consumption of foreign tin has decreased during the last few years, and the annual importation does not now reach 5000 peculs. Tin plates are brought from England and America, in boxes containing 112 lbs. or from 80 to 120 plates, and sell for about £10 per box.

The alloys with tin are as under :—

1 oz. of tin to 1 lb. copper—a soft gun metal.

1½ ,, harder, fit for wheels to be cut with teeth.

1½ ,, to 2 oz. brass ordnance.
2 ,, hard bearings for machinery.
2½ ,, very hard do.
3 ,, soft musical bells.
3⅓ ,, Chinese gongs and cymbals.
4 ,, house bells.
4½ ,, large bells.
5 ,, largest bells.
7½ ,, to 8½ Speculum metal.

The tin alloy is scarcely malleable at 2 ounces; it soon becomes very hard, brittle and sonorous; alloys of 1½ cwt. to 2½ easily assume

the maximum of hardness without being crystalline. Native smiths render the mixed metal malleable with greater proportions of tin; so do the Chinese for their gongs and cymbals, by gently striking it while hot at repeated heatings: some years ago, bronze sheathing for ships was prepared on the same principle. Natives call such malleable bell metal Akkansu, TEL. It is formed into vessels for containing acid food, buttermilk, &c.—*Horsfield on the Tin of Banca, Journ. of the Indian Archipelago, v. II, No. XII. Dec.* 1848, *p.* 796 *to* 809. *Winter's Burmah, p.* 108. *Hon'ble Mr. Morrison's Compendious Description. McCulloch's Com. Dic. p.* 1158. *Mason's Tenasserim. Royle Productive Resources of India. Crawfurd's Dictionary, p.* 435. *Mr. Rohde MSS.*

TIN of Hazara. Artocarpus integrifolia. Jack tree.

TIN. AR. Figs.

TINANI. HIND. Astragalus multiceps.

TINAMIDÆ. A family of birds.

Sub-fam. Turnicinæ, 1 gen, 3 sp., viz. 3 Turnix ocellatus; Dussumieri; Sykesi.

TINCAL——? Borax.

TINCANA. SANS. Sodæ biboras.

TINCTORIA ROSEBAY. Nerium tinctorium.

TINCTURE OF COLOMBA. See Coptis teeta. Tincture of Mishme teeta.

TINCTURE OF HERMODACTYL. See Colchicum.

TIND. HIND. Citrullus vulgaris, var. fistulosus, *Stocks*, also C. lobata.

TIND. HIND. of Panjab, a wide-mouthed, round bottomed, earthen jar; the vessel with which the Persian well wheel is filled.

TINDA. HIND. Cucurbita lobata, the "squash" gourd.

TINDAL, properly tindail, in India, a petty officer of native seamen, also the non-commissioned officer over gun and store lascars.

TINDA-PARUA. MALEAL. Epicarpus orientalis, *Blume.*

TINDRI KA JOGI. See Jogi.

TINDU. HIND. Ebony of Diospyros melanoxylon, *Roxb.*, also of D. tomentosa.

TINDU-KAKI. TEL. Diospyros tomentosa?

TINDUKI, also Tumiki. TEL. Diospyros embryopteris, *Pers.* It is probable that the several names Tindu kaki and Tindula, should be applied to different trees as D. tomentosa, D. melanoxylon.

TINEH. See Red Sea.

TIN-FAN. CHIN. Typhoon.

TINFOIL.

Beggud, GUZ. HIND.

Tin rolled into thin sheets, and employed with the addition of mercury, to cover the surface of glass, thus forming looking glasses, mirrors, &c.—*Faulkner, quoting Joyce's Chem. Man.*

TINGE BATSALI KURA. TEL. Basella alba.

TINGEN. TEL. Phyllanthus, *sp.*

TINGERAN, or Tingoram River, on the east coast of the Malay peninsula, in lat. 4° 45′ N.

TING HAE, in lat. 26° 18′ N., long. 119° 50′ E. On the east coast of China, stands on the west side of a peninsula.

TING-HAE. A town and harbour on the south side of the island of Chusan, and fronted by many islands, between which are several channels leading to it. The city of Tinghae is 1 mile and 8 cables in circumference, and is surrounded by a wall 14 feet 9 inches high, and 13 feet wide, surmounted by a parapet 14½ feet high. A canal nearly 33 feet wide and 3 feet deep almost encircles the city and enters it near the south gate. Canals form the principal means of transport, the roads being merely foot-paths, and every large field has its own canal to convey its produce. Large quarries of hornstone porphyry are found in the N. W. extreme of the island. Salt, arrack, and mat manufactures occupy the people. During the month of September the thermometer in the shade ranged from 71° to 102°, its average height during the day being 85°.

TINGHE BACHCHALI. TEL. Basella alba, *Linn.*

TINGI. HIND. Solanum sanctum.

TING-NGET. BURM. See Dyes.

TING-SHI. TIBET. Taxus baccata.

TINGY ISLANDS, in the Chinese sea, two small rocks off Pulo Tingy.

TINHOSA ISLAND, a small island, 2¼ miles long, off the coast of Hainan, and in lat. 18° 39′ N., 195 miles west from the Grand Ladrone Island, and formed of two hills.

TINIAN PINE. Casuarina muricata, *Roxb.*

TINKAL. HIND. Borax. See Sohaga.

TINNEVELLY, the capital town of a revenue district of the same name, the most southern part of the Madras presidency. The district has a population of 1,269,000. There are several streams, the Tambrapurna being the most important. Cotton is largely produced. The Anangole pass leads to Travancore; the chief place is Tuticoreen, a sea-port town.

TINNEVELLY SENNA. ENG. Cassia elongata, *Lam.* C. Officinalis, *Gœrtn*, *Royle.*

TINNUNCULUS ALAUDARIUS, the Falco tinnunculus; the 'Kestrel,' of Europe, Asia, Africa, and the great Asiatic Archipelago. It is very common in India, sometimes in large flocks. It is the commonest bird of prey in England and France.

TIPPERAH.

TINOSPORA CORDIFOLIA. MIERS.

Menispermum glabrum, *Klein.*	Cocculus cordifolius. *D.C. W. & A.*
M. cordifolium, *Willd.*	C. convolvulaceus, *DC.*
Galancha BENG.	Shindi-kodi. TAM.
Gadancha. ,,	Galuchi, Guduchi, TEL.
Gulo, Gul-wail, DUK.	Manapala, ,,
Gurcha. HIND	Tippatige, ,,
Cita-merdoo. MALEAL.	Somavalli, ,,
Gilo; Gul-arich, PUNJAB.	Jewanti, ,,
Amurta guduchi. SANS.	

The extract.

Sat Gulo. HIND. | Sat Gilo. HIND.

The root is covered with loose papery bark, and its wood is composed of distinct wedges separated by depressed medullary rays. It is used by natives for colds and fever, in doses of 6 mashas, in cold infusion, also in leprosy and skin diseases. Contains much starch and a bitter principle. It is a useful demulcent tonic, a substitute for calumba or cetraria in the treatment of dyspepsia also diuretic and febrifuge. Used in intermittent fevers, in which it is said only to diminish the cold stage; also in chronic rheumatism and debility after fever, and as a general tonic; but is said by some to be as powerful a febrifuge as Peruvian bark. The extract of the root is made by boiling the root 12 hours in water, then straining and removing the woody fibres, and evaporating the liquor to dryness. It is said also to be made by squeezing out the juice of the cut root, adding water, allowing it to stand, and collecting and drying the sediment. The substance is white, very brittle, in irregular lumps, and contains a large quantity of starch.—*Powell Hand Book. V. 2 p.* 825. *Roxb.* iii. 81. *Wight. Voigt.*

TINTA—— ? See Dyes.

TINTA. SP. Ink.

TINTIREE, or Tintoore. BENG. Tamarind tree. Tamarindus Indica.

TIN-YOO-BEN. BURM. Pinus Khasyana. Pinus massoniana, *Lamb.*

TIPARA—?The Indian gooseberry. Physalis peruviana, *W.* In Persian it is called Urusah-dar-parda, "Bride in the veil," from the fruit being enclosed within a loose covering. It is grown in gardens, and is made into jam.

TIPATINGGE. TEL. Cocculus cordifolius, *D.C.*

TIPILE. TAM. SING. Chavica Roxburghii, *Miq.*

TI-PLANT. ANGLO-BURM. ? Dracæna terminalis.

TIPPA MANU. TEL. Tippa tige is Tinospora cordifolia, but the word Manu implies a tree.

TIPPA TIGE, or Guduchi. TEL. Tinospora cordifolia, *Miers.* Cocculus cordifolia, *D. C.* Menispermum cordifolia, *R.*

TIPPERAH, properly Tipura, is a district on the north-east of Calcutta. Its ancient name is Jajnagr or Yajnagr. A portion of it is under the government of a hindu rajah, the people being called the Tipperah hill men, and also the wild tribes on the eastern frontier, of whom the Kuki are most numerous. The language of the hill-men bears some resemblance to the Sanscrit. The language of Tipperah is Bengali with a large infusion of Urdu words. The mahomedans of the population are very numerous. Amongst the wild tribes it is said that in Mannipore, Cachar, and Assam, the offering of human sacrifices is still continued. By the records of the Sudder Nizamat Adalat of Chittagong for 1852, some men of the Toonia Joom mahals were tried for murder by sacrificing. This is a forest tract in the hills and inhabited by the Mug, Chukma, Reang, and Tipperah races, and others all more or less nomadic. The place of sacrifice was a cleared spot in the jungle, and staked round with bamboos about six feet high. The sacrificial pole is the Phula bans or bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. These sacrifices generally occur once a year During its celebration at Agartolla a gun is fired every evening at sunset, when every person hurries to his home. The Kuki and all the hill tribes worship local deities, said to be fourteen in number. The British Government has no treaty with Tipperah. Its rajah stands in a peculiar position, inasmuch as in addition to the hill territory known as "Independent Tipperah," he is the holder of a very considerable zemindary in the district of Tipperah in the plains; he receives his investiture from the British Government, and is required to pay the usual nuzzerrana. Tipperah zillah has the Megna river on its west and south. It extends from L. 22° 30′ N. to 24° N. In the Tipperah district of Bengal, the chief town is Comillah, 246 miles from Calcutta. The valley of the Surma is separated from that of Manipur by a meridional range of moderate elevation, which is continued to the southward, and separates Tipperah, Chittagong, and Arracan from the kingdom of Ava. Blue Mountain, which lies nearly due west of Chittagong, is said to attain the considerable elevation of 8,000 feet, and a peak on the same range forty miles to the south-west, in lat. 22°, is elevated according to Wilcox's map 3,100 ft. Sitakund, thirty miles north of Chittagong, has an elevation of 1,140 feet. The provinces of Tipperah and Chittagong are throughout hilly. The rainfall during the monsoon is about the same as in Bengal, at least on the sea-coast; and in its immediate vicinity, averaging 86 inches annually at Chittagong; on the higher ranges in the interior, it is proba-

bly much more considerable. Our knowledge of the flora of these provinces is chiefly derived from Roxburgh's 'Flora Indica;' many of the most interesting species published there having been communicated to him from Tipperah and Chittagong.—*Hook. f. et Thomson.* See India, Khum, Mru or Tung.

TIPPILI. Singh. Tam. Chavica Roxburghii, *Miq.* Pepper, Long pepper.

TIPPILI MULAM. Tam. Pepper root.

TIPPOO SULTAN. A king of Mysore and son of Hyder Ali. Tippu was defeated by Lord Cornwallis on the 5th February 1792, and peace declared on the 23rd February. He was finally defeated by General Harris on the 27th March 1799, and was found dead amongst the slain, in the storming of Seringapatam, on the 4th May 1799. See Tepu; Tipu.

TIPREE DANCE. See Hooly.

TIR. The bank or shore of a river or sea.

TIRA. See Kohistan.

TIRAGADA PENDALAM, also Tiragali pendalam, also Nagali dumpa. Tel. A species of Dioscorea.

TIRAH and Chura are fertile and well peopled valleys, enjoying a cool climate in comparison with that of Peshawar; and it was not unusual for the sirdars and others, who had an understanding with the inhabitants, to pass the warm weather in the latter of these places; which also frequently became a place of refuge to the distressed. At Chura resided Khan Bahadar Khan, Afredi, who attained immense influence amongst his tribe from the circumstance of his attendance at court during the sway of the Sadoz Zye. Shah Sujah married one of his daughters to, and, on more than one occasion, found an asylum with, him. The Afredi occupy the eastern parts of the hills nearest Peshawar, and the Shinwari the western parts looking upon the valley of Jellalabad. The Orak Zye reside in Tirah, intermingled with the Afredi, and some of them are found in the hills south of Peshawar. It was a malek or chief of this tribe who conducted Nadir Shah and a force of cavalry, by the route of Chura and Tirah, to Peshawar, when the principal road through the hills was defended against him. The Shinwari, besides their portion of the hills, have the lands immediately west of them, and some of the valleys of the Safed Koh range. More westerly still, under the same hill range, they are found south of Jelalabad, and are the neighbours of the Khogani. These are in the condition of unruly subjects. There are also some of them in Ghor-band, and they dwell in great numbers bordering on Bajor to the north-west, where they are independent, and engaged in constant hostilities with the tribes of Bajor and of Kafiristan. See Khyber.

TIRAIMUM—— ? See Tugar.

TIRA KANA-MALAI MARAM. Tam. Tirkanamalay chettu, Tel. Berrya ammonilla, *Roxb.* Trincomallee wood.

TIREH, amongst the Afghans, means the branch of a tribe or firqah.

TIREH ? A small tribe in the Shinwari country, south of the Kabul river.—*Dr. Latham, p.* 197.

TIRGARI. See Kaffir.

TIRHAKAH, the Ethiopian, reigned in Egypt while Hezekiah reigned in Judea, Sennacherib in Assyria, and Mardoch Empadus in Babylon. The kings of Sais B. C. 697-523. He was followed on the throne by Necho I, then by Psammetichus I.—*Sharpe's History of Egypt, Vol. I. p.* 131.

TIRHUT, a district and town in Bengal. The Bengali language is derived from the Sanscrit, there being but few words in it not derived from that tongue, and Tirhuti on its north-eastern border has a great affinity with Bengali. But for this, the Bengali, from being the language of many millions of souls, and restricted solely to the geographical limits of Bengal, and from the cultivation which has been given to it, it well deserves to be ranked as a separate language. It is spoken by about ten millions of people in the Delta of the Ganges and to the west. Professor Muller mentions that nine-tenths of the Bengali and of the hindi tongues are composed of words taken from the Sanscrit. He regards it as the modern Sanscrit, standing to its parent, the old and classical Sanscrit, almost in the same relation as the modern high German to the old high German, as the modern Italian to the language of Rome. The people are less robust and of even a lighter yellow colour than those of Telingana. See Inscriptions, India, Surya-vansa, Topes.

TIRI. The chief town of Gurwal.

TIRITH. Hind. Worship. Thirtan Kan a worshipping priest, a pilgrimage of the hindoos or place of pilgrimage.

TIRI-PASS. See Kohistan.

TIRJUT. See Buddha.

TIRKHAN. Hind. A caste of carpenters, a carpenter.

TIRKU. Hind. Hippophae rhamnoides.

TIRMAL, also Tirmar. Hind. Xanthoxylon hostile.

TIRNI. Hind. Ficus Roxburghii.

TIRMUL. Punjabi. Ficus macrophylla, *Clegh.*

TIRNI. A grazing tax. There are thul districts, of greater or less extent, in the various districts of the Punjab, and some of them chiefly valuable for the grazing they yield to large herds of cattle, who pay the "tirni" or grazing tax to Government.

TIRNI. HIND. Calligonum polygonoides, *Linn.*, also C. convolvulaceum.

TIRNOOT PATCHI VERI. TAM. Ocymum basilicum.

TIROONOOT OONDI. TAM. Ashes.

TIROOREE. BENG. Sinapis patens.

TIRTHA. SANS. Aplace of pilgrimage.

TIRTHAKAR. See Swastika. Tirith.

TIRTHANKAR. The generic title of the deceased saints, persons held sacred by the Jains. ee Jains.

TIRTYA YUG. See Rama. Vemana.

TIRU. AM. An adjective signifying divine or sacred, prefixed to many names. In the south of India it is a prefix to holy places, as Tripatur, Tripatty.—*Wils.*

TIRUCHARNAM. Curcuma longa, also a yellow paste with which the forehead is marked.

TIRUCALLI. TAM. TEL. Euphorbia tirucalli. Milk-hedge plant.

TIRUGUKALLI. MALEAL. TAM. also Tirugu jemudu, TEL. Euphorbia tortilis, *Rottl.*

TIRUKALYANA. TAM. Lit. the sacred or divine wedding, the name of a festival celebrated in honor of Iswara and Parvati, also of a festival celebrated in honor of Vishnu and Lakshmi.

TIRUKHU-KALLI. TAM. Euphorbia tortilis, *Rottl. W. Ic.*

TIRUKKAZ HUKKUNRAM, a temple 36 miles S. of Madras, well known to Europeans who visit it to see the kites fed at noon. The temple is now devoted to the worship of Siva, but an inspection of the inscriptions shows that it was once a jain edifice, and Taranathas, in his history, in Tibetan, of Indian Buddhism, mentions this temple under the mame of Paxitirtha or in the Tibetan corresponding name, Bird convent.—*Mr. Burnell or Inscriptions*, 1870, *p.* 6.

TIRUNAMA. The holy name. See Nama.

TIRUNIRU. The holy ashes. See Vibhuti.

TIRUNUR UNDAI. TAM. also Tirunut undi. TEL. Balls of cow-dung ashes.

TIRUPAD, a titular appellation of the native princes of Malabar, as the Tirupad of Nelambur.

TIRUPATI, or Tripati, in L. 13° 27′ N., L. 79° 26′ E. in the Carnatic, 4 miles N. of the Surnamuke. Level of the plain is 507 ft. *Ad. Schl.* See Tripati.

TIRUVACHAKA, a famous Saiva work.

TIRUVATTUR. See Hindu, Trivatur.

TIRWAH. HIND. A kind of peach of Candahar.

TIRWI. HIND. Ipomœa turpethum.

TIRYAQ FAROOQ. AR.

Treiya phark, AR. ? | Treeyaq orTiriyaq, HIND. ?

This is the celebrated Theriaca Andromachi, of which the Teucrium chamædrys, the common germander, forms an ingredient. The words however are merely the Arabic for the best sorts of treacle, and this substance being esteemed in Baghdad as an antidote for snake bites, Tiryaq has come to be applied as a general term for antidote. The substance is in much request in Beri-beri. As met with in Ajmere, this is a black extract (most likely extract of henbane) of a narcotic odour: imported via Bombay, carefully packed in a small tin box: a powerful stimulant, and is given in a sort of convulsive disorder called "seet," catalepsy: one tola costs six or eight rupees.—*Genl. Med. Top. p.* 152.

TISE. See Kailas or Gangri Range.

TISHU LUMBU. See Bhutan, India.

TISHYA. See Asoka.

TISI. HIND. Flax; Linum usitatissimum, *Linn.*

TISKA. CAN Antilope Arabica, *Hemprich.*

TISO. HIND. Carduus nutans.

TIT. HIND. Capparis aphylla.

TITA. HIND. Gentiana tenella.

TITA BATERI. HIND. Lonicera quinquelocularis.

TITAR. HIND. Rhus acuminata, R. succedanea. See Titri.

TITAR. HIND. The black partridge; any partridge.

TITHI, a lunar day, and also the anniversary of the decease of a parent, elder brother, &c. In hindoo reckoning of time those lunar days on which the sun does not rise (Suryo-duya nahin) are struck out; those in which it rises twice are Virdh, or additional; and since, according to the hindus, the Tithi is 22m. 31·9s. less than the mean solar day, it is obvious such circumstances will occur about once in 64 days, or six times in the course of the lunar year. The Tithi of each half month are named after the moon's age, as follows:—

1 Prathami or Pratipada.	5 Panchami.	10 Dasami.
	6 Shasthi.	11 Ekadasi.
2 Dwitya.	7 Saptami.	12 Duadasi.
3 Tritiya.	8 Ashtami.	13 Triadasi.
4 Chaturthi.	9 Navami.	14 Chaturdasi.

The 15th from Shukla Pratapadi is Purnima, or Full Moon; and the 15th from Krishna Pratipada is Amavasya or New Moon. The hindu zodiac is divided into twenty-seven Lunar Mansions or Nakshatra of 13° 20′ each, probably originating in the revolution of the moon being performed in little more than 27 days.

TITHYMALOIDES. See Slipper plant.

TITHYMALES CYPARISSIAS. Syn. of Euphorbia cyparissias.

TITLES. In China, hereditary titles only exist for the Imperial family, and for the descendants of Confucius, who are still very numerous in the province of Changtong. In India, alike amongst hindus and mahomedans,

titles are only hereditary amongst the rulers. See Dowlah.

TITMOUSE. The gray titmouse, Parus cinereus, represents the great ox eye of Europe; it is however a poor rival in point of brilliancy of feather, nor is his call note so clear and joyous ; it is, however, more familiar and may be constantly seen in Indian gardens: the black-crested titmouse, Parus melanolophus, somewhat resembles the marsh-tit of Europe. It is usually seen in flocks, and sometimes associated with another pretty species, the gray-backed tit, Parus dichrous, which is known by its brick-red iris ; the forehead and under the ear-coverts a dirty white; upper parts grayish blue; breast, belly, and vent, ochrey white.—*Adams.*

TITO-DOON-DOOL. BENG. Luffa amara.

TITO-KUNKA. BENG. Hoya viridiflora.

TITO-LAOO. BENG. Lagenaria vulgaris, also Cucurbita citrullus, *Linn.*

TITO-PAT. BENG. Corchorus acutangulus. C. capsularis.

TITRI. HIND. A generic name for the species of the genus Rhus. Rhus semialata, also R. buckiamela. Titri of the Chenab, R. acuminata, *DC.*, and R. cotinus.

TITSEIM. Terminalia bellerica, *Roxb.*

TITSINGH. See Kobo.

TITTA KOMMODU. SINGH. Colocynth.

TITTHA—— ? Cinnamon.

TITTHA-PAT. BENG. HIND. Corchorus capsularis.

TIUN. HIND. Artocarpus integrifolia.

TIURU. HIND. Rubia cordifolia.

TITO DHUNDHUL. BENG. Luffa amara, *Roxb.*

TIVAKSHER. SANS. Tabasheer.

TIVITI. See Kali.

TIVVA BENDA. TEL. A soft velvetty herbaceous creeping sp. Not described.

TIVVA MODUGA, or Tige moduga. TEL. Butea superba, *R.*

TIVVA MUSHIDI. TEL. Tilliacora acuminata, *Miers.* Cocculus acuminata, *W. & A.*

TIVVA POTIKE. TEL. Hugonia mystax.

TIWAJ. HIND. Wrightea antidysenterica.

TIWARI. A tribe of brahmans in northern India.

TIWUR. BOMBAY. Barringtonia acutangula, *Gærtn.*

TIYA. See Kali.

TIYAGARAIA SAMI. See Hindu.

TIYARI. Among the Tiyari of the Nestorians, the girls and women bathe unrestrained by the presence of men, in the streams or at the doors of their houses ; the men neither heed nor interfere ; their wives and daughters are virtuous.—*Layard.*

TIYAR. A race in Malabar, toddy-drawers and agriculturists.—*Wils.*

TIYYA MAMIDI. TEL. Mangifera Indica, *Linn.*

TIYYA MANDE, or Manchimande. TEL. Ceropegia bulbosa, *R.*

TIYYA NIMMA. TEL. Citrus limetta, *Risso and Poit.* Sweet lime. Madhura jambira, *W.*

TIZU. HIND. Cicer loongaricum.

TJARA. SW. Tar.

TJETTIK——? Strychnos tieute.

TJILATJAP is an island on the south coast of Java, at the eastern end of Kambagan. Its south point is in 7° 44′ 40″ S., and 109° 5′ 30″ E.

TJI-LI-WUNG, a river in Java, on which the town of Batavia is built.

TJIN. ARAB. Fig tree of Ficus carica.

TKENG-HIA. CHIN. Caryophyllus aromaticus, *Linn.*

TO. HIND. Triticum æstivum.

TOA. HIND. of Multan, a reservoir to receive the salt liquor in making saltpetre.

TOAD FLAX. See Linaria.

TOA-KHA-KYI. BURM. Chiretta.

TOARATTI MARAM. TAM. Capparis divaricata.

TOBA. A mountain range between 33° 40′ and 32° 40,′ and 66° 40′ and 68° 20′; length 150 m., extending N. E. from the N. side of Pisheen valley. The general elevation 9,000 ; above Pisheen, 3,500 feet. Tukatoo Hill, in 30° 20′ and 66° 55′, is 11,500 feet. Country, though generally rugged, is fertile. See Kandahar. Kelat.

TOBACCO.

Bujjerbhang, Tutun,	AR.	Tabaco,	JAP.
Tambroca,	BALI. JAV.	Tabacum,	LAT.
Sang-yen,	CHIN.	Tambracco,	MALAY.
Sun-putta,	CASH.	Quauryete,	MEX.
Tobak,	DAN.	Tobaka,	POL.
Tabak,	DUT. RUS.	Tobaco,	PORT. SP.
Tabac,	FR.	Dhamrapatra,	SANS.
Taback,	GER.	Dun-kola,	SINGH.
Tambaku,	GUZ. HIND.	Pogheieley,	TAM.
	KASHM. MALAY. PERS.	Pogbaku,	TEL.
Tabacco,	IT.	Tutun, Dokhan,	TURK.

Tobacco was introduced to Europe from America about the middle of the 16th century, and is now extensively cultivated in most parts of the world. The word is from the West Indies name for a peculiar tobacco pipe, tobogo or tobacco, and has been diffused with the product through Europe, Asia, Africa and the Eastern Archipelago. In the years 1860 to 1870, the tobacco seed of the Shiraz, Havannah, Manilla, and Maryland species and varieties were largely distributed throughout British India, but the East Indies have long possessed esteemed varieties of the various species of the genus Nicotiana, from species of which the tobaccos of the world

are obtained. The value of the exports from British India, has been as under :—

1850-1...£.25,873	1856-7 ..£.37,962
1851-2......23,457	1857-8.. ...58,336
1852-3......19,827	1858-9 45,317
1853-4......24,418	1859-60.....37,656
1854-5......20,839	1860-61.....29,783
1855-6..... 22,488	

The countries to which the shipments were made being very numerous, but Arabia, the Persian Gulf, Great Britain and America taking a somewhat large quantity. In the East Indies, the use of tobacco is very general. In the moist soft climate of Burmah, almost every person of both sexes and of all ages, smokes tobacco, even children, who are there suckled till they are two or three years old, are occasionally indulged with a whiff, and the general belief amongst physicians and educated non-medical men is that its use is useful as a narcotic stimulant, where there is much mental toil. In the several countries to which it has been brought from America, its introduction has, however, been opposed, and the opposition still continues, but its universal use shows that it supplies some want to the human body, or affords some gratification, which indicates a want; it has rarely caused injury, and its use is now believed to render alcoholic stimulants less requisite. Narcotics were once largely allowed to the prisoners in British Indian jails, under the impression that their use, in some shape or other, was essential to the preservation of life, in those who had from their youth upwards freely and continuously indulged in them. The Punjab, Lower Provinces of Bengal, and Madras, however, ruled that tobacco and opium can only be granted to the convicts at the express direction of the medical officer, and then only in curtailed quantities and for limited periods, in cases where the general health appears to suffer by their sudden and complete withdrawal from old *habitués*. In 1851, out of thirty-three Indian jails, tobacco was allowed to the prisoners in twenty-seven,and fears were entertained by the Bengal Medical Board and the Court of Directors if disused.The Bengal Board reported that from long and confirmed habit, tobacco smoking had with many adult convicts, become not so much a luxury as a necessary of life, comparable to salt and other condiments, which nature prescribes as indispensable adjuncts to meals. The Court of Directors also considered that discretion was necessary in withdrawing tobacco from persons who had always been in the habit of using it. Three years after the withdrawal of tobacco from prisoners in the Bengal Presidency had been accomplished, Dr. Mouat presented a report to the Government of Bengal, from which it appeared that of the fifty civil surgeons in charge of jails who had watched the effect of the order, thirty-three considered that the withdrawal of tobacco from the prisoners had not been attended with injury to health; and fourteen gave undecided answers. Mahomedans, in a religious point of view, regard the act of smoking as an "act indifferent," being of the class of "biddate" things, which having come into existence after the death of the prophet, are therefore neither enjoined nor prohibited by him, and hence are accounted "indifferent." It is stated in the "Khulasat-ut-tawarikh," that tobacco was introduced into India by the Portuguese in the latter part of Akbar's reign, and the beginning of Jehangir's. Jehangir in the fourteenth year of his reign, when at Lahore, forbade the practise,—persons who smoked were to have their lips cut. Tobacco was introduced into Persia about the same time, during the reign of Abbas II. Several persons in Lahore, who contravened this order, were subjected to the process called "tashhir," i. e., riding on an ass with their face to the tail, and their visage blackened, this peculiar punishment being inflicted for infraction of imperial mandates. The "Makhzan-ul-adwiyah" says it was introduced by the Portuguese from the new world (Arz-i-jadid.)

Most of the tobacco of commerce, as that of Virginia, is yielded by N. tabacum, as also is that of India. N. latissima, *Muller*, and N. fruticosa are other species : N. Chinensis, *Fischer*, is the source of the large Havanna cigars. N. rustica, *L.*, indigenous in America and found wild in Europe, Asia and Africa, is the source of Latakia (Laodicea), Salonica (Thessalonica), Syrian and Turkey tobaccos : N. Persica, *Lindley*, is the Persian or Shiraz tobacco; N. repanda, *W.* is the source of the small Havannah or Queen's cigars; and besides these are the species N. quadrivalvis, *Pœst*, N. nana, *Lindley*, N. multivalvis, *Lindley*.

Tobacco, as it occurs in commerce, is of a deep yellowish-brown colour, soft and pliable, a little clammy, with something of a honey, mixed with a narcotic, odour; the latter, however, is not obvious in the fresh leaves. The taste is bitter, acrid, and nauseous. Dr. Birdwood says that N. tabacum is cultivated in the Deccan, and N. rustica, northwards, also that N. Persica has been introduced into Bombay. The kinds of tobacco which are recognized in the Punjab are :

1st. Kandahari ; this is of a yellowish light color, and has small indentated leaves like an onosma ; with this kind of tobacco molasses or "gur" is not mixed ; but as it tastes sweet, there is probably a small quantity of honey mixed with it previously ; it is not twisted

into any shape, but the broken leaf is left in little pieces. The stalk of the plant is used in this variety to make tobacco just as much as the leaves; in fact there is more stalk than leaves. Kakar tobacco is also grown at other places, and there is "Lahori Kakar," "Shikarpuri Kakar," &c. The kakar is known by its small size, and the leaves are more round than the others, which are long pointed.

2nd. Baghdadi: the seed of this is very much sought after by cultivators, on account of the abundance of the produce; it is not imported from the place whose name it takes, but probably came originally from thence.

3rd. Noki, so called from its pointed lanceolate leaves; of this there are two sorts, the noki, and the desi Panjabi.

4th. Lambli, a variety of which the leaves only are used, the woody stalk is of no use.

5th. Zarda; this is the best quality of tobacco, being of the kind called "noki."

6th. Purbi, from Hindustan, which is chewed with chunam, supari (areca nuts) and catechu (kath); it is also smoked—but it is expensive.

7th. Baingani, this is very uncommon at Lahore; it is so called because its leaves are shaped like those of the baingan, or Solanum melongena.

8th. Surati, from Surat and Bombay; it is strong and bitter like kakar.

In British India, the Surat, Bilsah, and Sandoway (Arracan) varieties of tobacco are the most celebrated. The two first are found to be good for cultivation in the districts about Calcutta, but the Cabool is still more to be preferred. Tobacco of Singour, in Burdwan, near Chandernagur, sells at the price of the Arracan sort, though of the same species as that cultivated in the surrounding country; and the best Bengal tobacco is grown at and about Hanglee, in the Kisnagar district. The tobacco of Chunar, on the Ganges, and more especially that of Bhilsa, were celebrated throughout India, while, in Dr. Ainslie's time, the finest kinds in India, and perhaps in the world, were grown near the village of Woodanum, in the Northern Circars, and in some of those low sandy islands formed at the mouths of the river Krishna, (from this is made the famous Masulipatam snuff,) also in the Delta of the Godavery, where the soil is peculiarly rich and fertile, the product being known as Lunka tobacco. For Lunka cigars, a superior article, the Nicotiana rustica is now grown on the islets or "Lunka" of the Godavery, where the cultivation is rapidly increasing and is rather famous. The tobacco produced in India generally is complained of as too high dried and fit only for inferior kinds of snuff. The most celebrated in the Madras presidency appears to be the Trichinopoly and the Lunka. A high value was put on specimens of tobacco from American seed produced in Calcutta, and there appears the certainty that India can produce as good tobacco as America with the same care in the selection of situation, in cultivation, preparation, and packing. The value of good tobacco in the district of Masulipatam is from 10 to 15 rupees a candy of 500 lbs., or about ½*d.* per lb. The best Lunka tobacco is from the Seetanagram island near Gootala, in the Godavery, and is sold usually at 40 rupees a candy on the spot. It increased to this price, within two years, from 15 Rupees. With the celebrated Shiraz tobacco of Persia (Nicotiana Persica), which is so much esteemed for the delicacy of its flavor, and its aromatic quality, the culture of the plant is nearly the same; it is only the preparation of the tobacco that forms the difference. In December the seed is sown in a dark soil, which has been slightly manured (red clayey soils will not do.) To protect the seed and to keep it warm, the ground is covered with light, thorny bushes, which are removed when the plants are three or four inches high; and during this period the plants are watered every four or five days,—only, however, in the event of sufficient rain to keep the soil well moistened not falling. The ground must be kept until the plants are six to eight inches high, when they are transplanted into a well moistened soil, which has been made into trenches for them; the plants being put on the top of the ridges ten or twelve inches apart, while the trenched plots are made so as to retain the water given. The day they are transplanted, water must be given to them, and also every five or six days subsequently, unless rain enough fall to render this unnecessary. When the plants have become from thirty to forty inches high, the leaves will be from three to fifteen inches long. At this period, or when the flowers are forming, all the flower capsules are pinched or twisted off. After this operation and watering being continued, the leaves increase in size and thickness until the month of August or September, when each plant is cut off close to the root, and again stuck firmly into the ground. At this season of the year, heavy dews fall during the night; when exposed to these the color of the leaves change from green to the desired yellow. During this stage, of course no water is given to the soil. When the leaves are sufficiently yellow, the plants are taken from the earth early in the morning, and while they are yet wet from the dew, are heaped on each other in a high shed, the walls of which are made with light thorny

bushes, where they are freely exposed to the wind. While there, and generally in four or five days, those leaves which are still green become of the desired pale yellow color. The stalks and centre stem of each leaf are now removed and thrown away, the leaves are heaped together in the drying house for three or four days more, when they are in a fit state for packing. For this operation the leaves are carefully spread on each other and formed into cakes of sorts, the circumference from four to five feet, and three to four inches thick, great care being taken not to break or injure the leaves. Bags made of strong cloth, but thin and very open at the sides, are filled with these cakes, and pressed very strongly down on each other; the leaves would be broken if this were not attended to. When the bags are filled, they are placed separately in a drying house, and turned daily. If the leaves were so dry that there would be a risk of their breaking during the operation of packing, a very slight sprinkling of water is given them to enable them to withstand it without injury. The leaf is valued for being thick, tough, and of a uniform light yellow colour and of an agreeable aromatic smell.

Arracan tobacco.—When the excellent tobacco grown at Sandoway, in Arracan, was brought to London, it was valued at from 6*d.* to 8*d.* a pound. One of the results of Dr. Wallich's investigations was the bringing to notice some very superior tobacco, which obtained the name of Martaban tobacco. Dr. Wallich states, that the sort is from Arracan and not from Martaban; and describes it as having a fine silky leaf: tried by many people, it it had been pronounced the very best they had ever tasted, equal to, nay surpassing, the finest imported from Turkey and Persia. An extensive tobacconist said, 'a finer and better-flavoured tobacco he never saw or tasted in his life.' One of the first brokers in the City said, the sample of leaf tobacco is certainly of a very fine quality, and appears to have been produced from some peculiar seed and a greatly-improved cultivation and cure. By many manufacturers it was supposed to be from the seed of Havannah or St. Domingo tobacco. For smoking, it is compared with Maryland tobacco, having the same qualities, except the flavour, which is better, and more like Havannah. The colour and leaf are moreover, pronounced excellent for cigar-making; but if anything is against it for that purpose, it is the largeness of the principal stalk, and coarseness of the small fibres in the leaf.

Tennasserim tobacco is used in Burmah. The Karens raise it for their own consumption, and the Burmese both cultivate it and import it from Rangoon.

Ceylon.—Tobacco is cultivated with some attention and success by the Singalese of the western province, the Kandyans of the interior, and the Tamils of the northern districts of the island. In 1760, Ceylon produced a considerable quantity of tobacco, principally about Jaffna, a demand having sprung up for it in Travancore, and on the Malay coast. The cultivation spread to other districts of the island, Negombo, Chilaw, and Matura. Not long after the possession of the island by the British, a monopoly was created by an import duty of 25 per cent. ad valorem, and in 1811 the growers were compelled to deliver their tobacco into the Government stores at certain fixed rates. The culture and demand thereupon decreased. In 1843, the duty on the exports of tobacco from Ceylon amounted to £8,386, and in 1836 to £9,514. Ceylon now exports a considerable quantity of tobacco. The value of that exported in 1844 was nearly £18,000: it went exclusively to British colonies. The shipments since have been as follows:—

1848	£17,992	1851	21,422
1849	22,300	1852	20,531
1850	20,721		

Archipelago.—About 96.000 peculs of cigars, of five different qualities, are exported annually from Siam. Very fine tobacco is grown in the Philippines, and the Manilla cheroots are celebrated all over the globe. The quantity of raw tobacco shipped from Manilla in 1847 was 92,106 arrobas, each about a quarter of a cwt.; manufactured tobacco, 12,054 arrobas; and 1933 cases of cigars. 5,220 boxes of cigars were shipped from Manilla in 1844, 73,439 millions of cigars were shipped in 1850, and 42,629 quintals of leaf tobacco. The manufacture of cigars in Manilla is a monopoly of the Government of the closest description. The cheroot, which now costs, free of duty, about one halfpenny, could be rendered for half that sum. In Spain no person is permitted to have even the tobacco leaf in its raw state on his premises, and gendarmes pay, at stated intervals, domiciliary visits to the habitations of the people, in search of any contraband materials. There are several extensive manufactories of cigars and cheroots belonging to the government in and near Manilla. Mr. MacMicking, in his work on the Philippines, thus describes the mode of manufacture by those employed by the Government:—In making cheroots, women only are employed, the number of those so engaged in the factory at Manilla being generally about 4,000. Beside these a large body of men are employed at

another place in the composition of cigarillos or small cigars kept together by an envelope of white paper in place of tobacco, these being the description most smoked by the Indians. The flavor of Manilla cheroots is peculiar to themselves, being quite different from that made of any other sort of tobacco ; the greatest characteristic probably being its slightly soporific tendency, which has caused many persons in the habit of using it to imagine that opium is employed in the preparatory treatment of the tobacco, which, however, is not the case. The cigars are made up by the hands of women in large rooms of the factory, each of them containing from 800 to 1,000 souls. These are all seated, or squatted, Indian like, on their haunches, upon the floor, round tables, at each of which there is an old woman presiding to keep the young ones in order, about a dozen of them being the complement of a table. All of them are supplied with a certain weight of tobacco, of the first, second, or third qualities used in composing a cigar, and are obliged to account for a proportionate number of cheroots, the weight and size of which are by these means kept equal. As they use stones for beating out the leaf on the wooden tables before which they are seated, the noise produced by them while making them up is deafening. The workers earn from six to ten dollars a month for their labor ; and as that amount is amply sufficient to provide them with all their comforts, and to leave a large balance for their expenses and dress, &c., they are seldom very constant laborers, and never enter the factory on Sundays, or, at least, on as great an annual number of feast days as there are Sundays in a year.

The Japanese grow a good deal of tobacco for their own consumption, which is very considerable. They consider that from Sasma as better than that from Nagasaky, Sinday, &c. The worst comes from the province of Tzyngaru ; it is strong, of a black colour, and has a disgusting taste and smell. The tobacco from Sasma is, indeed, also strong, but it has an agreeable taste and smell. and is of a bright yellow color. The tobacco from Nagasaky is very weak, in taste and smell perhaps the best, and of a bright brown color. The tobacco from Sinday is very good. The Japanese manufacture the tobacco well, and persons who cannot use other tobacco, can smoke that of Japan with pleasure.

Java.—The culture of tobacco in Java is very profitable, as the produce is obtained from grounds which have already yielded their first crop. The qualities of Java tobacco are more and more prized in the European markets; the preparation and assortment are not yet all that could be desired, but they have progressed in this branch, and the contracts made with the new adventurers assure them of a considerable benefit. But before the Java tobacco can hope to find an assured opening in the European markets, it will be necessary that the cultivators should make use of seed from the Havanna or from Manilla. The residencies of Rembang, Sourabaya, Samarang, Chinbou, and Tagal, present districts suited for its culture ; it has been carried on with success for a good many years in the residencies of Treanger, Pakalongan, and Kedu, but only for the consumption of the interior, and of the Archipelago.

Celebes.—Tobacco is cultivated in Celebes, but merely in sufficient quantity for local consumption. It is exclusively grown by the Bantik population—the mode of preparation is the same as in Java ; it is chopped very fine and mostly flavored with arrack.

Australia.—Tobacco is cultivated in New South Wales with much success. Australia produces a leaf equal to Virginia, or the most fertile parts of Kentucky, but the great difficulty is to extract the superabundant nitre. The first crop in New South Wales exceeds one ton per acre, and the second crop of the same plants, yields about half the weight of the first. In 1844 there were about 871 acres in cultivation in New South Wales with tobacco, and the produce was returned at 6,382 cwts.; but the impossibility of extracting the nitre by the heating, or any other process, rendered the flavor rank and disagreeable.

Amoor.—Tobacco is extensively cultivated in upper and lower Amoor.

In most of the countries of the East Indies, tobacco is smoked in the form of rolled cheroots or cigars or cigarettos, which are manufactured in large establishments. But most of the nations readily improvise a cigar, or pipe, by rolling the green leaf of a tree into the form of a cone and filling it as a pipe is filled. In Bengal, generally, and in Persia, the pure tobacco is rarely smoked; but various compounds are made and smoked in hookahs of various forms, the Nargyle or Argyle of Persia, the hubble bubble of British India generally, and the highly ornamental hooka. The nargyle is doubtless a word derived from " narel," a cocoanut, for the primitive form of huka is the " narel" or hubble-bubble, a hollow cocoanut shell half filled with water. On one side of the shell is inserted a pipe, which is connected with the fire pan and tobacco holder (chillam) ; and on the other side is inserted another tube, which goes into the mouth of the smoker. When the smoker draws, the smoke from the first pipe (the end of which is under water) is drawn up

with a bubbling noise through the water, and is thus cooled and purified. The coil of flexible tube (necha) of the more elaborate hookah is made of long coil of iron wire covered with cloth and ornamented; this was invented in Akbar's time. A huka for smoking "madhau" (opium), with a peculiar shaped chillam is called "Madhaki." In the East Indies the lower orders frequently smoke in companies, with one "hubble bubble" or narel or "kalli," which are the most ordinary and cheap forms. All sitting round in a ring, the pipe passes from one to another, each taking a few whiffs as it passes. This is never done by the higher orders, nor is it done in Hindustan. The "sulfah" form of huka is the commonest in Kabul and Peshawar. Voigt enumerates 15 species.

Loudon's Encyclopædia of Plants enumerates fourteen species of Nicotiana, besides varieties.

a. N. tabacum, a native of several parts of America, but principally known as Virginian tobacco, having a stem rising from four to six feet, or more in height, bearing pink flowers. Of this there are three chief varieties known in America by the popular names of Orinoco, Broad-leaved and Narrow-leaved, but Lindley even enumerates eight varieties of N. tabacum.

b. N. macrophylla or large leaved tobacco, an ornamental annual, with pink flowers, native of America, rises to the height of six feet.

c. N. fruticosa, or shrubby tobacco, an ornamental evergreen shrub, native of China, pink blossoms, grows to about three feet.

d. N. undulata, or *suaveolens*, sweet-scented or New Holland tobacco, a green house perennial, native of New South Wales, with white flowers, only two feet high.

e. N. rustica.—The common green or English tobacco, an annual plant, native of America, producing white flowers, which seldom grows higher than three feet.

f. N. paniculata, or panicled tobacco, an annual plant bearing greenish yellow flowers, native of Peru, rises to three feet high.

g. N. glutinosa or clammy-leaved tobacco, an annual plant, native of Peru, growing to the height of four feet, with bright scarlet flowers.

h. N. plumbaginifolia, or curled-leaved tobacco, an ornamental deciduous annual, native of America, with white blossoms rising to the height of two feet.

i. N. pusilla, or primrose-leaved tobacco, an ornamental deciduous biennial, white flowers, native of Vera Cruz, rising to three feet.

j. N. quadrivalvis, four-valved; or Missouri tobacco, an ornamental annual, native of North America, with white flowers, seldom growing higher than two feet.

k. N. nana, or Rocky Mountain tobacco, a curious greenhouse annual, native of North America, white blossoms, only three inches high.

l. N. Langsdorffii, or Langsdorff's tobacco, an ornamental annual, greenish yellow flowers, native of Chili, reaching five feet high.

m. N. Cerinthoides, or honey wort tobacco, an ornamental annual, with greenish yellow flowers, native country unknown.

n. N. repandu, Havanna tobacco, an annual with white flowers, native of Cuba, rising two feet high.

There are a few species, natives of the Province of Buenos Ayres, which may be particularised. *N. banariensis*, having white flowers; *N. glauca*, yellowish green flowers; *N. longiflora*, white flowers, and *N. viscosa*, pink flowers.

The important mineral substances present in Havanna tobacco, examined by Hertung, are in 100 parts of ashes,

Salts of potash, ...	34·15
Salts of lime, ...	51·38
Magnesia, ...	4·09
Phosphates, ...	9·04

These substances being for the most part insoluble in earth, must have been dissolved during the growth of the crop.

Analysis of five samples of tobacco.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
	Argillaceous soil.		Calcareous soil.		
Potash, ...	29·08	30 67	9·68	9·36	10·37
Soda, ...	2·26	...	...	...	·36
Lime, ...	27·67	24·79	49·28	49·44	39·53
Magnesia, ...	7·22	8·57	14·58	15·59	15·04
Chloride of sodium, .	·91	5·95	4·61	3·20	6·39
Chloride of potassium,	......	...	4·44	3·27	2·99
Phosphate of iron, .	8·78	6·03	5·19	6·72	7·56
Sulphate of lime, .	6·43	5·60	6·68	6·14	9·42
Silica, ...	17·65	18·39	5·54	6·28	8·34
	100·	100·	100·	100·	100·

Manure which contains the largest proportion of alkaline carbonate, magnesia lime and gypsum, is that best adapted for tobacco. Analysis by Prof. Johnston ("*Lectures*," 2nd edition) of the ash of the tobacco leaf and the composition of a special manure for tobacco:—

Potash	12·14
Soda..	0·07
Lime	45·90
Magnesia	13·09
Chloride of Sodium ..	3·49
Chloride of potassium	3·98
Phosphate of iron ...	5·48
Phosphate of lime ..	1·49
Sulphate of lime	6 35
Silica..	6·01
	100·00

All the ingredients which are necessary to replace 100 lbs. of the ash of tobacco leaves are present in the following mixture:—

Bone dust, sulphuric acid	23lbs
Carbonate of potash (dry)	31 ,,
Carbonate of soda (dry)	5 ,,
Carbonate of Magnesia	25 ,,
Carbonate of lime (chalk)	60 ,,
	144 lbs.

Dr. Covell, in "Silliman's American Journal," vol. vii., shows the components of the fresh leaves of tobacco to be—1, gum; 2, a viscid slime, equally soluble in water and alcohol, and precipitable from both by subace-

tate of lead; 3, tannin; 4, gallic acid; 5, chlorophyle (leaf green); 6, a green pulverulent matter, which dissolves in boiling water, but falls down again when the water cools; 7, a yellow oil, possessing the smell, taste and poisonous qualities of tobacco; 8, a large quantity of a pale yellow resin; 9, nicotine; 10, white substance, analogous to morphia, soluble in hot, but hardly in cold alcohol; 11, a beautiful orange red dye stuff, soluble only in acids; it deflagrates in the fire, and seems to possess neutral properties; 12, nicotianine. According to Buchner, the seeds of tobacco yield a pale yellow extract to alcohol, which contains a compound of nicotine and sugar. MM. Henery and Boutron Charlard found the following quantities of nicotine in 100 parts of

Cuba tobacco.	8·64	Ile et Vilaine...	11·20
Maryland.....	5·28	Lot et Garonne	8·20
Virginia.. ...	10·00		

—*Ure's Dictionary of Arts and Manufactures.*

Mr. Piddington analysed several Indian soils, distinguished for the production of superior tobacco. These are soils from Arracan, (Sandoway,) a soil from Singour, in Burdwan, near Chandernagore, the tobacco of which, though of the same species as that of the surrounding country, sells at the price of the Arracan sorts; and the soil of the best Bengal tobacco, which is grown at and about Hingalee, in the Kishnagur district. The best tobacco soils of Cuba and Manilla, are for the most part red soils, which contain most of their iron in the state of peroxide, or the reddish brown oxide of iron; while the lighter grey soils contain it only in the state of protoxide, or the black oxide of iron. Mr. Piddington believes the quality of the tobacco to depend mainly on the state and quantity of the iron of the soil, while it is indifferent about the lime which is so essential to cotton. None of the tobacco soils contain any lime. Their analysis show them to contain in 100 parts

	Arracan.	Singur.	Hingalee.
Oxide of iron (peroxide)	...15·65	10·60	6·00
Water and saline matter	... 1·10	·75	1·50
Vegetable matter and fibre	... 3·75	1·10	·75
Silex	...76·90	80·65	87·25
Alumina	... 2·00	4·50	1·15
Water and loss ..	... ·60	2·40	3·00

From which it will be seen that the best tobacco soil hitherto found in India contains about sixteen per cent., or nearly one sixth, of iron, which is mostly in a state of peroxide; and that the inferior sort of tobacco grows in a soil containing only six per cent., or one sixteenth of iron, which is, moreover, mostly in the state of protoxide, or black oxide. He also examined the quantity of iron in the different sorts of tobacco, and found that while the ashes of one ounce, or 480 grains of Havanna and Sandoway cheroots gave exactly 1·94 grains, or 0·40 per cent. of peroxide of iron, the ashes of the same quantity of the Hingalee, or best Bengal tobacco, only gave 1·50 grains, or 0·32 per cent; and it appears to exist in the first two in a state of peroxide, and in the last as a protoxide of iron; rendering it highly probable that the flavour of the tobacco to the smoker depends on the state and quantity of the iron it contains. Green copperas water, which is a solution of sulphate of iron, is often used by the American and English tobacconists and planters, to colour and flavor their tobacco; and this would be decomposed by the potass of the tobacco, and sulphate of potass and carbonate of iron formed. Carbonate of iron is of an ochre-yellow colour. Mr. Laidley, of Gonitea, however, dissented from the idea suggested by Mr. Piddington that ferruginous matter in the soil is essential to the successful growth of tobacco. He observed that tobacco contains a notable quantity of nitrate of potass and muriate of ammonia (the latter a most rare ingredient in plants), and these two salts are infinitely more likely to affect the flavour of the leaf than a small portion of oxide of iron, an inert body. Now as neither of these can be supplied by the atmosphere, we must search for them in the soil, and accordingly he imagined that a compost similar to the saltpetre beds which Napoleon employed so extensively in France, would be a good manure for tobacco lands; namely, calcareous matter, such as old mortar, dung, and the ashes of weeds or wood.

Natives of India grow the tobacco (each for his own use) upon the heap of rubbish at his own door, consisting of ashes, cow-dung, and offal of all kinds. In Coimbatore, between the middle of August and the same time in September, a plot of ground is hoed and embanked into small squares; in these the seed is sown, and covered by hand three times at intervals of ten days. To secure a succession of seedlings water is then given, and the sun's rays moderated by a covering of bushes. Watering is repeated every day for a month, and then only every fifth day. The field in which the seedlings are transplanted, is manured and ploughed at the end of August. Cattle are also folded upon the ground. Four or five ploughings are given between mid September and the middle of October, when the field is divided as above into small squares. These are watered until the soil is rendered a mud. Plants of the first sowing are then inserted at the end of September, about a cubit apart, the transplanting being done in the afternoon. At intervals of ten days the seedlings of the other two sow-

ings are removed. A month after being transplanted the field is hoed, and after another month the leading shoot of each plant is pinched off, so as to leave them not more than a cubit high. Three times during the next month all side shoots thrown out are removed. When four months old, the crop is ready for cutting. To render the leaves sweet the field is watered, and the plants cut down close to the surface, being allowed to remain when cut until next morning. Their roots are tied to a rope and suspended round the hedges. In fine weather the leaves are dry in ten days, but if cloudy they require five more days. They are then heaped up under a roof, which is covered with bushes and pressed with stones for five days. After this the leaves are removed from the stems, tied in bunches, heaped again, and pressed for four days longer. They are now tied in bundles partly of the small leaf and partly of the large leaf bundles, and again put in heaps for ten days—once during the time the heaps being opened and piled afresh. This completes the drying. A thousand bundles, weighing about 570 lbs., is a good produce for an acre in the East Indies for its growth, a soil as fertile and as well manured as for the prduction of the poppy or opium. It is, therefore, often planted in the spaces enriched by animal and vegetable exuviæ, among the huts of the natives. Growers in Cuba, Virginia, North and South Carolina, and the Philippine Islands select a high and dry piece of land, of a siliceous nature, and combined with iron, if possible; tobacco will even lose its natural quality and degenerate by transplanting from one soil to another, although of the same temperature, and *vice versa*.

In the year 1842, 605,000,000 of cigars were made in the German Commercial Union. In 1839, the revenue on tobacco in Great Britain was about £3,600,000. Of this it has been estimated eleven-twelfths are drawn from the working classes, and one-twelfth from the richer classes. The following is a calculation of the consumption of tobacco per head of the population, estimated from the number of pounds on which duty was paid:—

	Rate of duty.	Consumption per head. oz.
1801	1s. 7 3-10d. England. / 1s. 0 7-10d. Ireland.	17
1811	2s. 2 13-20d.	19¼
1821	4s. 0d.	11 45
1831	3s. 0d.	12 35
1841	3s. 1 8-10d.	12 45
1851	3s. 1 4-5d.	21

Thus it will be seen the consumption is materially affected by the rate of duty.

The imports to England of all kinds of tobacco for the five years, 1848 to 1852, have been as follows:—

	1848.	1849.	1850.	1851.	1852.
	lbs.	lbs.	lbs.	lbs.	lbs.
Unmanufactured	34,090,360	41,546,848	35,166,358	31,061,953	33,205,635
Manufacture and snuff	1,512,714	1,905,306	1,557,518	2,331,886	2,930,299
	35,603,074	43,452,154	36,723,876	33,393,839	36,135,934
	1848.	1849.	1850.	1851.	1852.
Gross duty received:—	£	£	£	£	£
On raw tobacco	4,267,579	4,328,217	4,337,258	4,386,910	4,466,533
Cigars, snuff, &c.	97,655	96,814	92,873	98,858	94 298
	4,365,234	4,425,031	4,430,131	4,485,768	4,569,831

In the year 1850, it was estimated that the produce of tobacco in the whole western states of N. America, was about 160,000 hhds, or 104,000 tons. In that year the following quantities of unmanufactured tobacco, manufactured called negro-head, and cigars, were imported into the United Kingdom of Great Britain:

Countries from whence imported.	Unmanufactured.	Manufactured.
United States of America...	lbs. 30,173,444	1,191,001
Venezuela, New Grenada and Ecuador	895,623	527
Brazil	12,138	56,802
Peru	8,649	6
Cuba	589,627	153,819
British West Indies, including Demerara and Honduras.	26,169	3,242
British Territories in the East Indies	14,500	25,332
Philippine Islands ...	12,233	51,210
Hongkong and China ...	2,706	2,340
Turkey, Syria, and Egypt.	140,361	2,882

Countries from whence imported.	Unmanufactured.	Manufactured.
Malta	13,028	7,818
Italy, Sardinian Territories.	431,939	17
Gibraltar	7	3,063
Spain	307,641	1,100
France	29,950	1,521
Channel Islands	149	1,342
Belgium	29,922	6,579
Holland	2,419,732	9,078
Hanseatic Towns	50,610	36,680
Other parts	8,930	1,980
Total unmanufactured ...	lbs. 35,166,358	1,556,321
Ditto manufactured ...	lbs. 1,556,321	
Snuff ...	1,197	
Total...	lbs. 36,723,876	

The consumption in Great Britain in that year was estimated at 26,000 tons, and of the imports from 1847 to 1850, from 4988 to 7348 tons were re-exported in the form of tobacco leaf and cigars.—*Poole's Statistics of Commerce. Ure's Dictionary, Madras Exhibition Juries' Reports, Catalogue of London Exhibition of* 1862. *Royle's Illustrations Him. Botany. McCulloch's Commercial Dictionary. Bengal As. Soc. Journal. Mr. Rohde MSS. Simmond's Commercial Dictionary. Powell Hand-book of the Panjab. Birdwood, Vegetable Products.*

TOBAGO CANES. This walking stick is a product of a palm, the Bactris minor, Jacq., a native of New Granada and the West Indies.—*Seeman.*

TOBAK, Dan. Tobaka, Pol. Tobacco.

TOBACCO SEED OIL. Oils of Nicotiana tabacum and T. rustica.

TOBBA was the hereditary title of the ancient kings of Yemen. They seem to have been as useful to the Arabian antiquaries as the Phœnicians to ours. Samarkand was said to have been built by them, and a Himyarite inscription on one of the gates testifies thereunto. See d'Herbelot.—*Yule Cathay. I. p.* 190. See Aboo Karib. Kaba.

TOBBA-UL-AKRAN. See Samarcand.

TOBICA WOOD. Tobica karra, Tel. A wood of Northern Circars.

TOCHARI, a nomade Scythic or Tartar tribe supposed by Lassen to be the Yeu-tchi or Yu-chi or White Huns, and he places them with their Arian kings in Upper Bactria and Soghdiana. Towards the end of the second century before Christ they consisted of five tribes. See Kabul. Afghan.

TOD, Colonel. Many years Resident at Udipur, in Rajputana; he devoted his life to the collection of the traditions, legends, genealogies and literature connected with the Rajput race among which he was placed. He published the result of his inquiries in two very interesting quarto volumes, which contain some beautiful illustrations of Rajput scenery and architecture.

TODAH, also styled Todar, Todawar or Torawar, a race occupying the Neilgherry hills in the southern part of the peninsula of India, and seemingly the earliest occupants of those mountains. The name is a Tamil word signifying a herdsman which is the avocation of this race. The Todah, Kotah, Badaga, Erular and Kurumbar, are the names of the tribes now occupying the Neilgherry hills. The dialects spoken by them are mixtures of Canarese and Tamil, and differ chiefly in the pronunciation, therefore, the same or nearly the same word in the mouth of a Todah, with his pectoral pronunciation, can scarcely be recognised as the same in the mouth of the Kotah, with their dental pronunciation. The Badaga and Kurumbar dialects are midway between the former two, with regard to pronunciation. Amongst the several Badaga tribes, those who came at a later period to the hills, the "Kangaru" (Lingait), for instance, who emigrated from Targuru, speak a purer Canarese than the common Badaga. The Todah tribes are five, viz. Peikee, which is the chief tribe, Kenna, Pekkan, Kuttan, or Todi. They are idle, dirty, intemperate and unchaste. Infanticide and polyandry has always existed among them, and their women are now addicted to general prostitution with men of other races. The Todahs formerly allowed one female child to live in each family, the rest being strangled, but this has been put a stop to. They are generally described as a tall and handsome race, but the averages of 25 men and 25 women were as under,

		Men.	Women.
Height	inches	63·30	60·25
Weight	lbs.	121·40	110·80
Circumference of head,	inches	20·81	20·8
„ neck,	„ ...	12·81	11·11
„ arm,	„ ...	9·36	8·90
„ chest,	„ ...	32·22	30·11
„ thighs,	„ ...	16·64	14·6
Length of arm ...	...	32·	27·
„ hand ...	...	7·50	6·75
Breadth of „ ...	...	3·50	3·
Forehead from root of nose to hair	...	2·	
Length of foot ...	...	11·50	
Breadth of „ ...	...	4·	

The women are tatooed about the arms, chest and legs; both sexes wear as their sole costume, for day or night, a toga of stout cotton cloth, five pounds in weight. It is thrown across the right shoulder, overlaps the left arm and trunk, and descends to the knee. They wear no head covering, and their feet are always bare. The women wear brass and iron ornaments, bead and shell neck laces. They carry no weapon, their sole support being their shepherd's staff.

The women are treated with respect, do only household indoor work, and at their leisure work in embroidery. The young associate together before marriage, and on marriage the women become the wives of all the brothers into whose families they marry, the children being apportioned to husbands according to seniority. A Todah bride is brought to her husbands' dwelling, who each puts a foot on her head; she is then sent for water. Their principal deity is Hiria-deva, or the Bell-god, a sacred buffalo bell: this is suspended to the neck of their best buffalo, which is considered sacred, and is worshipped with libations of milk and prayers. Their "Hunting god" is implored for success in their hunting expeditions, and the sun is worshipped as a deity. They believe in the transmigration of souls, called Huma-Norr, and they are very superstitious. Their cemetery and place of funeral sacrifice is a pretty green spot, partially enclosed by a stone wall, and rendered very gloomy by a thick wood on one side and lofty hills on the other. It is their practice to sacrifice buffaloes on the demise of a Toda, and a strongly walled area is set apart for the reception of these animals whose bones and horns are strewed on the ground. At the demise of a Toda chief, the funeral procession entered the green and moved towards the centre. The deceased was dressed in a new garment and mantle, and arrayed in all the ornaments which he had worn during life. He was carried on a bier formed of branches and herbs, and followed by a number of mourners, male and female, who chanted the lament whilst others carried wood for the funeral pile and provisions for the evening meal. The herd of buffaloes was driven into the walled area, and the men armed with clubs entered with exulting shouts and performed a wild dance amongst the buffaloes. These soon became excited to the highest pitch, and at a signal, a bell was attached to the neck of each infuriated animal. Two young men would throw themselves on the animal's neck, seize it by its horns, others would run to their assistance, and eight or ten men would be seen hanging on the neck of one animal, whilst others increased its rage by blows of their clubs, and goading it on with hideous yells and gestures. Three or four animals were thus attacked at one time, and the bell attached to the neck of each. But meanwhile the general assemblage which lined the walls were weeping, exulting or sending forth shrieks of horror whenever a man was wounded, a buffalo overpowered, or a lover or a husband in imminent danger. On the next day, the victims were finally sacrificed. The men struck the animals behind the horns with a wood cutter's axe. But sometimes the blow was undecisive, and an animal infuriated escaped and drove madly amongst the multitude. After the sacrifice, several wild dances followed, during which the men feigned to cut and lacerate themselves. On the third day, the deceased was burned on the funeral pile. They do not at present number more than from 300 to 500 souls. It is supposed that they never could have exceeded a few thousand, but have diminished through opium eating and polyandria, and, at a former period, the prevalence among them of female infanticide. The Toda is the oldest indigenous speech on the Hills. See Dravidian.

TODAKATTI MARAM. Tam. See Todacuttie wood.

TODAPAM. Tam. Brooms. Broom grass.

TODAH. Hind. also Kotakah, a kind of land built into terraced fields.

TODACUTTI WOOD. A beautiful, hard and compact wood, in some parts of the country called Nookoo marum, occasionally employed for making escretoires, cabinets, &c. &c.—*Ains. Mat. Med. p.* 207.

TODAR MULL, the hindu minister of Akbar, a great financier: under his advice Akbar lightened the burdens that pressed on agriculture, abolished the capitation tax on the hindus, abolished also the tax on religious assemblies and other imposts that weighed on the population. Akbar had early to subdue a revolt of his own army, which he effected by an army of rajputs under Todar Mull. His Afghan soldiery serving in Bengal subsequently revolted, and against them he sent his near relation Man Sing, who, after twelve pitched battles and seventeen years of conflict, completely established Akbar's authority there. Akbar's brother-in-law, the rajah of Jeypore, afterwards conquered Cashmere. In Akbar's next efforts to curb the Euzufzye and Khyberi highlanders around Peshawar, his army of 40,000 under his foster brother rajah Berbul, was completely destroyed and Berbul slain, and his subsequent efforts under Man Singh and Todar Mull only met with a partial success. Akbar next annexed Sind and reconquered Candahar, and after 25 years of warfare, he was the undisputed possessor of the territories north of the Nerbuddah.

TODAVADI. Maleal. Oxalis sensitiva, *L.*

TODDALIA, a genus of plants belonging to the natural order Xanthoxyalacæ. The name Toddalia is derived from Toddali, the Tamil name of one of the species. An inferior cosmetic wood or cosmetic tubercles is seen in the Tenasserim market, which is the tubercle of some plant, probably Toddalia aculeata or T. floribunda. The Burmese appear, from

their name, to regard them as produced by a species of erythrina, for they call them "erythrina thorns;" but Mr. Mason knows the plant to be a creeper, and suspects that it is of the above genus.—*Eng. Cyc. Mason's Tenasserim. Voigt*

TODDALIA ACULEATA. Pers. *W. & A.*

Toddalia Asiatica *Lam.*	Scopolia aculeata *Sm.*
Toddalia nitida *Lam.*	*Roxb. Rh.*
T. rubricaulis *Willd.*	Paullinia Asiatica *Linn.*

Kudu miris, Singh.	Varagoki, varra kasimi, Tel.
Kaka toddali, Tam.	Mirapa kandra Tel.
Mula karui maram, „	
Konda kasinda, Tel.	

This plants has prickly stems and branches, is one of the most common bushes on the coast of Coromandel, and extends to 30° N. lat., along the base of the Himalaya mountains. All the parts are very pungent, especially the roots when fresh cut. The fresh leaves are eaten raw for pains in the bowels; the ripe berries are fully as hot as black pepper, and have nearly the same kind of pungency. They are pickled by the natives. The fresh bark of the root is administered by the Telinga physicians for the cure of the remittent, called hill fever. Roxburgh conceived that this tree possessed very valuable stimulant properties, and Dr. O'Shaughnessy is of the same opinion, though he does not appear to have ever made any experiment with it. In fact, nothing has been added to what Roxburgh knew, although some specimens of the bark were sent to Europe in 1818. Its properties are worthy of further investigation.—*Roxb.* i. 616. *Ind. Ann. Med. Sci. for April* 1856. *Eng. Cyc. O'Shaughnessy p.* 265. *Beng. Phar. p.* 433. *Dr. Mason's Tenasserim. Voigt. p.* 186. See Cosmetic tubercles, Mulukurang vare patte.

TODDALIA ASIATICA. Lam. Syn. of Toddalia aculeata, *Pers.*

TODDALIA FLORIBUNDA. See Cosmetic tubercles.

TODDALIA NITIDA. Lam. Syn. of Toddalia aculeata, *Pers.*

TODDALIA RUBRICAULIS. Willd. Syn. of Toddalia aculeata, *Pers.*

TODDA-PANA. Maleal. Cycas circinalis, *Linn.*

TODDAVADI. Tam. Oxalis sensitiva.

TODD, d'Arcy, an officer of the Bengal army, some time envoy at Herat.

TODIGATE VRIKSHA. Can. Dalbergia latifolia.

TODDY.

Nira, Sainda, Duk. Guz.	Nareli of cocoanut, Hind.
Tari, Sur, „ „	Tuwak, Malay.
Palm Wine, Eng.	Kallu Maleal.
Toddy, „	Sura, Tari, Tadi, Sans.
Sendi, of date palm Hind	Khullu Tam. Tel.
Tari, „ palmyra „ „	

Toddy is the general name given by Europeans to the sweet, delicious, refreshing liquors which are procured in the tropics, by wounding the spathes or stems of certain palms when the sap and juices exude from the trunks or from the fruit stalks. In the West Indies, it is obtained from the trunk of the Attalea cohune, a native of the Isthmus of Panama. In Eastern Asia, the palms from which it is collected are the Gomuti palm, the Cocoanut, the Palmyra, the Date, and the Kittul or Caryota urens. The Gomuti palm, *Arenga saccharifera*, is fit to yield toddy when nine or ten years old, at the average rate of three quarts a day. On the first appearance of the fruit, one of the spadices is beaten with a short stick, on three successive days, with the view of determining the sap to the wounded part. The spadix is cut off a little way from its root or base, and the liquor, which oozes out, is received in pots of earthenware, in bamboos, or other vessels. When newly drawn, the liquor is clear, and in taste resembling fresh must. In a very short time it becomes turbid, whitish, and somewhat acid, and quickly runs into the various states of fermentation, acquiring an intoxicating quality. In Malacca, the Gomuti, termed Kabong, comes into bearing after the seventh year. It produces two kinds of "Mayams" or spadices,—male and female. The female spadix yields fruit, but no juice, and the male the reverse. To procure the toddy of the palmyra tree, the Borassus flabelliformis, at the season when the inflorescence begins to appear, and before the spathes have had time to burst, the toddy-drawer cuts off all leaves except three or four, and all or most of the spathes are effectually encompassed from end to end by thongs, to prevent the inflorescence from bursting forth. When thus tied for three successive mornings they are beaten or crushed between the wooden battens, with the object of keeping them from bursting, and to encourage the flow of sap. On the fourth morning, a thin slice is cut from the parts of the spathes. On the eighth morning a clear sweet liquor begins to flow from the wounded parts, and the toddy-drawer then ascends in the morning with chatties, or toddy receivers, in which he places the ends of the spathes, and leaves them until the morning, when they are found to contain a quantity of this liquor. The operation of attracting the juice is repeated every morning or evening until the whole spathe is sliced away. The trees are drained in this manner for several months of the year, seven or eight spathes yielding at the same time.

The toddy of the cocoa-nut tree (*Cocos*-

nucifera) is obtained from the flower spathes before the flowers have expanded in a manner almost similar to what has been described of the Palmyra palm. The spathe is tied with strips of the young leaves, to prevent its expansion; it is cut a little transversely from the top, and beaten either with the handle of the toddy knife or a piece of hard wood, a process which is repeated morning and evening for five or six days in succession. The under part of the spathe is then taken off, to allow of its being bent, in which position it is retained by being attached to a leaf stalk below. An earthen pot or leaf basket, is a few days afterwards attached to the end, and is every morning and evening emptied of the toddy which exudes into it, the quantity of which greatly varies. A little portion of the spathe is daily cut off.

Toddy is also procured from the date tree of India, Phœnix dactylifera during the months of November, December, January and February, during which period each tree is reckoned to yield from 120 to 240 pints of juice; but the mode of its extraction destroys both the fertility and the appearance of the tree. After removing the lower leaves and their sheaths, a notch is cut in the pith of the tree near the top, from which the toddy issues by a small channel, made of a bit of the palmyra leaf, into a pot suspended to receive it.

Palm wine is also extracted from the Caryota urens during the hot season. The quantities which are said to flow from it are immense, so much as a hundred pints during the twenty-four hours.

The taste of toddy in its fresh state, probably varies according to the state of the weather and season of the year, which will explain the many comparisons given of it, to Poubon water, mild champagne, cider, ginger beer, perry, &c. In all Eastern countries the toddy of these several trees is used for the same purposes. It is drunk, though rarely, when fresh from the tree, and is then a gentle aperient, particularly useful in delicate constitutions. It is boiled down into a coarse sugar called jaggery or goor, which is afterwards refined. It is fermented in the course of a day, into a mildly intoxicating liquor, still known as toddy, of which several pints are partaken before intoxication comes on. It is also distilled into arrack, made into vinegar, and throughout all Eastern countries it is employed as yeast as it begins to ferment in a few hours after it is drawn. In the peninsula of India the ropes employed by the toddy-drawers to help them to climb the tree, are made of cow or buffalo hide, but in other countries the pliant tendrils of plants are sometimes employed. The ropes are sufficiently large to surround the tree and the body of the climber, who by leaning backwards and throwing his whole weight on the rope, is thus enabled to retain each position he attains, while by drawing up his feet and shifting the thong in his hand to higher points, he gradually raises himself to the top of the tree. Accidents, however, are frequent and frightful. The toddy from the cocoanut tree, the date, and the palmyra, is called Nira, Sendi, Tari, in Duk. Guz. Hind. respectively.

TODDY-BIRD. Artamus fuscus.

TODDY-CAT. One of the Viverridæ.

TODDY DRAWER. In Tamil, Sanar; in Malabar, Kattikaran; in Karnatica, Idiga; in Tamil, Sarai-kara; in Telugu, Kalal; is a person who manufactures and sells toddy and other spirituous liquors. In Mysore the toddy-drawers are the Hale Paik race, who speak Tulu.—*Wils.* See Polyandry.

TODDY SHRIKE. Artamus fuscus.

TODRI. Hind. Varieties of Cheiranthus, Todri safed is C. annuus, T. surkh or lal, Cheiranthus cheiri. Todri nafarmani is a Delphinium. Todri surkh, is apparently the seeds of common cress (Lepidum sativum), but in all probability mistakenly, as all other specimens of cress are named halim, or taratezak.

TODRI LILA, also Todri safed. Hind. Mathiola incana.

TODRI NAFARMANI. Todri surkh, Todri siyah, Hind. Cheiranthus cheiri.

TOEANKOE, a title of rank in Sumatra.

TOFANGI. Pers. A matchlock-man, a musketeer, from tufung, Pers. a musket.

TOGALA. Mindoro. Palma brava.

TOGARU MOGALI. Tel. Morinda exserta, *Roxb.*

TOGARI. Can. Tour. Cytisus cajan?

TOGARIKE. Tel. Diospyros capitulata, *W. Ic.*

TOGARI WOOD. Anglo-Tel. Morinda citrifolia.

TOGARU CHETTU. Tel., also Mulugu chettu, Tel. Morinda citrifolia, *Linn.*

TOGARU KARRA. Tel. Morinda citrifolia.

TOGARU MODUGA. Tel. Butea frondosa, *Roxb.* Probably applied when the flowers of this species, and B. superba are used as a dye.

TOGARU. Tel. Morinda exserta, *R.* i. 545. Wood hard and useful, does not warp, grows to a good sized tree, in the Godavari forests.

TOGHALUK. Feroz Toghaluk, king of Delhi, invaded Sind A. D. 1361, and was opposed by a prince whose title was Jam. The Jam brought 40,000 infantry and 20,000 ca-

valry into the field, and for two years and a half kept the king of Delhi at bay. On the brow of a precipice overlooking the northern end of the wall, are the ruins of the stupendous fort of Toglukabad. The vast dimensions, bulk and weight of the stones employed in them, called forth from Bishop Heber the remark that 'the Patans built like giants, and finished their work like jewellers.' In the words of Sleeman, 'the impression left on the mind after going over the ruins of these stupendous fortifications is, that they seem to have been raised by giants, and for giants whose arms were against everybody, and everybody's arm against them.' The fort of Toglukabad was commenced in A. D. 1321, and finished in 1323, or in the short period of two years. Of all the mahomedan fortresses, that of Toglukabad was the greatest and most important in India. The fine tomb of Togluk Shah, built by his son Mahomed, is situated outside the southern wall of Toglukabad, in the midst of an artificial lake, and is surrounded by a pentagonal out-work which is connected with the fortress by a causeway 600 feet in length, supported on twenty-seven arches. The stern beauty and massive strength of the tomb, combined with the bold and massive towers of the fortification that surround it, form a picture of a warrior's tomb. It may be that the splendid mausoleum was an atonement for parricide; for the fall of the wooden pavilion which crushed old Togluk Shah was doubtless a contrivance of his son and successor, Johna Mahomed. The monarch reposes by the side of his queen; near them lie the ashes of the parricidal son. Togluk Shah introduced the era styled the Shaboor san.—*Tr. of Hind, Vol. II, p.* 214.

TOGRUL-BEG. See India, Kelat.

TOHAR. HIND. Cajanus Indica.

TOHBA. See Bhot.

TOHFUT UL MUJAHIDIN, a work by Sheikh Zain ul Abidin, giving an account of the proceedings of the Portuguese against the mahomedans, from A.D. 1498 to A.D. 1583.

TOHKI. See Nasiri.

TOIJASA. SANS. from tejas, brightness.

TOILAKARA. SANS. from tila, oil, and kri, to make.

TOILE. FR. Linen. Toile a voile. Canvas. Toile de nankin, Nankeen. Toile de coton. Calico.

TOISE. FR. Fathom.

TOJA of Banda. Tacca pinnatifida, *Linn.*

TOKA. HIND. A blight, a cotton blight caused by the insect Heliocopis cupido, or Deprescaria gossypium, &c., a weevil which attacks cotton.

TOKE. A river near Ramghur in the Sabathoo district.

TOKA PANA. HIND. Pistia stratiotes, *Linn.*

TOKEN BESSEYS or Toucam-baso, is a large group of moderately elevated islands, extending N. N. W. and S. S. E. Wangiwani, the most north-westerly, is visible from a distance of 21 or 24 miles; the body of it is in lat. 5° 15½′ S., long. 123° 33′ E.

TOKKAY. A large lizard in Further-India and the Archipelago, the Gecko, of the Geckotidæ, which utters the sound of "tokkay" in a loud distinct tone, and a stranger, if not informed of the peculiar nature of the cry, would certainly imagine the word to proceed from the lips of a human being. A traveller, whose name was M. Touquet, there, hearing the sound at night, responded to the call, eh! bien, and it was some time before they could persuade him that he had been holding a conversation with a lizard about twelve inches long.—*Mr. Earl, p.* 52. See Gecko; Geckotidæ, Hemidactylus; Platidactylus; Leiurus, Reptiles, Plychozoon.

TOKO-PAT—— ? See Livistonia.

TOKRA. GUZ. HIND. Basket.

TOLA. A weight containing 12 masha, and equal to 180 grains Troy, the rupee of British India, a tolah, is 180 grains, or three drams apothecaries' weight.

TOLA, or weighing ordeal of India, from tolna, to weigh; in this ordeal the accused is weighed, then certain ceremonies are performed, and he is again weighed; and if found lighter, he is guilty.

TOLA. CAN. Canis lupus, *Linn.*

TOLH. AR. Gum Arabic.

TOL-KOLLEN. See Kummaler.

TOLL. TAM. Hides.

TOLON NOR, a Chinese town walled, populous and commercial. A depot for the Kiakta goods from Russia. The workmen are skilful in modelling and casting the bells, vases, idols and other metallic implements of buddhism.

TOLSTULE-CLOSKU. RUS. Planks.

TOLTI. See India. Maryul.

TOLU. TEL. Hides.

TOLU BALSAM. Saint Thomas' Balsam.

Baume de Tolu, FR.	Balsamo de Tolu, SP.
Tolutanischer balsam GR.	

This is the concrete juice of the Myroxylon toluiferum. It is of a brownish-yellow colour, transparent, with the taste and odour of the white balsam of Peru.—*Faulkner.*

TOLUTANISCHER BALSAM. GER. Tolu balsam.

TOM. JAVANESE. Indigofera tinctoria.

TOMAGARIKA. TEL. Sporobolus tenacissimus, *Beauv.* Agrostisten. *R.* i. 316.

TOMAN. When Tavernier visited Persia in the 17th century, the toman was worth

more than £3; since then it has gradually diminished in value. When Sir J. Malcolm wrote his history of Persia about the year 1820, it was worth £1; it is now worth about nine shillings. Twenty rupees make a toman in Herat, which is equal to six rupees and twelve annas of India (or about 13s. 6d.) The toman of the Dushtistan is equal to 16 Persian rupees, and one mahomedee; each rupee 7 mahomedee; each of which in turn contains 8 pool-e-siah (black money, a certain copper coin); consequently a toman contains 904 pool-e-siah.

TOMAR, also Tokar, HIND. Triticum æstivum.

TOMATO, or love apple, the Solanum lycopersicum, is a vegetable of easy culture, does not require a very rich soil, succeeds best when trained on horizontal trellises, should be thinned occasionally of superfluous shoots, raised from seed, used in sauces, &c.—*Jaffrey.* See Love apple. Solanum. Vegetables.

TOMAYOKE. BURM. Rondeletia tinctoria.

TOMBACCO. IT. Tombak. GER. Tomback. DUT. Pinchbeck.

TOMBS. The tombs of mahomedans have usually been of earth, or unbaked brick, but every material is employed, and names even are written on the tombs. The tomb-stone of a man is distinguished by a raised part in the centre, and that of a woman by a depression. The prevalent form in India of mahomedan tombs of the wealthy, is a dark or black tomb-stone with verses of the Koran engraved on it, and covered by a cupola. Some of these are very magnificent. Those of the Adal shahi dynasty at Bijapore and Gogi have attracted much attention, as also have those of the Bahmini dynasty at Gulburgah and the Kutub shahi dynasty at Golcondah. The cupolas at Roza where Aurungzeb is buried have not any display, and that of Aurungzeb is the least ostentatious. His daughter's tomb at Aurungabad is magnificent, and many of the tombs at Delhi and Agra are great structures. That of Mumtaz Begum known as the Taj Mahal is particularly remarkable. The reformers amongst the mahomedans consider that unbaked brick or earth should alone be used. The protestant christian doctrine that man, in all that he can do of good, is still without merit, is not shared in by mahomedans, buddhists or hindoos, who consider that a personal merit is gained by their good doing, and a mahomedan passing a funeral turns with it a short way and lends his shoulder to convey the body to the grave, thereby bringing a merit on himself. The thirteen tombs, the burial-places of thirteen emperors of the Mogul dynasty of China, are famed in China. —*Frere Antipodes, p.* 337.

TOMMONGONG. JAV. a Javanese title of nobility.

TOMOGASTER. See Hydridæ.

TOMON. MALAY. Curcuma zedoaria, *R.*

TOMON MUNGA. MALAY. Curcuma amada, *Roxb.*

TOMRA KUDU. HIND. Tomri. HIND. Cucurbita lagenaria, Lagenaria vulgaris.

TOM TOM. HIND. A drum.

TOMYRIS, the Getic queen of Scythia. Her opponent erected Cyropolis.

TONARENG, a nomade race dwelling in the great desert of Africa, very fair, with long hair, aquiline noses, high foreheads and thin lips. They say their prayers in Arabic, and speak a Semitic tongue. Their arms consist of a long lance with a broad head, javelins 6 or 7 feet long with jagged hooks at the pointed end, a round buckler ("darega") of buffalo or elephant hide from Soudan, a poniard and a broad bladed scymeter. See Semitic races.

TONCH, a river near Chandwara.

TONDAI-MANDALAM, an ancient name of a tract in Southern India extending from Nellore to the Coleroon river, and including North and South Arcot and the Chingleput collectorate. It is described as having been an ancient wilderness known as the Ramayanum Dandacaranyam, "the forest of the punisher," and was inhabited by the Kurambar, a pastoral and half savage race, who had their own chiefs residing in kotas or forts. They were conquered by an inroad of the Vellalar from the western portion of the peninsula in the reign of Adanda Chakravarti in an age supposed prior to the christan era. The Vellalar race found the clearance of the forest a task of such difficulty, that some withdrew; and the others who remained, had the peculiar privileges conferred on them by Adanda Chakravarti, which are called the Kani-atchi (acre-permanency). These have survived through the political changes of centuries, and are highly valued in a large portion of the old Tondai-mandalam.

TONDAMAN, an independent chief near Trichinopoly. See India. Maravar.

TONDA MARAM. TAM. Terminalia bellerica.

TONDEWOD, or Amadou.

TONDI. TEL. Terminalia bellerica, *Roxb.*

TONDI. MALEAL. Callicarpa lanata.

TONGA, or Friendly Isles. The women saturate the hair with cococa-nut oil, and then powder it over with lime produced from shells. The Tonguese are a much lighter coloured race than the Fijians; in fact, they are real

Polynesians, whilst the Fijians are of Papuan origin. They are also a much handsomer and taller people. This physical superiority, which, independent of the difference of race, the Tonguese enjoy over the Fijians, may partly result from the different treatment to which the women are subjected amongst these two nations. Whilst in Tonga the women have been treated from time immemorial with all the consideration demanded by their weaker and more delicate constitution—not being allowed to perform any hard work—the women of Fiji are little better than beasts of burden, having to carry heavy loads, do actual field work, go out fishing—*Galton's Vacation Tourists, p.* 280. *D'Ewe's China.*

TONGARRON. See Kyans.

TONG-CHOW-FOO, in China, is about 13½ or 15 miles eastward of Peking.

TONGHOO and Martaban provinces comprise the provinces of Tonghoo, Amberst, Tavoy and Martaban. Revenue of Tenasserim in 1855-56, Rs. 833554, in 1856-57, 994526; of Martaban in 1856-6, 232442; 1856-7, 280704.

TONGKIN. See India.

TONGLO. A mountain in Tonking 27° 1′ 8″ N., L. 88° 3′ 9′ in Sikkim, the most southern prominent point of the Singhalila ridge. The top of the mountain is 10,080 ft., the grove at the foot of the peak, with a small pool surrounded by rhododendron trees, is 9,891. Barometrical observations taken simultaneously with those of Calcutta, give the height of Tonglo in southern Sikkim as 10,078·3 feet. Colonel Waugh's, by trigonometry, 10,070·4 feet—a remarkable and unusual coincidence.—*Hooker. Him. Jour. vol.* i. *p.* 171. *Herm. Schl.*

TONGO. See India.

TONGSCHI. CHIN. Pinus excelsa.

TONGUS. ENG. TAM. HIND. Catgut, also fibres of Marsdenia tenacissima and of Calotropis gigantea.

TONGUS. To some of the tribes to which this term is applied, it would doubtless be intelligible: whilst others, such as the Manchu, would, in all probability, repudiate it with indignation. The word, however, is useful, and it is used by the Russians, both in scientific works, and in ordinary language. The most western of the populations to which it applies are occupants of the Lower Tunguska; some of whom (perhaps all) call themselves Orotshong, and some of whom (perhaps all) are called by others Tshapodzhir; the men who bear this name tattoo themselves. For the Tongus at large there is not only no general name but nothing that approaches one. Different tribes designate themselves differently. Donki, which seems, word for word, Tongus, is one name: Beye, meaning the same, is another. The Manchu call all the tribes beyond the confines of Manchuria, and not the Tshapodzhir alone, Orotshong. Other names indicate geographical localities. Thus the Lamut are the men of the sea-coast. Meanwhile another division arises from their habits; these being determined from the domestic animal employed. All the members of the Tongus class belong to either Russia or China, those of China being the Manchu of Manchuria. The Manchurians, as a body, are perhaps somewhat ruder than the Mongols, and the Russian Tungus somewhat ruder than the Manchu. As a rule, they are shamanists, and imperfect converts to christianity, rather than buddhists.—*Latham's Nationalities of Europe, vol.* i. *p.* 267, 268.

TONI, or Indian canoe, is the hollowed out trunk of a tree,—near Bombay generally a mango tree. It must have been the first step in advance from that simplest form of naval architecture, the catamaran of Madras and Aden.—*Burton's Pilgrimage to Mecca,* vol. i. p. 277.

TONIN or Buglawang islands, near the south-east part of Celebes, are of moderate height and stretch a great way south of the island of Salaver.—*Horsb.*

TONJAGA. HIND. PUSHTU. Pavia Indica. Indian horse chestnut.

TONK. The nawabs of Tonk are descendants of the famous predatory leader Amir Khan, the companion in arms of Jeswunt Rao Holkar, who played a most conspicuous part in all the dissensions which preceded the British settlement of Malwa. Amir Khan was by connection, habit, and disposition essentially a Pindaree. On the entrance of the British into Malwa he made overtures to be admitted to protection, but the conditions he proposed were too extravagant to be acceded to. He was however offered a guarantee of all the lands held under grants from Holkar and the protection of the British Government, on condition of his abandoning the predatory system, dismissing his army, surrendering his artillery, with exception of forty guns, to the British at a valuation, and furnishing a body of troops to co-operate with the British force. To the terms offered him Amir Khan agreed, and they were embodied in a treaty in November 1817. To the territories thus guaranteed, the fort and district of Rampoora were added by the British Government as a free gift; and a loan of three lakhs of rupees, afterwards converted into a gift, was made to him. The district of Pulwul was also conferred on his son in jaghire for life. In lieu of the revenue of this district, which it was found inconvenient to make over to

the management of the Nawab's son, a monthly stipend of Rupees 12,500 was assigned. Ameer Khan died in 1834, and was succeeded by his son Wuzeer Mahomed Khan, who did good service during the mutinies of 1857. His territories cover an area of 1,800 square miles, and contain a population of 182,000. The revenue is Rupees 800,000. The State pays no tribute to the British Government, nor are any local corps or contingents maintained from its resources. The regular military establishment consists only of about 500 or 600 horse. The Nawab receives a salute of seventeen guns; he has received a sunnud guaranteeing the succession to his family according to mahomedan law in the event of the failure of natural heirs.—*Treaties, Engagements and Sunnuds, vol.* iv. *p.* 94.

TONKINESE. See Anam, India, Monsoon.

TONKIN BEAN of Dipterix odorata, a native of the woods of Guiana, is an oval, oblong, somewhat boat-shaped seed, one or two inches long, shining, with an oily surface marked with a network of wrinkles; colour purple-brown, odour very fragrant, taste slightly bitter, but very burning and almost caustic. They are employed as a perfume for snuff.—*Faulkner.*

TONKING or Tung-quin gulf, is an extensive bight formed in the coast between the parallels of 17° and 22° N., and which is rendered a deep inlet by the peninsula of Lui-chew-fu and the island of Hainan which protect it, and in a great measure enclose it to the eastward. The entrance between Tigu Island and the south-west part of Hainan, is about 110 miles wide. The river of the same name falls into the north-west side of the gulf, by two branches called Rock-bo and Domea. In the entrance of this river there is but one flood and ebb in 24 hours, as occurs at the Island of Basselan, near Mindanao and the other islands in the Eastern Archipelago. See Tonkin.

TONS, from Sutlej to Jhilam, is the Picea Webbiana, also P. pindrow, the silver fir.

TONS, a tributary to the Ganges in lat. 24°, lon. 80° 30′ N. W., E. N. E., N., falls into the Ganges a few miles below Allahabad. Length, 165 miles. It receives the Satni, Behar, Mahana, Belun, and Seoti, including small streams, 13,000 square miles drained. It runs near Sahespoor in Dehra and near Ramnuggur, in Allahabad district. The Tons river is under the Garhwal and Dehra Dun authorities, the Pabar and the Giri run through Bashahir and Sirmur respectively: there is but little deodar in the upper valleys, and the streams are rapid, and the volume of water scanty.—*Powell's Hand-book,* vi. *p.* 529.

TONSE. A river of Jubbulpur.

TOOAR. DUK. MAHR. Cytisus cajan, *Linn.* Dhal. Dhol.

TOOBOOAN, or Keyser Island, lies mid-channel in Simank or Keyser Bay, on the south coast of Sumatra.

TOODOONG. JAV. a broad brimmed straw hat.

TOODOOVALLAY. Solanum trilobatum.

TOOIL KEERAY. TAM. Achyranthes polygonoides.

TOOKEE. TEL. Ebony.

TOOKPA. See Kunawar.

TOOLA-BARUM, in Travancore, a ceremony of the rajah distributing his weight of gold; from tolah, HIND., a practice of weighing a person against his or her weight in silver or gold, and distributing the amount to the poor or to brahmans.

TOOLSEE. HIND. is the name given in India to species of Ocimum. In hindoo mythology Toolsee was a disciple of Vishnu. Desiring to be his wife, she excited the jealousy of Lukshmee, by whom she was transformed into the herb named after her. There are several well known species of the genus Ocimum, to each of which different names are given, viz., the Ram toolsee is the Ocimum gratissimum; Babooye toolsee, Ocimum pilosum; the Krishna toolsee, Ocimum sanctum; but only the last and the common Toolsee, O. villosum, are held to be sacred to Vishnu and used in his worship. The toolsi plant is employed in the funeral ceremonies of the hindoos. See Ocimum.

TOOLSEE, a river near Kuckresir, 26 miles from Neemuch.

TOOLSEE BAI was born about A.D. 1790, in the house of Ajeebah, one of the Maun Bhow sect, at Mbysir. She was beautiful, and was married in the Deckan, but Jeswant Rao Holkar hearing of her, he placed her in his zenanah. She was quick and intelligent, and rode well. From that time she was the moving power in all the affairs of the durbar, but there were two factions, Mahrattas and Pathans, who alternately swayed the counsels. In 1811 Jeswunt Rao died, and she adopted Mulhar Rao Holkar, a child of four years of age, but her shameless profligacy with her dewan Gunput Rao had disgusted every one, and she had to seek protection in the fort of Gungram. In 1817, the British armies advanced towards central India, to whom she made overtures, but this displeased all her soldiers, the lad was removed from her care, a guard was put over her, and on the morning of the 21st December 1817, she was taken from her prison to the banks of the Seepre and there beheaded by a mahomedan jemadar when only 27 years old.

TOOLSOO-MOODRIYA. BENG. Leea macrophylla.

TOOM. BENG. Garuga pinnata, *Roxb.*

TOOMBA. BENG. Cucurbita lagenaria, *L.*

TOOMBI. Embryopteris glutinifera.

TOOMBIKA. TEL. Ebony.

TOOMBIKARA. TEL. Ebony.

TOOMBO. BENG. HIND. Cucurbita lagenaria.

TOOMBOODRA. A river of the Peninsula of India. See Mysore, Tumbudra.

TOOMBU or Toombee. BENG. Bottle Gourd, Cucurbita lagenaria.

TOOMI-CHAVA KARA. TEL. Ebony.

TOOMUTTIKAI. Bryonia callosa.

TOON. The timber of the Cedrela toona, a tree which extends over every part of India, and may be seen all along the foot of the Himalaya. The botanical specimens from Nepaul having frequently a sixth part added, Dr. Wallich was induced to call that variety Cedrela hexandra. There is, however, a distinct species, Cedrela serrata, which may be readily recognized by the great length of its racemes of flowers, and may frequently be seen with Sapindus acuminatus growing in the close valleys within the Himalaya. The toon resembles its congeners, chittagong wood and mahogany, and is very much used for furniture all over the peninsulas.—*Royle's Ill. Him. Bot. p.* 142. See Cedrela toona, Toon wood.

TOONA MARAM. TAM. Cedrela toona, *Roxb. Cor. W. & A.*

TOONDEE COIR. TAM. Calotropis gigantea, *Brown.* Rope or coir.

TOONG. BENG. Rottlera tinctoria.

TOONGBUDRA, properly Tumbudra, a tributary to the Kistnah river formed in lat. 14° N., lon. 75° 43′ E., by the junction of the Toonga and Budra rivers. It runs N. N. E., into the Kistnah, length 325 m. It receives the Chinna Hugry; Hindry, 225 m.; and the Wurda. About 28,000 sq. m. drained. There are rocky obstacles to navigation in the upper part of its course. Fine teak forests on banks. See Tumbudra.

TOONIA JOOM MAHALS, a forest tract in the hills of the Chittagong district, which the Chukma race occupy along with Mug, Reang and Tipperah races, all more or less nomadic. Some one of these races, till lately performed human sacrifices annually, and in the year 1852, several persons were tried for murder by sacrificing. The place of sacrifice was a cleared district in the jungle and staked round with bamboos about six feet high. The sacrificial pole was a "Phula bans" bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. During the celebration of these sacrifices at Agartollah, a gun is fired every evening at sunset, when every person hurries to his home.

TOON-MARAM. TAM. Cedrela toona.

TOONTOONI-NUTI, BENG. Amarantus fasciatus.

TOON TREE. ENG. Cedrela toona, *Roxb.*

TOON-WOOD. Cedrela toona. The toon tree wood is of a reddish-brown colour, rather cross grained, but much used all over India for furniture and cabinet-work. Lieut. Nuthall, as quoted by Captain Munro, mentions "*toon*" as one of the woods of Arracan, under the name of "thit-ka-do," but Dr. Wallich says that thit-ka-do is a species of sterculia.—*Mason. Holtz.* See Toon.

TOOR, HIND. Cajanus Indicus, *Spreng.*

TOORANEE, or Turkish. The Soonee mahomedans are so called.

TOORASHAT. SANS. A name of Indra.

TOORBUT HYDEREE, is the hilly country between Meshid and Herat, both sides of the high road to within forty miles of that city, has been subject to Persia since 1833, and is held directly under Meshid. Previous to that period many petty chiefs, who were robbers, occupied the tract.—*Sir A. Burnes in P. P.*

TOORAY. Mollugo spergula.

TOOREE. A warlike tribe occupying a portion of the valley of the river Khurm; they can muster 5,500 fighting-men. They are nominally subjects of Cabul, and belonged to the jagheer of sirdar Azim Khan, one of Dost Mahomed's sons; but they are under no real control. They repeatedly leagued with other tribes to harass the Meeranzye valley. They would sow among the Meeranzye people, they would harbour fugitives from either party, they would encourage all to resist the British, they would attack some villages in force; they frequently committed raids on the Bungush and Khuttuk villages of the Kohat district. In August 1853, Captain Coke seized a Tooree caravan on its way to the salt mines, taking the property as security for re-payment of value of plundered property, and the men as hostages for their tribes. This measure was soon followed by an embassy from the tribe and an agreement was concluded with the tribe from the commencement of 1854. The value of plundered property was made good, the prisoners were released, and five Tooree men were made over to the British as hostages; but within one month, the tribe again gave way to evil counsels, and in March 1854, a serious attack was made by the Tooree, with 2,000 men (foot and horse) on a Meeranzye village. See Khyber.

TOOR-KA-DHAL. HIND. Cytisus cajan, *L.*

TOORKEE, the language which is in use

all over the north-west of Persia. It differs considerably from the Turkish of Constantinople, though both dialects were originally the same language. The Toorkee is in its ruder and simple form, whereas the Turkish has been much refined and mixed with other tongues.

TOORKHOORMATTEE is situated close to the gypsous hills of Kifri, and just west of the pass in them by which the Ak-soo penetrates into the plain.—*Rich's Residence in Koordistan, vol.* i. *p.* 27.

TOORRA, a bouquet.

TOORSHKUH, is north of Tubbus on the boundary of Herat. It is a district which is well watered and peopled, yielding good fruit. It is smaller than Kayn, and furnishes about 3,000 troops to the Shah, and has a governor appointed over it. It lies north from Meshid. —*Burnes.*

TOORSIE. A nuddy near Arvie in Dhoolia.

TOORTOOREE. Hind. A musical instrument, a trumpet.

TOORURATEE, female, Chatway (Chatua) male hawks, natives of Sind, with black eyes ; they are let loose after the season. See Hawking.

TOOS. A town 17 miles N.N.W. of Meshid, a little way from its entrance is the tomb of Ferdusi.

TOOSKEE. A lake in Ladakh about two miles long and half-a-mile in breadth, its waters are highly impregnated with soda. No fish are obtained in the lake, nor in the fresh water streams which run into it. A mountain-barometer makes the lake 15,000 feet above the sea-level. It is frequented by herds of mahoor or wild sheep, and several herds of kiang.—*Adams.*

TOOSTEE. Sans. from toosh, to please.

TOOT. Beng. Mulberry. Morus indica.

TOO-TA-BAT, Burm. On the annexation of Pegu, the king of Burmah lost the royal garden, which is a few miles out from the village of Twantay, in which the celebrated "Too-ta-bat" tree grows. In that locality there are some dozen or more of these trees, which furnished the royal table with the too-ta-bat fruit. The appearance of the tree is not unlike that of the common jack. It is said to be the Sapodilla plum which grows in abundance in the West Indies, and has a most luscious taste. The Burmese too-ta-bat, or sapodilla plum, is about the size of a large guava and resembles it in shape. When ripe, it has a green olive colour, and inside are four long bean-like seeds of a dark brown colour which are surrounded by a mealy pulp. The taste of the pulp is not unlike a doorian, but it has none of the smell of that well known fruit. It leaves a little astringency and pungency on the tongue and palate. The flavour is that of a ripe mellow plum. This fruit is not seen in the market, because it is scarce, and what is picked off the trees is presented mostly as offering to the poongyees. The keeper of the Twantay garden, and all his children were formerly charged not to eat a single plum, on pain of immediate execution. All the fruit was picked and sent up to the capital, by express boats, for use in the palace. If a Burman only pointed his finger at a tree, he would be severely punished for it. To point a finger at one was to spoil fruit intended to be eaten only by the king and members of the Royal household.

TOOTEE, is the long silky hemp-like fibre of three species of Abutilon, the A. tomentosum, A. polyandrum and A. indicum.

TOOTH RELIC, the sacred tooth of Budha is in the Mallagawa or Temple of the Tooth in Ceylon. There is much ceremony when this tooth is exhibited, various orders for the opening of the chamber are requisite, before the bars may be taken down and the strong box unlocked. The tooth is enclosed in manifold caskets, one within another, becoming richer and more ornamented the nearer they are to the sacred relic. The last two or three are of very fine gold, set with rubies, diamonds and emeralds, but these like most oriental jewels, are roughly cut and ill set.—*Frere, Antipodes,* p. 185. See Inscriptions.

TOOTI, Beng. Hind. Cucumis momordica.

TOOTIYA-SABZ. Pers. Green copperas, or Green vitriol, Sulphate of copper.

TOOTA-KURA. Tel. Convolvulus reptans.

TOOTY, the roseate finch, Carpodacus erythrinus, is to be seen in flocks feeding on unripe mulberries.

TOOVARAY. Can. Tam. Cytisus cajan.

TOP. Hind. Pers. Cannon, a gun.

TOPAIKA MARINDU. Tam. Gunpowder.

TOPAS, a name given to christians serving on ship board.

TOPAZ. Arab. Eng.

Topase,	Fr.	Zabarjad,	Malay.
Topas,	Ger. Rus.	Zuburjud,	Pers.
Pokhraj,	Hind.	Purperagan,	Singh.
Topazio,	It.	Topacio,	Sp.
Ratna champaca,	Malay	Pushiaragum,	Tam. Tel.

The topaz of the ancients was the greenish coloured substances now called peridot and chrysolite. The modern topaz is of a vinous orange colour, without any admixture of green, it is highly electric. It is a combination of alumina and silica with fluoric acid. Those used in jewellery come from Brazil, and an inferior kind from Saxony. The yellow oriental corundum and the large Bohe-

mian yellow crystals are often sold as topaz. The pink topaz of jewellers is the Brazilian topaz modified by the action of fire. It emulates the Balas in tint and lustre. The colouring process is to envelope the stone, ready cut and polished, in German tinder, and fastened with wire, set it on fire, and when fairly burned out, the topaz will be found changed into a clear rose colour. But though the yellow topaz may be converted into pink by heat, it is a mistake to suppose that in the progress the yellow colour is changed into pink; the fact is, that one of the pencils being yellow and the other pink, the yellow is discharged by heat, thus leaving the pink unimpaired. Topaz is a fluo-silicate of alumina, a silicate of alumina with one-seventh of the oxygen replaced by fluorine. Rhombic; primary form a right rhombic prism. Cleavage perfect, at right angles to the principal axis. Colour, white, yellow, blue and green. Lustre vitreous, transparent to subtranslucent, streak white, fracture uneven, conchoidal, pyro-electric, cuts quartz, but is cut by ruby, H. 8 S. G. .3·4 to 3·6. Not acted on by muriatic acid. Digested for some time in sulphuric acid, yields hydro-fluoric acid. The topaz is divided by jewellers into two kinds, Oriental and Occidental. The first of these is, in fact, not topaz, but a hyalin corundum. Occidental topaz may be divided into three varieties, viz., yellow, blue, and white. With yellow topaz, the colour is generally a beautiful wine-yellow of different degrees of intensity, but at the same time very limpid. The stone is valued in proportion to the fulness of its colour, provided it loses no portion of its brightness. Yellow topaz occurs of large size compared with many other precious stones. Dumelle, a Parisian jeweller, in 1750, discovered one of the most remarkable properties of the Brazilian topaz, viz., that of changing from yellow to pink or pale crimson on exposure to a gentle heat and of retaining this colour permanently. He used to heat Brazilian topaz in a sand bath, but the process is much simplified now, the deeper the tint of the original colour, the deeper will be the rose colour, which sometimes becomes wine coloured like that of the Balas ruby, with which it is often confounded. Topaz is frequently found in rivers, generally with all the edges and angles of the original crystals worn off and presenting a rounded appearance, in which state it is often mistaken for the diamond, owing to the colour and specific gravity being the same. It may however easily be distinguished from the diamond by the hardness and fracture, the topaz being No. 9, and the diamond No. 10. Aquamarine and chrysolite are sometimes substituted for topaz, but may be easily distinguished by difference of hardness, specific gravity, and especially by not becoming electric by friction. Beautiful topazes of various kinds are found in the Burman dominions and in Ceylon, in which last mentioned country, a genuine greenish yellow coloured topaz is improperly called, Thunberg tells us, the yellow Tourmalin (Kaneke Turemale, *Sing.*) A light coloured smoky topaz is there as improperly called a yellow crystal (Kaha Palingu, *Sing.*) and a dark coloured smoky topaz is mistaken for a brown crystal, and called Tillia Palinga by the Singalese. Oriental topazes are a variety of the genuine perfect corundum, and differ from the Occidental topaz, or that which comes from Saxony and Siberia, by the latter containing a greater proportion of silex. An inferior kind comes from Saxony. Topaz is so called from the island of Topazion in the Red Sea. There is a gold coloured and greenish yellow topaz. The oriental topaz according to its colour, receives the following names :—

Nova mina, colourless.	Brazilian chrysolite, greenish yellow.
Brazilian sapphire, light blue.	Brazilian ruby, pink or rose colour, artificially obtained.
Aquamarine, greenish.	

Oriental topaz is found all over the world, in granite and gneiss rocks, which contain fluor spar. The oriental topaz is of very little value in commerce. The gem is of a yellow tint, seldom deep, of a light straw colour. Oriental topaz, ruby and sapphire, consist of pure alumina, coloured with oxide of iron.

	Alumina.	Lime.	Silica.	Oxide of iron.
Ruby..........	90·0	0·0	7·0	1·2
Sapphire......	98·5	0·5	0·0	1·0

TOPE, the term applied in Southern India to a grove of trees, generally of mango or tamarind.

TOPE. Sepulchral mounds occur at Sanchi, Bhilsa, near Benares, Tirhut, Behar, in Afghanistan, Tibet, Nepal and Western Asia, also in various parts of India, near the caves of Keneri or Kanuri; on the Neilgherry Hills, &c. On the demise of Sakya, the first Buddha, in B. C. January 543, his body was consumed, and his bones divided into eight portions, were distributed amongst applicants, who erected Stupas or Topes over them. Topes were in this way erected over his relics at (1.) Rajagriha, an ancient capital of Magadha or Behar Proper: (2.) Visali, at Bassalor, north of Patna : (3.) Kapilavastu, between Ayodhya and Gorukpoor ; (4.) Allakappo:

(5.) At Ramagrama, in the neighbourhood of Gorukpoor and most probably (Sri-Rampura) the Selampura of Ptolemy: (6.) Wetthadipo, most probably Bettiya: (7.) Pawa was to the west of Visali, on the high road to Kusinara: (8.) Kusinara, equidistant between Benares and Visali, or in the position of Kusia on the little Gundak, and (9.) another tope was erected at Pipphaliwano, or the place of the Charcoal Tope, between Kapilavastu and Kusinara. The people of Visali are called Passalæ by Ptolemy. The numerous topes which still exist in India are chiefly confined to a few localities. The topes of Kabul and Jellalabad were opened by Messrs. Honigberger and Masson in 1835, and those between the Indus and the Jhelum by Generals Ventura and Court in 1833 and 1834. The topes near Benares were opened by Major Cunningham in 1835, and those at Sanchi and other places around Bhilsa, were also opened by him and Lieut. Maisey in January and February of 1857. The topes of Tirhut and Bahar still remain to be examined. Of the Bhilsa Topes none have yet been described excepting the largest of the Sanchi group near Bhilsa. An accurate plan and section of this building, with a short account of the various subjects represented in the sculptured bas-reliefs of the gateways, was published by Captain J. D. Cunningham, in the Journal of the Asiatic Society of Bengal. In the topes dedicated to the celestial Buddha, the invisible being who pervaded all space, no deposit was made, but the Divine Spirit, who is "Light," was supposed to occupy the interior, and was typified on the outside by a pair of eyes, placed on each of the four sides either of the base, or of the crown of the edifice. Such is the great Chaitya or Tope near Kathmandu, in Nepal, dedicated to Swayambhunath, the "Self-Existent," in which the eyes are placed on the upper portion of the building. A specimen of the regular Chaitya is represented in the 3rd compartment (inner face) of the left-hand pillar of the eastern gate at Sanchi, in which the two eyes are placed one above the other. Such also are the numerous Chhod-ten in Tibet which are dedicated to the celestial Buddha, in contradistinction to the Dungten, which are built in honor of the mortal Buddhas, and which ought to contain some portion of their relics either real or supposed. The first, Chhod-ten, means simply an "offering" to the Deity, the latter, Dung-ten, is emphatically a "bone," or relic-receptacle. The same distinction is preserved in the Sanskrit terms Chaitya and Dhatugarba or Dhagoba. The former is properly a religious edifice, dedicated to Adi-Buddha, while the latter is only a "relic-shrine," or repository of ashes. The word Chaitya, however, means any sacred object—as a tree, an altar, a temple—as well as any monument raised on the site of a funeral pile, as a mound or a pillar. Chaitya may, therefore, perhaps, be only a general term for both kinds of mound; while Dhatugarbha or Dhagoba is particularly restricted to the "relic" shrine. The word tope is derived from Afghanistan, where it is used to designate all the solid mounds of masonry, some of which were opened by Messrs. Honigberger and Masson. The same term also is applied to the massive tower of Manikyala in the Punjab, as well as to all the smaller towers in its neighbourhood. There can be no doubt therefore that the term tope is the same as the Pali Sthupo, and the Sanskrit Stupa, a "mound" or "tumulus," both of which terms are of constant use in the buddhist books. Stupa, or Tope, is therefore a name common to each kind of tumulus; whether it be the solid temple dedicated to the Supreme Being, or the massive mound erected over the relics of Sakya, or of one of his more eminent followers. From several passages in the Pali buddhistical annals, it would appear that topes were in existence prior to Sakya's advent; and that they were objects of much reverence to the people. Sakya himself especially inculcated the maintenance of these ancient Chaitya, and the continuance of the accustomed offerings and worship. In the sixth of his precepts, to the people of Vaisali, he enjoins them to maintain, respect, reverence, and make offerings to the Chaitya; and to keep up the ancient offerings without diminution. But this was, doubtless, only a politic accommodation of his own doctrines to the existing belief of the people, adopted for the purpose of ensuring a more ready assent to his own views. Like as Mahomed recognised the prophetic missions of Moses and Elias, and the divinity of our Saviour Christ, so did Sakya Muni acknowledge the holy munis Karkutsanda, or Krakuchanda, Kanaka, and Kasyapa, as his immediate predecessors. They were probably heroes or saints, who obtained the respect of their fellow-countrymen during life, and their reverence after death. Stupas had been erected over their relics in the neighbourhood of Kapila and of Benares, and the worship was too firmly established to be attacked with any chance of success. Sakya therefore artfully engrafted them on his own system as the buddhas of a former age. It appears also that Stupas had been erected over supreme monarchs prior to Sakya's advent, for Sakya particularly informs his disciple Ananda that over the remains of a Chakravarti Raja, they

build the Sthupo at a spot where four principal roads meet. It is clear, therefore, that the tope, or "tumulus," was the common form of tombs at that period. In fact, the tope, as its name implies, is nothing more than a regularly built cairn or pile of stones, which was undoubtedly the oldest form of funeral memento. The topes were, therefore, of three distinct kinds: 1st, the Dedicatory, which were consecrated to the Supreme Buddha: 2nd, the strictly Funeral, which contained the ashes of the dead: and 3rd, the Memorial, which were built upon celebrated spots. Of the Dedicatory Topes, as it is improbable that any deposit would have been placed in them, we may plausibly conclude that the largest topes, such as those of Sanchi, Satdhara, and Bhojpur, were consecrated to the Supreme Invisible Adi-Buddha. Of the Memorial Topes, little is at present known. It seems nearly certain, however, that the great Manikyala Tope was of this kind, for an inscription extracted from it, which begins with Gomangasa, "of the abandoned body," undoubtedly refers to Sakya's abandonment of his body to a hungry lion. This tope, therefore, dates earlier than the period of Fa Hian's Indian pilgrimage in A.D. 400. The Funeral Topes were of course the most numerous, as they were built of all sizes and kinds of material according to the rank of the deceased and the means of his fraternity. At Bhojpur, the topes occupy four distinct stages or platforms of the hill. The largest topes, six in number, occupy the uppermost stage, and were, he believes, dedicated to Buddha: that is, either to the celestial Buddha, Adinath, or to the relics of the mortal Buddha, Sakya. This view is borne out by the facts that the largest tope contained no deposit, and that the second and third sized topes yielded crystal boxes, one of which shaped like a tope, contained only a minute portion of human bone smaller than a pea.

There is a tope near Peshawar similar to those of Manikhyala and Belur. It is near a hundred feet high. They all have a chamber in the midst of the pile. It is not easy to trace the derivation of the word tope. Tumulus; modo terra tumens; alias sepulchrum. (Serv. ad Virg. Æn. II. 713.) But the dictionaries do not assign the latter sense to *tel* in Persian; nor to *tel* in Hebrew, although it may be implied. In the Turkish word *tepeh*, which the Persians pronounce *tappeh*, signifying a hillock or small tumular mountain, we may fancy a resemblance to the Greek ταφος (sepulchrum) or ταφη (sepultura), and it is applied (though not exactly in this sense) to some of the sepulchral heaps near Troy.—*Ouseley's Travels, vol.* ii. *p.* 112. *Cunningham's Bhilsa Topes.* See Cairns.

See Inscriptions, for the topes or tumuli of Kraku Chanda, Kanaka and Kasyapa. See Hindu for the topes of Manikhyala. See Kabul.

TOPE-KHANCHE. The border village on the grand trunk road. Chass was, on the old route viâ Hazareebung, the village where Bengal and Behar on each other gaze, and where the traveller has to pass on from one to the other province. Hence the popular saying of the Hindoostanees

Jab koi pâr hojâtâ Châss
Tab chhorta nuhi ghăr kî âs.

TOPI. Guz. Hind. Tam. A hat.

TOPI-WALA. Hind. literally hat-fellow, —a derogatory term employed by natives of India to designate Europeans.

TOPOGRAPHIA CHRISTIANA. See Cosmas.

TOPPU NELLI. Tam. Phyllanthus emblica.

TOR or black Terin, a tribe occupying Pishin; Spin or White Terin, a tribe residing in the valley of Zawura, and in the open plains of Tull and Chutialli. They stretch into Cutch Gundava and nearly touch the British frontier.—*Latham.* See Afghan.

TOR. Hind. See Tawar

TOR. Hind. Euphorbia Royleana.

TOR, in Wellsted's time consisted of two villages, one of which is now completely fallen to decay. Hamilton describes Tor as a miserable hamlet, consisting of about twenty cabins, twelve of which are inhabited by christians of the Greek rite. The huts are constructed of madrepores, picked out of the sea; in one piece of wall eleven different species were counted. The sea there is also surprisingly rich in conchylia, the debris of which lie thickly strewn along the shore.—*Wellsted's Travels, vol.* ii. *p.* 9. *Hamilton's Sinai, Hedjaz and Soudan, p.* 13 *to* 14.

TORA. Such vocables as the Arabic Tur, the Persian Tora, and the Latin "Taurus" denote an ancient sisterhood of tongues.—*Burton's Pilgrimage to Meccah, vol.* iii. *p.* 32.

TORA. A number of trays, containing various dishes of food, presented to others by great men, or the dishes set before guests at meals.

TORA BUJJA. Hind. Adhatoda vasica.

TORAD GOPA? Euonymus tingens.

TORAMA. Amongst the Tartars, a dish of horseflesh boiled soft, and mixed up with turnips, carrots and dumplings.

TORA MALU. See Cybium guttatum.

TORA PANA. Hind. Baliospermum Indicum.

TORA POSH. A covering for dishes.

TORA-RANG-KONHA. HIND. of Bunnoo, black sand-stone.

TORA SHIGGA. PSHT. Auriferous sand.

TORAYEN. See Koramber.

TORBANNA. HIND. Vitex negundo.

TORBEILA. See Khyber.

TORCH-THISTLE. Cercus senilis.

TORCH TREE. Torchwood. In India, Ixora parviflora, *Vahl.*; in Ceylon, a straight dried branch of the Pterospermum suberifolium is used for a torch. It is bruised into loose strips and it burns freely and steadily, one lasting for two hours.

TORDANDA. HIND. Euphorbia Royleana.

TORELAGA. TEL. Limonia acidissima, *Linn.* L. crenulata, *R.* ii. 381.

TORENIA. A genus of plants of the natural family Scrophulariaceæ, found in India the tropical parts of Australia, and in South America.

TORENIA ASIATICA. LINN.

Caela dola, SANS.

A plant found in almost every part of India, is described by Rheede as having the juice of its leaves employed as a cure for gonorrhæa on the coast of Malabar. It has a brilliant purple flower.—*O'Shaughnessy, page* 477. *Eng. Cyc.*

TORENIA CORDIFOLIA. ROXB.

Kaka pu, MALEAL.

This annual spreading plant grows on the coasts of Southern India and is used in medicine.

TORGATS. See Halgas.

TORI. HIND. Sinapis dichotoma.

TORI. HIND. A vegetable.

Bhinda tori, Abelmoschus esculentus.
Galar tori, Trichosanthes anguina.
Ghia tori, Luffa pentandra.
Kali tori, Luffa acutangula.

TORIA. HIND. Sinapis dichotoma.

TORIKA. See Japan.

TORJAGA. HIND. Pavia Indica.

TORKI. HIND. Indigofera linifolia.

TORNADO. SPAN. Cyclone.

TORNGARSUK. The Greenlander believes that after death the soul travels to Torngarsuk, where reigns perpetual summer and sunshine and no night; where there is good water, endless seals, birds and reindeer.

TORPEDINIDÆ. The torpedo family of fishes, belonging to the order Plagiostomi, and the sub-order Raiinæ. Several genera and species occur in Indian waters, viz., Narcine Indica, Astrape dipterygia, Temera Hardwickii and Cysteocercus temeræ, but Dr. Cantor says, large individuals of Narcine are at Penang of rare occurrence, but younger, from 3 to 6 inches in length, are taken at all seasons, and in or out of water they may be handled with impunity. Several species of fishes introduced in a jar filled with sea-water and containing a large Narcine, shewed no consequences from the contact, nor did they appear to avoid the torpedo. The food of this and the other Malayan Torpedinidæ consists of *Crustacea* and *Testacea*. Torpedo, the principal genus, was founded by Dumeril upon the Raia torpedo of Linnæus, and some other species, distinguished by their having the tail short and moderately thick and the disc of the body nearly circular, the anterior margin being formed by two produced portions from the head, which, inclining sideways, join the pectorals: the space between the head, the pectoral fins, and the branchiæ, is occupied by small vertical hexagonal tubes, which are filled with mucous matter, and largely provided with nerves from the eighth pair. The situation of these honeycomb-like cells, which constitute the electrical apparatus, is indicated on the upper surface by a slight convexity on each side of the head. Cuvier and Risso consider that several species have been confounded under a common name, and the latter of these authors has characterised four species of Torpedo in his 'Histoire Naturelle de l'Europe Meridionale.' They are

Torpedo Narke, which he describes as being yellowish-red above, and having five ocellated spots.

Torpedo unimaculata. This species has the body above fulvous, spotted with whitish spots, and one oblong ocellated spot in the middle of the back. The tail is more elongated and slender. It is said to have the electrical apparatus scarcely visible, and to give but very slight shocks.

Torpedo marmorata. Body flesh-coloured, and having brown spots and sinuous markings, producing a marbled appearance: tail thick above rounded.

Torpedo Galvani. Body fulvous, immaculate, but margined with black. Fleming refers the British Torpedo to the third of these species, Torpedo marmorata.—*Eng. Cyc. Cantor.*

TORRA VELAGA. TEL. A species of Feronia.

TORRENS, HENRY. Was Secretary to the Government of India from 1838 to 1845; Secretary to the Bengal Asiatic Society; Resident atMoorshedabad. He diedAugust 1852. He was a man of great learning, and almost universal accomplishments. Author of Translation of Arabian Nights, Calcutta, 1839—Wrote an Abstract of traffic across the N. W. frontier, in Bl. As. Trans. 1841, vol. x. 677, reprinted, Edin. Phil. Jl. 1841.—On Native impressions on the natural history of animals in Bl. As. Trans. 1849, vol. xviii. 778.—A memoir of him appeared in Corbyn's India

Review, 1842, vol. xii. 556; Bombay Times, June 6, 1851, and August 30, 1852.

TORRES ISLANDS. The great Torres islands are the most western islands of the Mergui Archipelago. They consist of two contiguous islands with some small islets near them, the centre of the western island being in lat. 11° 47′ N., long. 97° 28′ E. The Little Torres Islands are a group of three or four small straggling isles 9 miles south by east of Great Torres.

TORRINGTON, VISCOUNT, in whose Government of Ceylon, in 1848, a formidable rising of the Kandyans occurred.

TORS. By the natural weathering of rocks exposed to atmospheric vicissitudes, the perishable parts are removed, and the more resisting portions remain. In rocks which manifest peculiar arrangements of joints or natural divisions, the blocks and masses defined by their intersections often appear in cubical, sub-columnar, and other characteristic shapes. To masses more or less characteristic in figure, left by the decay of surrounding parts in prominent situations, the name of 'Tor' is applied in the granitic tracts of Devon and Cornwall. Tors are of very frequent occurrence in the granitic tracts of Southern India, where, as in Hyderabad in the Dekhan, and in the Ceded Districts, the piled up masses often are seen assuming the appearances of artificial structures.—*Eng. Cyc. Newbold.*

TORTOISES. In Southern Asia, there are about 32 species of land and freshwater tortoises, of the families Testudinidæ and Emydidæ. Testudo Greca inhabits a part of Syria, the Test. geometrica, an Afrcan species, is found also in the island of Ceylon; but the existence of the Test. Indica upon the coast of Coromandel is not confirmed. Of Trionyx, several species inhabit the rivers of Southern Asia. One has been observed in the Euphrates, which is perhaps identical with the Trionyx of the Nile, also found in Hindustan. The Ganges maintains the Tr. Gangeticus, peculiar, so far as is known, to that river; another, the Tr. granosus, which forms the passage to the Emydes, is found also on the coast of Coromandel; while two others, Tr. stellatus and subplanus, have been observed from Bengal to the island of Java. The Trionyx of Japan belongs most probably to the first of these, which would thus be nearly as widely diffused as the Emys vulgaris, of which a local variety is found in the islands of that empire. The other Emydes of the south-eastern portion of Asia are E. tectum, E. megacephala, so characteristic in its heavy or unwieldy form; E. Tetrionyx, intermediate between the Emydes and Trionyx, and a native of the river Irawaddy; E. Spengleri, of which several interesting varieties are known from the isle of France, Ceylon, Penang, Malacca, Sumatra, Java, Borneo, and China; and finally, two species, which vary from the others by their rounded shell, and of which one possesses a moveable sternum; E. couro inhabits China, the southern point of Celebes, and the islands of Penang, Java, and Amboyna; while the other, E. trijuga, has only been found in Java.—*Siebold, Faun. Jap. Chelonii per C. J. Temminck and H. Schlegel in Magazine of Zoology and Botany, V. I. pp.* 199, 200. *Gunther, Reptila.*

TORTOISE BEETLES. See Coleoptera.

TORTOISE SHELL.

Ecaille de tortue.	FR.	Scaglia de Tartaruga,	IT.
Schilpad,	GER.	Sisk; Kurakura,	MALAY.
Kachakra,	GUZ. HIND.	Sisik panu,	„
		Kulit-panu,	„

The scales of the turtle are extensively used in the manufacture of combs, snuff-boxes, in inlaying, &c. The goodness of tortoise shell depends mainly on the thickness and size of the scales, and partly on the clearness and brilliancy of the colours. The tortoise shell of the Indian Archipelago is considered superior to that obtained from Singapore, the African Coast, the West Indies, and the Laccadive and Maldive Islands. In Ceylon the marginal pieces of tortoise shell are used at Point de Galle in the manufacture of bracelets and necklaces formed of a chain of shell, it resembles amber in appearance; these bear a higher price than such as are formed by the darker shell. In Ceylon there is a great demand for tortoise-shell for the manufacture of combs, which are worn by men as well as women among the Singalese. In the numerous excesses into which English costume has been carried, the size of the back comb worn by ladies has never attained that of the Singalese men, who also wear a narrow long bent comb across the fore part of the head—the lighter coloured shell is most esteemed by them. Five pounds is a moderate price for a tortoise shell back comb, which increases in value according to the size and quality of the shell: hair pins of tortoise-shell are worn by the women, gold and silver being substituted for full dress; these hair pins are among the articles purchased by passengers in the steamboats. The Malay tortoise-shell term "*Sisik-panu,*" is literally "tortoise scales." The only part of the sea tortoises or turtles held of much value by the natives of the Indian islands is the shell. Tortoises are found in all the seas of the Malay and Philippine archipelagos, but the imbricated kind that yields the finest shell is most abundant in those of Celebes and the Spice Islands, as far as the coast of New Guinea. The parties chiefly engaged in their capture are the Bajurace, nomadic hunters of the Archipelago, of whom the turtle is the

principal game. These people distinguish four species of sea-turtles, to which they give the names of kulitan, akung, ratu, and boko. The last is the pann of the Malays, and the green esculent turtle, of which the carapace is of no use, the animal being valued only for its flesh to sell to the Chinese and Europeans, for among the mahomedans it is unlawful food. The three first named species all yield a marketable shell. The ratu, which signifies king or royal turtle, is said to be of great size, measuring from five to six feet in length, but is not often taken, and the shell is of inferior value. All the finest shell is afforded by the first, the kulitan, the name, in fact, signifying "shell turtle." Amongst the more valuable of the commodities which the enterprizing and industrious Bugi annually bring from Celebes and other eastern islands, tortoise shell holds one of the first places. The quantity imported into Singapore sometimes rises above 13,000 and sometimes sinks below 7,000 pounds, but the average one year with another is about 10,000 pounds. Mr. Vosmaer describing its collection by the Orang Baju of the south eastern peninsula of Celebes, also mentions that they distinguish four principal kinds of tortoise, and name them kulitan, akung, boko, and ratu. The first named is the kind, which on account of its costly shell, is the most prized; it is from the so named Karet tortoise. The shell or back of this creature is covered with 13 shields or blades, which lie regularly on each other in the manner of scales, five on the middle of the back and four on the sides; these are the plates which furnish the costly tortoise-shell to art. The edge of the scale or of the back is further covered with 25 thin pieces joined to each other, which in commerce are known under the appellation of feet or noses of the tortoise. The value of the tortoise shell depends on the weight and quality of each head, under which expression is understood the collective tortoise-shell belonging to one and the same animal. Tortoise-shells which have white and black spots that touch each other, and are as much as possible similar on both sides of the blade, are, in the eyes of the Chinese, much finer, and are on that account more greedily monopolized by them, than those which want this peculiarity, and are on the contrary reddish, more damasked than spotted, possess little white, or whose colours, according to their taste, are badly distributed. The caprice of the Chinese makes them sometimes value single heads at unheard of prices, namely, such as pass under the name of white heads, which they also distinguish by peculiar names. It is almost impossible to give an accurate description of these kinds, and of their subdivisions; for these depend on many circumstances which remain inappreciable to our eyes. It is therefore enough to remark on this subject that such heads as, possessing the above named qualities, are very white on the blades and have the outer rim of each blade to the breadth of 2 or 3 fingers wholly white, and the weight of which amounts to 2¼ catties (qualities which are seldom found united), may be valued at one thousand guilders and upwards = £24 per lb. avoirdupois. The feet or noses of the tortoise shell are only destined for the Chinese market; whenever the two hinder pieces are sound and have the weight of ½ catty or thereabouts, which is very seldom the case, they may reach the value of fifty guilders and more. The whole shell of a tortoise seldom weighs more than 3 catties, notwithstanding it is asserted that there sometimes occur heads of 4 and 5 catties. Tortoise shells are also sometimes found, of which the shell, instead of 13 blades, consists of a single undivided blade; the Orang Baju call this kind, which very seldom occurs, Lojong, or Loyong.

The Akung also furnishes tortoise shell (karet), but the shell being thin, and of a poor quality, much less value is attached to it.

The Boko is the same as that which is called Panju by the Malays. It is the common sea tortoise, which is of no other use than to be eaten. To these sorts the Panjubui ought to be added, being the common tortoise, with a thick shell, like that of the proper tortoise, but of poor quality and therefore of trifling value; so also the Akung-Boko, which is distinguished from the common boko by its much larger head.

The Ratu, lastly, furnishes a sort which is distinguished by its peculiarly great size, the Orang Baju asserting that it is usually twice as big as the largest tortoise-shell tortoise, and therefore 5 to 6 feet long and even more.

The usual modes by which the Orang Baju catch the tortoise are principally by the hadung, the harpoon, and the net; or by falling upon the females when they resort to the strand to lay their eggs, which is the most usual, almost the only way by which the inhabitants of the coast catch this animal. So soon as they have got the creature in their power, they turn it on its back, when, unable to recover itself, it remains lying helpless. It sometimes also falls into the fishing stakes, into which it enters like the fish.

Whenever the Orang Baju have caught a tortoise, they kill it immediately by blows upon the head. They then take its upper shield or the back itself quite off, being the only thing about the animal which has value. The tortoise shell adhering so fast to the shield

that, if they at once pulled it off, there would be danger of tearing the shells, they usually wait three days, during which time the soft parts become decomposed and the shells are loosened with little trouble. When they wish to remove the shell immediately after the capture, they separate it by means of boiling water. They also often accomplish this object by the heat of a fire, in the application of which, however, a danger is run of injuring the shell by burning it, for which reason this mode is only adopted by those who do not know its value. The Indian islands furnish the largest supply of tortoise-shell for the European and Chinese markets, the chief emporia being Singapore, Manilla and Batavia, from which are exported yearly about 26,000 pounds; and one half of this quantity is from Singapore. Mr. Morrison tells us that the best tortoise-shell comes to China from the Spice Islands and New Guinea, but it is collected all over the Archipelago and West Pacific. The common name of the Testudo imbricata is hawk's bill tortoise. The shell is thicker, clearer, and more variegated than that of any other species, and constitutes the sole value of the animal. It is heart-form, and consists of thirteen inner with twenty-five marginal divisions. The middle side-pieces are the thickest, largest and most valuable; the best is in large plates, free from cracks or carbuncles, and almost transparent. The small broken and crooked pieces are worthless. The Chinese use large quantities in the manufacture of combs, boxes, toys, &c. During the H.E.I. Co.'s monopoly, tortoise-shell was brought to the Chinese market for exportation to England, but it is since carried to Singapore, and very little is brought to Hong-kong. The price varies from 1000 dollars down to 200 per pecul, according to quality.

The export of tortoise-shell from Madras in 1854 was lbs. 308, value Rs. 2,204. At the Madras Exhibition, the epidermoid plates which overlap the back shell of the marine turtles, transmitted from Travancore, were apparently fine plates. Another epidermal production, called tortoise shell, from Madura and other inland localities, was exhibited, but the specimens were of little value. McGillivray says of the Caretta imbricata, producing the greater part of the tortoise shell of commerce, and which is not rare in Torres Strait, that it is distinguished by having the posterior angle of each dorsal plate projecting, so as to give a serrated appearance to the margin of the carapace which, in the present species, is quite smooth. The green turtle average 350 lbs. each, and the hawk's-bills about 250 lbs. Although a strong prejudice existed against the hawk's-bill as an article of food, it is at least equal to the other. He saw newly hatched turtle running about in every direction, and among their numerous enemies, was a burrowing crab (Ocypoda cursor) which runs with great swiftness along the sandy beaches. Tortoise shell, to the extent of 7000 to 13,000 pounds, is brought from the Celebes and other eastern islands to Singapore.—*McGillivray Voyage, Vol. I. p.* 51. *M. E. J. R. Morrison Compendious Description. Crawfurd Dict. page* 439. *Journ. of the Ind. Archipel. vol.* iii. *No. IV. June* 1849. *Faulkner. Rohde MSS.*

TORTOSA, called by the natives Tartous, the ancient Orthosia. It is situated on the seashore, having a spacious plain extending round about it on its other sides.—*Robinson's Travels, vol.* II. *p.* 70.

TORTRICIDÆ. This family includes Cylindroplus maculatus, *Linn.* and C. rufus of Ceylon.

TORTUES FRANCHES. See Chelonia.

TORTURE. Many methods of torture are still practised in India, more particularly the various modes of compressing and binding the limbs and chest, and burning and branding. The latter practice still lingers throughout the Bengal Presidency, and prints of the chillum and hata are by no means rare. —*Calcutta Review January* 1871.

TORUN. In Rajputana, this symbol of marriage consists of three wooden bars, forming an equilateral triangle, mystic in shape and number, and having the apex crowned with the effigies of the peacock; it is placed over the portal of the bride's abode. At Oodipoor, when the princes of Jessulmir, Bikaner and Kishengurh simultaneously married the two daughters and the grand-daughter of the Rana, the toruns were suspended from the battlements of the tripolia, or three arched portal leading to the palace. The bridegroom on horse-back, lance in hand, proceeds to break the torun, torun-torna, which is defended by the damsels of the bride, who from the parapet assail him with missiles of various kinds, especially with a crimson powder made from the flowers of the palasa, at the same time singing songs fitted to the occasion replete with double entendres. At length the torun is broken amidst the shouts of the retainers, when the fair defenders retire. The similitude of these ceremonies to others in the north of Europe and in Asia, increases the list of com-affinities, and indicates the violence of rude times to obtain the object of affection; and the lance, with which the Rajpoot chieftain breaks the torun, has the same emblematic import as the spear which, at the marriage of the nobles in Sweden, was a neces-

sary implement in the furniture of the marriage chamber. We discover in this emblem the origin of the triumphal arches of antiquity, with many other rites which may be traced to the Indo-Scythic races of Asia. The torun, in its original form, consisted of two columns and an architrave, constituting the number three, sacred to Hari the god of war. In the progress of the arts, the architrave gave way to the hindu arch, which consisted of two or more ribs without the keystone, the apex being the perpendicular junction of the archivaults ; nor is the arc of the torun semicircular, or any segment of a circle, but with that graceful curvature which stamps with originality one of the arches of the Normans, who may have brought it from their ancient seats on the Oxus, whence it may also have been carried within the Indus. The cromlech, or trilithic altar, in the centre of all those monuments, called druidic, is most probably a torun sacred to the sun-god Belenus, like Hur or Bâl Siva, the god of battle, to whom, as soon as a temple is raised, the torun is erected, and many of these are exquisitely beautiful.—*Northern Antiquities. Tod's Rajasthan, vol.* I. *p.* 271.

TORYA. HIND. A variety of mustard seed.

TOS. HIND. Abies Smithiana, the Himalayan spruce, also Abies or Picea Webbiana.

TOSA, of Nepaul, Hordeum hexastichon, *Linn.*

TOSALI. See Inscriptions.

TOSHA. A vow or oblation.

TOSHA-KHANA. HIND. The wardrobe of royalty.

TO-SHAK. HIND. A mattrass.

TOSI MAIDAN. See Kashmir.

TOTA. TEL. Totam. TAM. A garden.

TOTA BALI RAKASA. TEL. Colocasia Indica, *Voigt.* Arum Indicum, *Roxb.*

TOTA DULA GONDA. TEL. Mucuna utilis, *Wall.*

TOTA KURA, or Perugu tota kura, TEL. Amarantus oleraceus, A. tristis, and other cultivated kinds.

TOTAL VADI. TAM. Mimosa pudica.

TOTANUS CALIDRIS. Common Red-shank of Europe, Asia; very common in India.

Totanus fuscus. Spotted Red-shank of Europe, Asia ; common in India.

Totanus glottis. Green-shank of Europe Asia, Africa, Australia ; stragglers obtained in N. America, very common in India.

TOTA VEMU. TEL., also Chiku velaga. Decliptera parvibracteata, *Nees.*

TOTEM. An early stage in religious progress, is that which may be called totemism. The savage does not abandon his belief in fetichism, from which indeed no race of men has yet entirely freed itself, but he superinduces on it a belief in beings of a higher and less material nature. In this stage everything may be worshipped—trees, stones, rivers, mountains, the heavenly bodies, plants, and animals. A family, for instance, which was called after the bear, would come to look on that animal first with interest, then with respect, and at length with a sort of awe. The habit of calling children after some animal or plant is very common. In China also the name is frequently that of a flower, animal, or such like thing. In India, amongst the slave girls of the mahomedan harems, the nargas, the sosan, the narcissus, the lily, &c., are in common use as names. In Australia we seem to find the totem, or, as it is there called, kobong, almost in the very moment of deification. Each family, says Sir G. Grey, adopts some animal or vegetable as their crest or sign, or kobong as they call it ; but it is more likely that these have been named after the families, than that the families have been named after them. A certain mysterious connection exists between the family and its kobong, so that a member of the family will never kill an animal of the species to which his kobong belongs, should he find it asleep ; indeed, he always kills it reluctantly, and never without affording it a chance of escape. This arises from the family belief that some one individual of the species is their nearest friend, to kill whom would be a great crime, and to be carefully avoided. Similarly, a native of Australia who has a vegetable for his kobong, may not gather it under certain circumstances, and at a particular period of the year. Here we see a certain feeling for the kobong or totem, though it does not amount to worship. In America, on the other hand, it has developed into a veritable religion. So also among the Khonds of India, the different tribes take their designation from various animals, as the bear tribe, owl tribe, deer tribe, &c. The Kol of Nagpore also are divided into 'keeli' or clans, generally called after animals, which, in consequence, they do not eat. Thus the eel, hawk, and heron tribes abstain respectively from the flesh of these animals.—*Lubbock Origin Civil,* 173.

TOTILLA-GASS. SINGH. Calosanthes Indica, *Blume.*

TOTTE. See Tibet.

TOTTENHAM. See Lightning conductors.

TOTTI, of the Tamul people, is a village servant who waits upon the villagers. The domestic Totti does the humblest part of the house work.

TOTTYAR, a race of Coimbatore, who settled there from the north.

TOU. In the midst of a Tartar camp is a standard formed of a long pike, to which are attached seven white yak's tails, one above another. These standards are called tou by the Chinese; and, doubtless, it is from them that the name of the Turkish standard, the "toug" has been derived. "It is," says Cuvier, "with the tail of the yak, a kind of small buffalo with a long-haired tail, like that of the horse, itself a native of the mountains of Tibet, that those standards were first made which are still in use among the Turks."—*Regne Animal, vol.* I. *p.* 270. *Huc's Christianity, vol.* I. *p.* 121.

TOUBA TREE, of the mahomedans, a fabulous tree which is mentioned in the Koran.

TOUCAMBASO. See Token besseys.

TOUK-KY-AU. BURM. Pentaptera arjuna.

TOUK-YAT ——? See Dyes.

TOUK-TA. BURM. Taccapinnatifida, *Linn.*

TOULA. See Kouren.

TOULOUP, a winter-dress of the peasants.

TOUNBEIN. BURM. Artocarpus mollis, *Wall.*

TOUNG. BURM. A hill; wild, uncultivated.

TOUNG-BEN. BURM. Artocarpus echinata, *Roxb.* The timber is equally lasting with Thengan, but scarcer than the latter and of size to afford a large canoe. In Amherst, it is used in boat-building and for making carts. It is a strong, heavy wood, well adapted for handles of tools, &c.—*Cat. Ex.* 1851.

TOUNG-BHAUT. BURM. In Tavoy, a rough, knotty wood, used for knife and spear-handles.—*Mr. Blundell.*

TOUNG BHIEN. BURM. A light porous wood of Tavoy, used for common carpentry.—*Mr. Blundell.*

TOUNG-BYE-NAY. In Tenasserim, a brittle short-grained wood. Not the mountain jack, though similar to it in name; maximum girth 5 cubits, maximum length, 30 feet. Scarce, but found along the banks of rivers all over the provinces. When seasoned it floats in water.—*Captain Dance.*

TOUNG-BYENG. BURM. In Tavoy a kind of red saul.—*Mr. Blundell.*

TOUNG-BYIOU. BURM. A close grained, brown shaky wood of Tavoy.

TOUNG-DA-LAI. BURM. Garcinia *sp.*, G cowa, G. Roxburghii, *McClelland.*

TOUNG-GA-LA. MARTABAN. Ancistrolobus carneus, *Wall.*

TOUNGHOO. A town and military cantonment on the Salwin river in British Burmah: See Pegu, Karen.

TOUNG-KHA-RAY. BURM. A wood of Tavoy, where it is called Red Jarool; used i[n] boat-building.—*Mr. Blundell.*

TOUNG-KA-THEEL. BURM. Erythrin[a] Indica, *Lam.*

TOUNG-MA-YOA. BURM. A tree [o]f Moulmein, wood smooth, and used by th[e] Burmese as a slate or writing board.—*Ca[l.] Cat. Ex.* 1862.

TOUNG-PEING-NAI. BURM. Artocar[]pus echinata, *Roxb.*

TOUNG-THA-KHWA. BURM. In Am[]herst, this is a capital wood for any purpose used for gun-carriages or gun-stocks.—*Cat Ex.* 1851.

TOUNG-THA-BYIOU. BURM. In Amherst, a kind of Acacia used for house posts; it is a strong, red, heavy wood.—*Cat. Ex.* 1851.

TOUNG-THA-LAY. BURM. Garcinia, *sp.* G. cowa; G. Roxburghii, *R. W.*

TOUNG-THAU-GYEE. BURM. In Amherst, a hard compact wood of a dark brown colour.—*Cat. Ex.* 1851.

TOUNG-THU. A tribe, occupying the valley of Salwyn, from lat. 18° to lat. 20° N. The Toungthu dwell between the Setang and the Salwin and in Amherst Province, and are in their dialect more closely connected with the Yuma languages than with the Burman. The Toungthu has a large glossarial agreement with Karen, but it has special affinities with the Kumi and other Yumi dialects, and particularly with the Khy-eng. The Toungthu are islamized Chinese and are said to resemble the Anamese, but as their dress resembles that of the Anamese, this may create deception. Those who occupy a portion of province Amherst, are the only people there who understand the plough. This has a metal blade. They are esteemed good cultivators.

TOUNG-ZA-LAT. Wrightia species.

TOUN-KA-TSEET. BURM. A tree, one of the Leguminosæ, not uncommon on the hills of British Burmah, wood used for canoes. A cubic foot weighs lbs. 45: in a full grown tree on good soil, the average length of the trunk to the first branch is 50 feet, and the average girth, measured at 6 feet from the ground, is 10 feet.—*Dr. Brandis, Cal. Cat. Ex.* 1862.

TOUN-NEIN-NAI. BURM. Artocarpus, species.

TOUPAT KURUNDU. SINGH. Cinnamon.

TOUR.

Cajanus Indicus,		Cytisus cajan.	
Togari,	CAN.	Toordhal,	HIND.
Pigeon Pea.	ENG.	Thovary Purpoo,	TAM.
Large Dhal,	„	Kandi papu,	TEL.

This is sown in fields at the commencement of the rains in June, and sometimes much later; it is ripe in December. The seeds are sometimes ground into flour, or split like dry peas: for the latter, they are an excellent substitute. There are several varieties, which sell from 30 to 40 seers for the rupee. Is partly sown along with ragi like bullur, and partly in full in dry lands. The quantity of it grown in Mysore is not sufficient for the wants of the people, and it is consequently largely imported into that district from Baramahal and Bellary.

TOURGOUTH. See Kalkas.

TOURMALINE is a corruption of the Ceylon name. The colours of tourmaline are generally dull, and so dark as to appear nearly black. It varies, too, very much in transparency. On account of its property of polarising light, it is used largely in the manufacture of polarising instruments.

Lyncurium is supposed to be the ancient name for common tourmaline; and the red variety was probably called *Hyacinth*.

Yellow tourmaline.—Among the Ceylon diamonds which are seen for sale in Moulmein, is a yellow tourmaline resembling topaz. The yellow tourmaline from Ceylon is but little inferior to the real topaz, and is often sold for that gem.

White tourmaline.—An occasional crystal of white tourmaline is seen among the crystals of the black variety in specimens from the Shan states. White jewels of an inferior quality are often offered for sale in Moulmein under the name of Ceylon diamonds, but they are usually made from green tourmaline. White tourmaline is a rare mineral, but the green variety being common, the jewellers by exposing it to heat, expel its color, and it becomes white.

Red Tourmaline, or *Rubellite*, occurs in Ceylon, Burmah and Siberia, also constitutes a fine stone, and of great value when it is free from cracks and flaws. The finest known specimen of this gem, now in the collection of minerals in the British Museum, Room III, case 40, is of uncommon form and dimensions, and was presented to Colonel Symes by the King of Ava, when on an embassy to that country. They have all the richness of colour and lustre belonging to the ruby, though measuring an inch across. A Siberian specimen of this variety, also in the British Museum, is valued at 500*l*. The yellowish grey and hyacinth brown varieties are chiefly brought from Ceylon, and the smoky green and blue from Brazil, on which account they are often called Brazilian emeralds and sapphires.

Schorl, or black tourmaline, is found in Madura in great abundance, also in quartz near the mouth of Tavoy river on the east side, and also at the foot of the eastern mountains near the head waters of the Dahgyaine, north-east of Moulmein. In both places the crystals are numerous, and in Tavoy they are large, but not so handsome as seen in foreign specimens.

Green tourmaline, when clear and fine, is valuable for gems, and specimens which cannot be distinguished by the eye from beryl, are brought with the Ceylon diamonds; green tourmaline may be ascertained by a very simple test, for beryl scratches quartz, but tourmaline is scratched by quartz.—*Mason. Dana, Manual of Mineralogy. Bristow Mineralogy; p.* 386.

TOURMET. Chakar is a country bounded on the east by Jeshekten, on the west by Tourmet, and by the Sooniot district on the north. In this Chakar district is the city of Tolo-Noor (seven lakes) called by the Chinese "Lama Mias," by the Mongols "Nadan Omo," by the Tibetans "Sat Doon." On the French map the place bears the name of "Naiman Soome."—*Prinsep's Tibet, Tartary and Mongolia, p.* 39.

TOURNEFORTIA, a genus of plants belonging to the natural order Boraginaceæ. The species forming small shrubs or herbs, are about 50 in number, diffused through the West Indies, S. America, Indian islands, and India. —*Voigt.*

TOURNESOL. Fr. Litmus.

TOU TCHOW. Dioscorea batatas.

TOUW WERK. Dut. Cordage.

TOVARAY. Tam. Cajanus Indicus, *Spreng.*

TOVARI MANNU CHETTU. Tel. Tovari is Cajanus, but the word mannu signifies the earth, and the Sanscrit name Tuvarika is said to be fragrant earth.

TOWA. A river near Hoshungabad.

TWALLAM. See Tin.

TOWELS of different sizes are made in the districts of Cuddalore, Chingleput, and in the outskirts of Madras, of a quality equal to those of English manufacture.

TOWER of Manikyala. See Buddha.

TOWQ. A collar or ring, worn round the neck.

TOWNI. Tam. Taniki mara, Malayalum. This Malabar and Canara tree grows to about three and a half feet in diameter, and from thirty to forty-five feet long; it is of a whitish colour, and is used by the natives for catamarans, canoes, &c. It produces a fruit used as a purgative in cases of fever,&c.; the timber

is not durable or of much use.—*Edye, Forests of Malabar and Canara.*

TOWN-PI-NE. BURM. In Tavoy, a good wood, used in boat building.—*Dr. Wallich.*

TOWRU. TAM. TEL. Toguru, bran.

TOWTAL. The Malayala name of a tree which grows to about two feet in diameter and thirty feet high. It is remarkably light but not very durable, and is used by the natives for catamarans, &c.—*Edye. M. and C.*

TOXOTES JACULATOR. PALLAS. appears to be the fish described by MM. Cuvier and Valenciennes from a drawing in the series, formerly in the late Colonel Farquhar's possession. The food of several examined, consisted of remains of crustacea. In the Straits of Malacca this fish occurs, but not numerously, at all seasons. It is eaten by the Malays, who record its habits in the denomination, ikan, signifying a fish, sumpitan, a blow-pipe.

TOY CART. A Sanscrit play, the Mrichikata, by Kalidasa, translated by Professor Wilson.

TOYS.

Spilgoed,	DUT	Mayinan,	MALAY.
Jouets, Bimbelots,	FR.	Timang,	"
Spielzeng,	GER.	Timangan,	"
Spielsachen,	"	Shai-i-bazi,	PERS.
Rumakra,	GUZ.	Igrushki,	RUS.
Khel, also Kil-lowni,	HIND.	Dijes, Juguetes de minnos,	SP.
Trastulli,	IT.	Bommigal,	TAM
Parmayinan,	MALAY.	Bommalu,	TEL
Mayin,	"		

Play-things for children to amuse themselves.

TRADESMEN. The tradesmen and artizans of India are mostly all associated in classes, or sects, or castes, who do not intermarry and seldom eat with others. Amongst these may be named the Banjara or wandering grain-merchant; the Bhatthari or cook; Chichri or scavenger; the Dhor or currier and leather worker; Dhangar or shepherd; Erkal-vadu or basket-maker; Goali or dairyman; Kalaigar or tinner; Kassar or brazier; Khaujar or poultryman; Ladaf or cotton seller; Lar-kassai or beef salesman; Lal begi or scavenger; Lohar or blacksmith; Mookre or mealman; Muchi or leather worker; Rangrez or dyer; Saikalgar or cutler; and Sonar or gold-smith. There are many wandering tradesmen tribes, mostly predatory. The black-smith, goldsmith, brazier, carpenter, and stone-cutter are styled the five artizan castes, komsala, or kansala, in contradistinction to the five learned castes. The artizan castes all wear the poitu or sacrificial cord; they do not revere brahmins, and they carry their dead to the grave, and inter them in a sitting posture. The names for the various trades vary in the several languages of the East Indies, but throughout British India, the family or caste separation of trades prevails. In further India and the Eastern Archipelago, where the system of caste does not prevail, some avocations as the butcher, the leather worker, the burier of the dead, are deemed unclean.

TRADESCANTIA, a genus of plants belonging to the Commelynaceæ, or Spider-wort tribe, natives of America and India; twelve species occur in the East Indies. T. axillaris is used in India as an external application in tympanitis.—*Voigt.*

TRADE-WINDS are winds which blow continuously from one direction, and are so called because of the facilities which they afford to trade by sea. They differ from monsoons, which blow one-half of the year from one direction, and the other half from an opposite or nearly opposite direction. There are two trade-winds, the north-east on the north of the equator, and the south-east to the south; and like all winds, these are put in motion by the heat of the sun, and directed by the daily rotation of the earth. The belt or zone of the S. E. trades is broader than that of the N. E. trades; its current even crosses the equator, and invades the belt of the N. E. trades, and discharges itself into the region of equatorial calms. Ships sailing on the ocean, calculate on meeting the tradewinds and monsoons in certain parallels of latitude, and sail for weeks with their ropes and sails unaltered. When the N. E. and S. E. trades meet, the equatorial calms are produced, in which constant rain prevails; it is the condensed vapor of the ocean. Trade-winds, in the Pacific Ocean, blow from the N. E. between 9° and 27′ N. lat., and from the S. E. between 3° and 25′ S. lat. But there is on the polar side of the north-east trade-winds an immense area of arid plains for the heat of the solar ray to beat down upon, also an area of immense precipitation. These two sources of heat hold back the north-east trade winds, as it were, and when the two are united, as they are in India, they are sufficient not only to hold back the north-east trade-wind, but to reverse it, causing the south-west monsoon to blow for half the year instead of the north-east trade.—*Maury's Physical Geography, p.* 103. See Cyclone, Hurricane, Monsoon.

TRAFALGAR. A word of Arabic derivation, from Tarf el Gharb, the side or skirt of the West, it being the most occidental point then reached by Arab conquest.—*Burton's Pilgrimage to Meccah, Vol. I., p.* 9.

TRAGA. HIND. A self-immolation practised by bards and charans, the self-shedding of blood by a bard to enforce his demands. There prevailed in India a practice of hiring a per-

son of a religious class, generally of the bard or bhat tribe, to threaten to injure himself unless redress were given. The person so hired threatened to kill or wound himself, or some other person, unless the demand he made were complied with. It has been put down by law.

TRAGACANTH.

Samagh ul aswad,	Ar.	τραγακανϑα	Gr.
Samagh-ul-katira,	,,	Kattira,	Guz. Hind.
Kasira,	,,	Kathila	,,
Katira,	,,	Tragacantha,	Lat.
Gum tragacanth	Eng.	Kuru,	Pers.
,, Dragon,	,,	Vadomocottaypisini,	Tam
Gommi astraganti,	Fr.	Badam vittu banka,	Tel.
Traganth,	Ger.		

The gum tragacanth of commerce is a product of several plants. Tournefort adduced as it source, *A. creticus* of Lamarck, a native of Mount Ida in Crete. Labillardiere describes *A. gummifer*, a native of Mount Libanos in Syria. Olivier names *A. verus*, inhabiting Asia Minor, Armenia, and northern Persia. In Crete and surrounding islands, this gum is gathered about the end of June from the Astragalus tragacantha. Arab authors describe it by the name kasira or katira, for which, in the north-west and in the peninsula of India, kateera is substituted. Produced by Cochlospermum gossypium, and in Pegu, according to McClelland, by several species of Sterculia. Dr. E. Dickson, when in Koordistan, collected plants which he ascertained to yield tragacanth. Dr. Lindley determined that the white or best variety is yielded by A. gummifer, and the red or inferior kind by his A. strobiliferus. Dr. Dickson observed a third variety that gave gum tragacanth. Gum tragacanth is largely employed in calico printing, and it has many uses in the arts and in pharmacy. The finest kind occurs in twisted, vermicular, rounded or elongated pieces, almost transparent, whitish, brittle, inodorous, with a slightly bitter taste. It is also found in large tears, of a vermicular form, a reddish colour, and mixed with impurities ; the former, the vermiform, being the variety usually brought to England, while the latter is commonly employed on the continent.—*McCulloch. Royle Materia Med. McClelland, O'Shaughnessy, Ainslie. Waterston quoted by Faulkner.*

TRAGELAPHUS HIPPELAPHUS. Ogilby, syn. of Portax pictus, the Nil-ghai of India. See Nilghai, Portax.

TRAGIA CANNABINA. Linn. ; *Roxb.*

Kanchkuri ke jar,	Duk.	Sirru Canchuri,	Tam.
Casaghinnie,	Sans.	Chinna Dula-gondi,	Tel.
Kurunduti,	Tag.	Revati dula gondi,	,,

The root.

Sirroo canchuri vayr,	Tam.	Tsinna doolagondi vayru,	Tel.
Kanchkoori ki jar,	Duk.	Casaghinnie,	Sans.

This plant, belonging to the order Euphorbiaceæ, occurs throughout British India. Its hair stings like that of the common nettle. The dried root has but little taste or smell, though with an agreeable odour when fresh. It is considered as diaphoretic and alterative, and is prescribed in decoction together with other articles of the same class. An infusion of it is also given in fever.—*Ains. Mat. Med. p.* 114.

TRAGIA INVOLUCRATA. Linn.

Bich'huti,	Beng.	Dustparisha,	Sans.
Bet-ya?	Burm.	Canchorie,	Tam.
Canchorie	Eng.	Dulagondi,	Tel.
Shorigenam,	Maleal.		

The root.

Bichutee,	Beng.	Canchorie root,	Eng
Canchorie vayr.	Tam.	Dustparisha,	Sans.
Dulagondi vayroo	Tel.		

The hairs sting violently ; the roots are given by the hindu herbalists, styled Baid, Vytia, and Vaida, as an alterative in cachexia and venereal diseases, for altering and correcting the habit in cases of mayghum (cachexia) and in old venereal affections attended with anomalous symptoms. Rheede, speaking of the root, says, "Conducit in febre ossium, ac servit pro pruritu corporis." He further adds in decocto data, urinam suppressam movet.—*Ains. Mat. Med. p.* 75. *O'Shaugh. p.* 652.

TRAGO-CAMELUS, syn. of the Nilgai, or Portax pictus.

TRAGOPON. A genus of birds of the family Phasianidæ, T. duvaucelli, *Tem.*, now referred to the genus Pucrasia, is the Pucrasia macrolopha of Lesson, the purkhas pheasant of the Himalayas, and T. Hastingii, *Vigors*, is a synonym of Ceriornis melanocephala, *Gray*, the horned monal or Argus pheasant of the Himalayas.—*Jerdon.* See Birds, Phasianidæ, Pheasants.

TRAGOPOGON PORRIFOLIUS. Linn.

T. sativus,	*Gat.*	Salsify	Eng.

A plant of the order Matricariaceæ, an excellent vegetable cultivated for its white roots which are mild and sweet flavoured; requires culture similar to carrots ; held in high estimation by the French. The young shoots are sometimes used as asparagus, which in flavour they resemble. A native of England, raised from seed.—*Jaffrey.*

TRAGOPS BENNETTII, syn. of Antilope quadricornis, *Blainville.* See Antilope.

TRAGOSITA MAURITIANA, a beetle from the Mauritius, largely distributed through means of the sugar bags.

TRAGUS. See Rajpoots.

TRAI. Pusht. Cucumis utillissimus.

TRAI BIDOK, and Trai phum, are buddhist works of Siam. According to the buddhistic doctrine, matter is eternal, the existence of a world, its duration, destruction and repro-

duction, all the various combinations and modifications to which matter is liable, are the immediate result of the action of eternal and self-existing laws. The Trai Phum is much venerated in Siam. It is not an original work, received among the immense collection of canonical buddhist books called Trai Bidok (in Burman, Bedegat), but a compilation made in the Buddhist era 2326. A. D. 1784, when the king of Siam, in the presence of his nobles and retinue, proposed a series of questions to the chief hierarch, priests and learned men, of which they were able to answer some but some they could not answer. —*Revd. J. T. Jones in Journal Indian Archipelago, Vol. V., No.* XI. See Bud'h.

TRAIGGUMA. See Kush.

TRAIL. A Japanese coin worth about 5*s.* 10*d.*

TRAMA. HIND. Caragana pygmæa.

TRAMPEL-THEIR. GER. Camelus bactrianus, *Linn.*

TRAMWAY, a railway constructed for slow traffic.

TRANQUEBAR, in lat. 11° 1′ N., long. 79° 55′ E., a town on the Coromandel coast, formerly a Danish settlement.

TRANNA. HIND. Vincetoxicum canescens.

TRANS, a Latin word in use amongst geographers of Europe, to indicate a country on the further side of rivers or mountains, as Trans-Indus, Trans-Himalaya. Cis, another Latin word, is used to indicate the countries or region on the nearer side, as Cis-Himalaya, Cis-Indus.

TRANS-INDIA. See India.

TRANS-INDUS SALT-MINES. In the southern Khuttuk hills are the salt-mines, situated near the villages of Buhadoorkheyl, Kurruck, and Lutumur. There is also a separate mine at Malgeen, a place lying east of Kohat. The headmen of these villages received a fixed percentage on the collections at the mines to obtain their good-will. The Sikhs never managed these mines at all. They farmed them out to some local chief, and left him to collect what he could. Under British rule, the control and working of the mines is in the hands of Government officers; the salt is excavated and sold at the mine at a fixed duty of two, three, and four annas per maund of 80 lbs., covering all expenses. See Khyber, p. 518.

TRANS-JAVAN or Timorian, see India.

TRANSMIGRATION. The Egyptians maintained that, after death, the immortal soul transmigrated into the bodies of birds, beasts, or fishes, and other animals, and that the gods took refuge in the bodies of animals, from the wickedness and violence of men. Pythagoras and after him Empedokles adopted these doctrines, and according to Heraclides, Pythagoras used to say o himself that he remembered not only wha men, but what plants and animals he had passe through. Pythagoras said, he remembere that he had inhabited four bodies, and it i him whom Virgil means in these lines.

> "Ipse nam nemini, *Trojani* tempore belli,
> Penthoides, Euphorbus, eram."

and Empedokles declared of himself tha he had been first a boy, then a girl, then a plant, a bird, and fish In the Tibetan bud'dhist creed, the doctrine of transmigration is shown, and final absorption into Buddha is put forward as the reward of a virtuous life. It follows that Buddha, with the Tibetans, is the divine being, who created all, and to whom all return, and that for the good there is no separate existence in a future world. There has been some misapprehension regarding the Buddhas and Bodhisatwas, the regeneration of the Grand Llama being considered as an exceptional case of a Buddha returning amongst mankind. Mr. Hodgson truly calls the divine Llamas of Tibet *Arhanta*, but he believes that a very gross superstition has wrested the just notion of the character to its own use, and so created the "immortal mortals, or present palpable divinities of Tibet." In the Nouv. Jour. Asiat. t. xiv. p. 408. ii, Fra Orazio says that "Lama sempre sara coll' istessa anima del medesime *Ciang-c'iub*, oppure in altri corpi." Remusat was not aware of this fact when he stated "Les Lamas du Tibet se considerent eux-memes comme autant de divinites (Bouddhas) incarnees pour le salut des homes." But the explanation which Major Cunningham received in Ladak, which is the same as that obtained by Fra Orazio in Lhasa, is simple and convincing. The Grand Llama is only a regenerated Bodhisatwa, who refrains from accepting buddhahood, that he may continue to be born again and again for the benefit of mankind. For a Buddha cannot possibly be regenerated, and hence the famous epithet of SATHAGATHA, "thus gone," and SUGATA, "well gone," or gone for ever.

In buddhism, one of the established laws is the belief in metempsychosis or the migration of the souls of animated beings; and the Tibetans believe in six forms in which a living being may be reborn, viz., Lha, *Tib*, Deva, *Sansk*, spirits or gods; Mi or men; Lha Mayin or evil spirits; Dudo or Johsong, brutes, beasts; Yidaga, imaginary monsters; and as the inmates of Nyalba or hell, or Naraka. All hindoos believe in the transmigration of souls. —*Hodgson pp.* 137, 138, *Sonnerat's Voyage, p.* 71. *The Bhilsa Topes by Major Cunningham, pages* 1 *to* 67.

TRANSOXIANIA, the Tajik aborigines are by the Turks styled Sart.

TRANSTULSTI. See Semitic races.

TRAO. HIND. Fagopyrum esculentum.

TRAP, in geology, is a term applied to old volcanic rocks which have flowed over or between other rocks assuming the form of stairs (trappa, Sw., a stair), and is distinguished as irruptive trap, overlying trap, interposed trap, and trap dykes. Trap, in its mineralogical structure, is greenstone, hornblende, or basalt. The greatest outburst of trap in the world, is that which was first described by Colonel Sykes, as the trap formation of the Dekhan. Volcanic trap is said to be visible in the bed of the Jumna, near Allahabad, in latitude 25° north. In the ascent to Mussoori, by Kuerkoolee, granite makes a great eruption at the Chur Mountain, above 12,000 feet high, on the southern slopes of the Himalayas. But near Gungotri, at the source of the Ganges, is described to be the grand granitic axis of the Himalayas, and one of the greatest and most magnificent outbursts of granite in the world. It traverses these mountains in numerous veins—westwards towards the Barenda pass, and eastwards towards Kamet, Nandadevi and Nandakot, upraising the metamorphic schists which form the highest peaks of the snowy range. Lower down, on the southern slopes of those mountains, from 8,000 to 1,500 feet in height, uplifted stratified rocks rest on the gneiss and granite, consisting of hornblende rock and slate, limestone, sandstone, great beds of quartz, clay, mica, chlorite, and talc slates, and lower still, at altitudes of 3,000 to 2,500 feet above the level of the sea, gravel, boulders, marl with coal, recent clays and sandstones from the Sewalik or Sub-Himalayan mountains. It is in these hills that extensive fossil remains were discovered, and the low alluvial tract, known as the Terai, is the valley formed by the junction of the Sewalik with the Himalayan inclined rocks. To the south of this, the highest parts of Central India occur along the Aravalli mountains and the Vindhya range, from 2,300 to 3,000 feet in altitude. There are, here, three inclinations, the one declivity sinking from the Aravalli mountains towards the valley of the Indus, another falls from the Vindhya range northwards to the Ganges, and the third is southwards to the Nerbudda. Granite is here, also, the upraising rock; it bursts out at Oudeypore, Kaunmore, Banswarrah, and Rajpoor, through the gneiss, and mica, and chlorite slates, limestone and sandstone. It was to the east of this central tract that the first great deposit of coal was found lining both banks of the Damoodah, though it has, since then, been discovered in numerous other provinces of British India. In Central India, volcanic rocks, are observed to spread east and west from Neemuch in the form of basalt, basaltic greenstone, greenstone and greenstone amygdaloid, and southwards by Oujein and Saugor across the Vindhya, assuming the structure of columnar basalt in the steep descent to the Nerbudda. The trap crosses this river and spreads over all the Aurungabad province down through Candeish and the Concan to Bombay, and southwards to Malwan in latitude 60° north, its southern limits being observed south of Punderpoor, through Bejapoor to the right bank of the Kistnah, in the valleys near Homnabad, where it is found beneath but never penetrating the laterite hills south and east of Beder and at Maharajahpettah, thirty miles west of Hyderabad. The eastern edge of this vast tract of trap rocks, after crossing the Nerbudda to the south, skirts the town of Nagpore in Berar, passes Nandeir, and to the westward of the city of Hyderabad to its southern limit, just mentioned. South of this, as well as to the eastward, the trap only appears as great dykes, from fifty to a hundred yards broad, which run east and west parallel with each other. These dykes can often be traced for a hundred and fifty miles together, bursting through the granite and other rocks, tearing the highest of the hills asunder and filling the chasms and crevices with its dark and compact structure. In these dykes the elements of the trap rock assume a variety of appearances, greenstone, porphyritic greenstone, basaltic greenstone, hornblende rock, and basalt; they are particularly numerous in Hyderabad, the Balaghaut, Ceded Districts, the Carnatic and Mysore, almost to the southern cape of the peninsula, and with very rare exceptions, run due east and west.—*Balfour's Barometrical Sections of India.*

TRAPA. A genus of plants belonging to the Sub-order Trapeæ, the Hydrocaryæ water-nut tribe of plants, of which there are 1 genus and 5 species, 1 of Europe, Siberia, 3 from the East Indus, and 1 from China. There are two kinds, one with a hard thick shell, and the other with only a soft skin. The former, when ripe, has the appearance of a bullock's head, from two sharp spear-like projections growing from it. The fruit when boiled resembles a chesnut; the seed is made into a coarse flour, and cakes are made from it; both fish and tortoise feed upon the thin-shelled kind. In some parts of the country, great care is taken to preserve the seed for planting the following season, which is done by treading it into the beds of tanks

and such places. The fruit is fit to be taken at or about the close of the rains. They are sold in all the bazaars, and form a considerable part of the food of the inhabitants of Cashmere, where it yields the Government 12,000*l*. of annual revenue. Mr. Moorcroft mentions that Runjeet Sing derived nearly the same share. From 96,000 to 128,000 loads of this nut are yielded annually by the lake of Ooller alone. The nut abounds in fecula. In China, the kernel is used as an article of food, being roasted or boiled like the potato, and where the water is very shallow, a great part of it is covered with the Trapa, called "ling" by the Chinese. Mr. Fortune saw three distinct species or varieties, one of which has fruit of a beautiful red colour.—*Fortune, page* 27. *Royle, p.* 211. *Jaffrey. O'Shaughnessy, p.* 331.

TRAPA BICORNIS. A variety, distinguished from T. bispinosa by its two horns being recurved and very obtuse. It is carefully cultivated in lakes and ponds.—*Roxb.* i. 428.

TRAPA BISPINOSA. LINN.

Singhara,	BENG. HIND.	Gaunti	PUNJAB.
Sing. .	CHIN.	Seringata	SANS.
Two-spined water caltrops	ENG.	Parike gadda	TEL.
		Pandi gadda	"
Pani-phal	HIND.	Kubjakam	"
Karim-polam	MALEAL.	Sringa takamu	"

This grows in both Peninsulas of India, in Bengal, Peshawar, Kashmir, in the Punjaub up to 5000 feet, and in Nepal. Its flowers are small, white, flowering in May and June, fruiting in the cold season. Its fruit is sold in the bazar and eaten by the natives, and in China, the Punjab, Kashmir and Guzerat it forms an important article of food. During the hooly festival, its flour is mixed with a dye procured from the flowers of Butea frondosa. The fruit in flavour resembles a chesnut, is eaten both raw and cooked, especially by the hindus of N. W. India, as it is phalahar, i. e., may be eaten in their fasts. It abounds so much in starch, that it may be easily separated from the seeds. In Kashmir, miles of the lakes and marshes, &c., are covered with this plant. Moorcroft states that in the valley it furnished almost the only food of at least 30,000 people for five months of the year, and that from the Wular lake, ninety-six to one hundred thousand ass-loads are taken annually, the Government drawing 90,000 rupees duty on it, and maharajah Rungit Sing got more than a lakh of Company's rupees from this. In the N. W. provinces, the cultivation of the species is extensively carried on by the Dhimar castes, who are everywhere fishermen and palankeen bearers, who keep boats for planting, weeding, and tending this water crop. The holdings of each cultivator are marked out in the tank by bamboos, and they pay so much the acre for the portion they till. The rent paid for an ordinary tank is about Rs. 100 a year, but Rs. 200 or 300 are paid for a large tank. But the plants cause such an increase of mud, that a tank is quickly spoiled by them, and the cultivation is not allowed where the tank is required as a water reservoir. The singhara is planted in the month of June, and is ripe in November; the deeper the water the better the crop. Green singhara sells at one maund of 24 seers per rupee, and dry at 18 seers per rupee. Singhara flour sells at 8 and 10 seers per rupee. The produce of one seer of seed in a good season is about 20 maunds. The water nut is as regularly planted and cultivated under a large surface of water, as fields of wheat or barley on the dry plains. The long stalks of the plants reach up to the surface of the water, upon which float their green leaves; and their pure white flowers expand beautifully among them in the latter part of the afternoon. The nut grows under the water after the flowers decay, and is of a triangular shape, and covered with a tough brown integument adhering strongly to the kernel, which is white, esculent, and of a fine cartilaginous texture. The nuts are carried often upon bullocks' backs two or three hundred miles to market. They ripen in the latter end of the rains, or in September; and are eatable till the end of November.—*Roxburgh* i. 428, *Voigt* 35, *Sleeman's Rambles and Recollections of an Indian Official, Vol.* 1, *p.* 102. *Powell, Dr. J. L. Stewart.*

TRAPA NATANS. The European species is said to be grown also in China. It is remarkable for its fruit with 4 spines, being of a blackish colour and large size, its seed is good to eat, whether raw, roasted, or in soups, and is somewhat like a chesnut in taste. It was known to the Romans by the name Tribulus. Pliny says (lib. xxi. c. 58), "about the rivers Nilus and Strymon the inhabitants gather it for their meat."—*Eng. Cyc. Fortune, p.* 27. *Honigberger,* 359.

TRAPA QUADRISPINOSA, ROXB. This plant is grown in Silhet, and its fruit is like that of T. bispinosa, *Roxb. Fl. Ind.* i. 430.

TRAPOS, also Audrajos. SP. Rags.

TRAP TREE. A species of Artocarpus? which furnishes the gutta used as bird-lime. The fibre of the bark is used for fishing lines, cordage, and nets at Singapore.—*Royle.*

TRAP-TUFFA. A curious variety of trap-tuffa, sometimes white, sometimes greenish or purple, found in Bombay and many other parts of India, resembles laterite in the quality of being easily cut when raised, afterwards hardening on exposure to the air. It

s used as a building-stone, and suits well for basins, troughs, and aqueducts; it is not very extensively employed.

TRAPU. SANS. Tin.

TRASI. JAP. JAV. Trassi. MALAY. Balahang.

TRASTULLI. IT. Toys.

TRAUBEN. GER. Grapes.

TRAVANCORE. A tributary kingdom in the S. W. part of the peninsula of India. Its population is 1,262,647; Europeans 112, East Indians 1,737, Roman Syrians 81,886, Syrians 209.123, Jews 114, Slaves 143,863. It is ruled by the Nair, a hindu race whose descent is from the female side, a rule which most of the population also follow. The bulk of the population is hindu, but a considerable number of mahomedans, called Moplah (Mapillai), also occupy the country, engaged in commerce. It is a fertile, well watered country, with numerous marine lagoons. The rajah resides at Trevandrum. Travancore, Cochin, Malabar, Ceylon, the Malay Peninsula, Chittagong, Bengal, and Lower Assam, correspond in climate to the Tropical and East-Indian Islands, Tropical Africa, Brazil, Guiana, West-Indies, and Florida. The mountains of Travancore form an isolated mass at the extreme south of Malabar, which they separate from the districts of Tinnevelly and Madura in the southern Carnatic. The Travancore group of mountains thus presents a striking analogy to the island of Ceylon in position and outline. The main chain runs southward for 150 miles to Cape Comorin, with occasional deep depressions, and terminates in a bold precipitous mass 3-4000 feet high, within three miles of the Cape itself. They are loftiest at the extreme north of the district, where they stretch east and west for sixty to seventy miles, separating the districts of Dindigul and Madura, and rising into peaks of 8-9000 feet, which overhang the plain of Coimbatore, and they retain an elevation of 5-6000 feet throughout their extent to the southward. The western coast of India includes Travancore, Cochin, and Malabar, and comprises a strip of land of various width lying between the sea on the western side of India, and the range of Western Ghauts, which it includes. It is mostly undulating or hilly, almost everywhere covered with jungle of every description, from low bushes to the most lofty forest trees: most of the roads here too are lined with splendid avenues of banian, cashew, and various other fine trees. The climate is moist and comparatively cool. The Wynaad district, and generally the wooded parts bordering the summit of the ghauts, may also be included in this, which they resemble in climate and productions, though more correctly they belong to the next division. The cardamom hills, in Travancore, are the southern continuation of the Western Ghauts. At the Madras Exhibition of 1855, a valuable drug collection was exhibited from Travancore of 241 specimens, Star Aniseed, Galls, Wood Aloes, Butea Kino, True Kino, Mutty Pal, the root of a Smilax, which was reported to be a good substitute for Jamaica sarsaparilla, Cocculus Indicus, Nux vomica, Zedoaria, Croton tiglium, Aristolochia Indica, Curcuma montana, &c. Amongst the fibrous plants of Travancore, are Ailanthus Malabaricus, Paroo-marum, Malayalum, Crotalaria juncea, and the Agave Americana. Travancore was estimated by Hamilton to contain 6000 square miles. See Hindoo, India, Jews, Kerala, Kotaur, Kranganore, Kummaler, Malabar, Nair, Polyandry, Teer.

TRAVANCORE FLAX. Crotalaria juncea.

TRAGACANTH. The false tragacanth of commerce is the gum of Sterculia urens: another sort is that of Cochlospermum gossypium. See Gum Tragacanth.

TREBECK, a companion of Moorcroft, died at Muzar, a town of 500 houses within the limits of the khanate of Balkh. He left a favourable impression amongst the people of the countries through which he passed. Mr. Moorcroft set off on his journey at the end of 1819, accompanied by this young man, Mr. George Trebeck, only on the threshold of the world.—*Moorcroft's Travels*, i. *p*. 24.

TREBIZOND is said to have been founded 707 B. C. by a colony from Sinope, the capital of Pontus. It derived its wealth from the munificence of the emperor Adrian. It was taken and pillaged in the first expedition of the Goths from the Ukraine in the reign of Valerian. It now contains about 80,000 inhabitants.—*Vigne, vol.* i. *p*. 6. See Kermanshah.

TREBJE. RUS. Rags.

TREBOL. SP. Clover seeds.

TREDA. HIND. A variety of sugar-cane.

TREE.

Shajr.	AR.	Mara.	MALEAL.
Nakl.	BENG.	Akak kaya. Malu of	BORNEO.
Puhn. BISAYA, LANUN. MALAY.			
Pohun.	ADANG.	Karing. Phakatan	,,
Murut of	BORNEO.	Darakht.	PERS.
Ghidayau ?	CAN.	Vrukchum.	SANS.
J'har. DUK. HIND. MAHR.		Pohn. Sea-Dyak of	BORNEO.
J'hara.	GUZ.		
J'hada.	,,	Gass,	SINGH.
Guas, Idaan of	BORNEO.	Maram,	TAM.
Keioh, Kayau	,,	Cherri,	,,
Pokoh, MALAY	,,	Chettu,	TEL.
Basoh. Milanau of	BORNEO.	Manu,	,,

With every ancient race in all countries there have been sacred trees, such as the Tree

of Life of Paradise, the oak of the Druids, the pipal of India, beneath which Vishnu was born, and the Tauba tree of mahommedans. See Hosea iv. 13. The Chaldeans, Hebrews, Greeks, Romans, and Druids had each their groves, their elms, and their oaks, the Singhalese have still their Bo tree, and the brahmans their Kalpau tree. The reverence paid to trees seems nearly as ancient and widely diffused as any other form of superstition. The Hebrew scriptures allude to it in many places; we find it mentioned by Greek and Roman authors; various anecdotes respecting it occur in Eastern manuscripts. It was under the oak of Mirah that Joshua (Josh. xxiv. 26) set up the great stone containing the written law, and Abimelech was made king by the men of Shechem, (Judges ix. 6,) and possibly that under which Rehoboam (1 Kings xii. 1) met the people. Besides that which stood "in the midst of the garden of Eden," emphatically styled "the tree of life" and another "the tree of knowledge of good and evil," the Biblical reader will recollect the idolatrous worship in groves, and under every green tree. The oak by Shechem, under which Jacob hid all the idols and ear-rings; the oak near Bethel which marked the grave of Deborah, and was significantly called Allon bachuth; the palm-tree under which another Deborah, the prophetess, dwelt; the oak under which sat "the man of God" (1 Kings xiii. 14); the oak in Ophrah, under which the angel of God appeared unto Gideon, and conversed with him: these, and the oaks, poplars, and elms, because the shadow thereof is good; also the humble bush, in which the Lord revealed himself to Moses in flaming fire on the mountain of Horeb. (Exod. iii. 2.) We read also in Genesis (xviii. 1) that the Lord appeared unto Abraham in the oaks, or at the oak of Mamre, for so the Hebrew text and the Greek Septuagint, (προς τη δρυι τη Μαμβρη) exhibit what in our English Bible is rendered "the plains of Mamre," and mention is made of "an oak that was by the sanctuary of the Lord" (Joshua xxiv. 26). Amongst the Romans, trees were consecrated to particular divinities. (*Virg. Ecl.* vii. 61.)

"Populus Alcidæ gratissima; vitis Iaccho,
Formosæ myrtus Veneri; sua laurea Phœbo."

In Pliny's Natural History, (Lib. xii. Cap. 1 "de arborum honore,") we read that Arborum genera numinibus suis dicata perpetuo servantur; ut Jovi esculus, "Apollini laurus, Minerva olea, Veneri myrthus, Herculi populus &c." Wreaths and fillets, and chaplets or garlands were often suspended from the sacred branches, whilst among some nations the practice prevailed of staining trees with blood, which had just flowed from the expiring victim, not unfrequently human. Lucan gives a description of the sacred wood near Massilia or Marseilles, (Phars. iii.)

"Lucus erat longo nunquam violatus ab ævo,
Omnis et humanis lustrata cruoribus arbor, &c."

Ovid mentions (Metam. Lib. viii. 639) the wreaths hanging from a sacred tree, and the addition of recent offerings;

————"equidem pendentia vidi
Serta super ramos; ponensque recentia dixi," &c.

And his story of Eresicthon, (Metam. Lib. viii), who impiously violated the ancient woods of Ceres, cutting down her sacred oak, which was in itself equal to a grove, and hung round with garlands, fillets and other votive offerings.

'Ille etiam Cereale nemus violasse securi
Dicitur, et lucos ferro temerasse vetustos.
Stabat in his ingens annoso robore quercus,
Una nemus; vittæ mediam, memoresque tabellæ"
'Sertaque cingebent; voti argumenta potentis."

Statius (Theb. Lib. ii. 736, &c.) records a vow, promising that an hundred virgins of Calydon, who ministered at the altars, should fasten to the consecrated tree chaplets or fillets, white and purple interwoven—

"Centum ibi virgineis votæ Calydonides aris
Actæas tibi rite faces, et ab arbore casta
Nectant purpureas niveo discrimine vittas."

And the same poet gives an account (Theb. Lib. ix. 585,) of the celebrated Arcadian oak, sacred to Diana, but itself adored as a divinity, and so loaded with rustic offerings that "there was scarcely room for the branches."

"Nota per Arcadias felici robore sylvas
Quercus erat, Trivia quam desecraverat ipsa
Ejectam turba nemorum, numenque colendum
Fecerat
Vix ramis locus," &c.

There may also be noticed the *veternosis in arboribus* tænias of Arnobius (*Contr. Gent. Lib.* i.), and the *arbor* vittata, of Prudentius (*Contra Symmachum, Lib.* ii.); the sacred tree bedecked with fillets or garlands.

Mr. Morier in the account of his "Journey" (Vol. i. p. 230), mentions that close to the tomb of a Persian saint was a small bush on which were fastened various rags and shreds of garments; which were generally fancied to have acquired from their vicinity to the saint, virtues peculiarly efficacious against sickness. In the seventeenth century, it was remarked by Chardin at Ispahan, that the religious mahommedans chose rather to pray under a very old tree. He noticed, also at Ispahan, a large and ancient Plane tree all bristling with nails and points, and hung with rags, as votive offerings from dervishes, who like monks of the Latin church, were professed mendicants. Throughout all Persia, adds Chardin, these darakbat-i-fasel are venerated by the multitude, and they appear all stuck over with nails used in fixing

on them shreds of clothes and other votive offerings. Herodotus remarks that Xerxes, when crossing the river Meander, and proceeding on the road, to the city of Callatebos, found a plane-tree, which on account of its beauty, he decorated with golden ornaments; and leaving to guard it one of his troops, called the Immortals, advanced, on the next day, to Sardis the chief city of the Lydians. It is not merely in case of sickness, (though a very frequent occasion) that the modern Persians invoke the spirits supposed to dwell in certain trees, by hanging on the branches pieces torn from their garments; but, on every undertaking which they deem of magnitude, such as a commercial or matrimonial speculation, the building of a new house, or a long journey, and now, as almost six hundred years ago, when Sadi wrote his work, offerings are daily made by votaries desirous of having children. A tree called in Persian Dib-dar, Div-dar, and Div-daru, which may be literally translated the "Demon-tree," bears also, in Arabic, a name nearly equivalent, Shajarat al jin, or "Tree of the Genii;" and even Shajarat Allah or "God's Tree," a tree resembling the Kaj, or Senuber-Hindi, a wild pine or Indian fir; or, as some say, a kind of Sarv or Cypress. The Cypress tree of Soma in Lombardy is said to have been full grown in the time of Julius Cæsar. We have the Oak of Ellerslie, and the Conqueror's Oak in Windsor Forest. And amongst ancient trees, we have the Baobabs of Senegal, the Eucalyptus of Tasmania, the Dragon tree of Orotava, the Wellingtonia of California, and the Chesnut of Mount Ætna.

The Bo tree at Anarajapura in Ceylon was planted 288 years before Christ, and is now 2150 years old. The yew trees of Fountain Abbey are believed to be 1200 years old. The olives in the garden of Gethsemane were full grown when the Arabs were expelled from Jerusalem. Rashid ud Din writing A. D. 1310, mentions the existence of a tree at the confluence of the Jumna and the Ganges, which still exists, but is now enclosed by part of the fortifications.

Amongst the Celts, the wychelm, elder, and mountain ash seem to have been regarded as possessing occult powers. Under the elm as well as under the oak, the Jews performed ceremonies and burned incense. Hos. iv. 13, Ezek. vi. 4-16, Is. i. 29 and lvii. 5, 6. Asherah, rendered groves in 1st Kings xviii. 19, 2nd Kings xxiii. 7, was a wooden image, not in the human form. The planting of trees to afford shade to travellers is deemed an act of merit among the hindoos, and, in a hot climate like India, deserves to be classed among commendable actions. Some trees are also considered as sacred, and the planting of them, therefore, deemed a religious act. The trees thus planted are generally the Ficus religiosa, Ficus Indica, Ægle marmelos, Jonesia asoca, Mimusops elengi, Ficus venosa, Ficus glomerata, Dalbergia sisso, Xanthochymus pictorius, Melia azadirachta, Michelia champaca, Mesua ferrea, Borassus flabelliformis. At the time of planting these trees, no religious ceremony takes place, but when they are dedicated to public or sacred uses, the ceremony called prutisht'ha is performed. The person who plants one ushwut'hu, one nimbu, two chumpuku, three nagukeshwuru, seven talu, and nine cocoanut trees, and devotes them with their fruit, shade, &c., to public uses, is promised heaven. Digging wells made a man famous in patriarchal times: a well, said to be Jacob's well, existed in Samaria at the commencement of the Christian era. John iv. 6, 12.

Throughout India, the worship of trees has been a very early and widespread superstition, and continues up to the present day. Everywhere, from Tibet to Cape Comorin, are to be seen trees covered with rags. The demons in whom the non-Aryan races believe, are supposed to take up their dwellings in trees. The hindoos, who believe in spirit-worship, invoke their deceased parents beneath the banyan or pepul, the Indian and religious fig trees. The Nerium odorum, Guettarda speciosa, Calophyllum inophyllum, Chrysanthemum Indicum, Origanum marjoranum and Artemisia astriaka, are sacred to Siva and Vishnu. The Tulsi is sacred to Vishnu, the Bel to Siva, the Shami and the Darlu to Ganpati. Every where in the East are to be seen old and withered trees half covered with rags, fastened as votive offerings to the branches, entitled by the Persians, dirakht-i-fazel, "excellent or beneficial trees," and held in superstitious veneration.

In Palestine also sacred trees are covered with rags. There was an ancient legend, that on the borders of India where oracular trees of the sun and moon that foretold the place and manner of Alexander's death, and the christian legend as to the Arbre sec, or Dry Tree, to which Marco Polo alludes, is probably that noticed by Klaproth from Chinese authorities, as on the N. W. frontier of the Cossaks of the Left, on the upper of the river Olie or Ori, to which, when the Cossaks pass, they kneel and worship.

Groves of trees were planted by the ancient Egyptians within the court-yards of their temples, but the laws of Moses (Deut xvi. 21,) forbade the Hebrews to plant any tree near the altar of the Lord, though the Alex-

andrian Jews, in later times, planted groves near their synagogues. Individual trees, throughout India, are regarded as habitations of spirits both good and bad, and noonday is the particular period at which their evil influence is exercised. In the Fiji islands, a fine grove exists in the Rew-a district, near the Mission station of Mataisuva, and at a point of the coast termed Na Vadra Tulu (the three screw-pines), probably from three Pandanus odoratissimus trees having stood there. Leaving the Mission premises, and keeping along the sandy beach, an enormous yevu-yevu tree (Hernandia sonora, *Linn.*) presents itself, forming a complete bower, which leads to a curious group of vegetable giants. A venerable vuturakaraka (Barringtonia speciosa, *Linn.*) more than sixty feet high, has thrown out several huge branches, two of which form, in connection with the stem, bold arches. Yesi (Afzelia bijuga, *A. Gray*), and Baka (Ficus) seem to have been those principally selected. The yesi furnished the best timber of the islands, and may, as the most valued tree, have been thought the fit residence of a god, as there is nothing in its appearance that is extraordinary, the beech most nearly resembling it in look. These sacred groves and trees are not worshipped as gods, but, as in the Odin religion, are looked upon as places where certain gods had taken up their abode.

Each of the Dii majores of the hindoos claim a peculiar tree. The Bar, Ficus Indicus, is sacred to Siva. The pepul, Ficus religiosa, to Vishnu, and the Dak, Butea frondosa, to Brahma. The Israelites had a custom curiously in accordance with the hindu practice of bearing trees on appointed days, as appears from the command given in the 23rd chap. of Leviticus and the 40th verse; "And ye shall take you on the first day, the boughs of goodly trees, branches of palm trees, and the boughs of thick trees, and the willows of the brook; and ye shall rejoice before the Lord your God seven days."

Travellers from Point de Galle to Colombo, in driving through the long succession of gardens and plantations of cocoa-nuts which the road traverses throughout its entire extent, will always observe numerous fruit trees of different kinds, round the stem of which a band of leaves has been fastened by the owner. This is to denote that the tree has been devoted to a demon; and sometimes to Vishnu or the Kattregam dewal. Occasionally these dedications are made to the temples of Buddha, and even to the Roman Catholic altars, as to that of St. Anne of Calpentyn. This ceremony is called Gok-bandeema, "the tying of the tender leaf," and its operation is to protect the fruit from pillage till ripe enough to be plucked and sent as an offering to the divinity to whom it has thus been consecrated. It is similar to the system of tabu of Polynesia. There is reason to fear however, that on these occasions the spirit is to some extent, defrauded of his due, as the custom is, after applying a few only of the finest as an offering to the evil one, to appropriate the remainder to the use of the owner. When cocoanut palms are so preserved, the fruit is sometimes converted into oil and burned before the shrine of the demon.

The Bo-tree of the Singalese, Ficus religiosa, is to be found within the precincts of every buddhist temple in Ceylon, and it is frequently met with in deserted localities, or near the sites of ancient villages; but the occurrence of a solitary Bo tree, with its circular buttress of stonework round the stem, indicates the existence, at some former period, of a buddhist temple in the vicinity. The planting of the Bo-tree in Ceylon, a ceremony coeval with, and typical of, the introduction there of buddhism, is one of the most striking passages in the Mahawanso; and a tree of unusual dimensions, which occupies the centre of a sacred enclosure at Anarajapoora, is still reverenced as the identical one which the sacred books record to have been planted by Mehindu 307 years before the christian era, consequently in the year 1900, it will be 2207 years old. So sedulously is it preserved, that the removal of a single twig is prohibited, and even the fallen leaves, as they are scattered by the wind, are collected with reverence as relics of the holy place. On the altars, at the foot of these sacred trees, the buddhists place offerings of flowers, and perform their accustomed devotions. Another account says, it was planted in the 18th year of the reign of king Deveniplatissa or B. C. 288. According to tradition it was beneath a Bo-tree that Gotama became a Buddha.

As in Judges iv. 5, 'And she dwelt under the palm tree of Deborah,' it is common for hindoos to plant trees in the names of themselves and friends, and some religious mendicants live for a considerable time under trees. The Kayoo To-joak in Singapore, is a dark-leaved small tree, to which superstition affixes a sacred character; most old and isolated trees are held to be kramat, or sacred, and small white flags are stuck up near them, and often propitiatory offerings made to the spirits supposed to reside on the spot.

Nothing irritates Burmese people more than to cut down fruit trees planted by their ancestors; these are the only things they possess in the shape of family heirlooms, which

descend from father to son, and from mother to daughter. Women weep over this kind of destruction.

The extension of fruit-bearing trees amongst the people, is one deserving special attention. Advantages must arise to the great mass of the population from increasing the capabilities of the country in this respect. So large is the consumption of wood for fuel that, in the Meerut, Mozuffernugger, and Saharanpore districts, fine old mango trees, that form in groves (topes) the sole ornament of those parts, have been cut down. In Oudh, and in some parts of the North-western Provinces, the land revenue, it is believed, is partially remitted on lands covered with groves. In the Central Provinces large sums are annually spent in planting trees, but hitherto, except in some cases, the operations have not been very successful, as the climate militates very much against the establishment of trees unless they are constantly watered, and this is a most expensive operation. In Berar, revenue is remitted on land covered with plantations, but as under the ryotwaree system of land revenue, the trees, after 20 years, become, by the terms of the settlement, the property of the holder of the land, there seems no legal power of preventing their being cut down. In the Punjab, which is the most denuded of trees of any of the provinces of Upper India, Government is now spending nearly a lakh of rupees annually by direct agency on plantations. In the North-west Provinces also, a special officer has been appointed for the propagation of fruit trees at Raneekhett, for distribution over the country. Trees are of recognized value in inducing rain-fall and in preserving moisture.—*Ousely's Travels, vol.* i. *p.* 313, 387. *Tennent. Elliot's History of India. Ward's View of the Hindoos, vol.* ii. *p.* 83. *Quarterly Review, July* 1868. *Fiji Islands. Postans' Western India, vol.* ii. *p.* 178. *Tennent's Christianity in Ceylon, p.* 231-32, 335. *Hardy's Eastern Monachism, p.* 434. *Cameron. Milner's Seven Churches.* See Inscriptions.

TREEAQ-FAROOQ, of the bazars, is sold in little canisters, on which is printed in Persian, the Theriakh of Andromachi, &c. Marrubium vulgare, *Linn.*, and Teucrium chamædrys, *W.*, are two of the ingredients. See Mithridatum. Tiriaq.

TREE FERN. Alsophila gigantea, *Wall.*, also Cyathea arborea.

TREE GALANGA. See Camphor-wood.

TREE ISLAND, in lat. 1° 7½′ N., a bank of rocks west of Singapore.

TREE-LIKE-HIPPOCRATEA. Hippocratea arborea.

TREE-LIKE JASMINE. Jasminum arborescens.

TREEYAQ, or Tiriyaq. HIND. See Treeaq faruq.

TREFOIL, ALEXANDRIAN. ENG. Trifolium Alexandrinum.

TREFOIL CINNAMON. See Cinnamon.

TREKHAN. HIND. of HAZARA. Acer cultratum, maple, also A. creticum.

TREL. HIND. ? Dew.

TREMAL. HIND. Ficus Roxburghii.

TREMO. HIND. Ephedra Gerardiana.

TREE OF LIFE. The earliest representations of this are the date-palm, the fig, and the pine or cedar. The date palm is figured as a tree of life on an ancient Egyptian sepulchral tablet, certainly older than the 15th century B. C., now in the Berlin Museum. The cross amongst Buddhists and Manicheans is symbolic of the tree of life. It is described in the scriptures as growing in a garden planted by the hand of God, and it was connected with Adam's abode in innocence and immortality; but of another tree of good and evil also growing there, he was forbidden to eat. These grew in the garden planted for Adam's residence. The gardens of Alcinous and Laertes, of which we read in Homeric song, and not improbably that also in Babylon, were supposed transcripts of it. A sacred eminence in the midst of a superabundant, happy region, figures more or less distinctly in almost every mythology, ancient and modern. It was the Mesamphalos of the earlier Greeks, and the Omphalium of the Cretans, dominating the Elysian Fields, upon whose tops, bathed in pure, brilliant, incomparable light, the gods passed their days in ceaseless joys, and whither the disembodied spirits of the brave and good winged their way. It was the sacred Asgard of the Scandinavians, springing from the centre of a fruitful land, which, watered by the four primeval rivers of milk, severally flowing in the direction of the cardinal points, 'The abode of happiness and the height of bliss.' It is the Haramberezaitim of the Parsi, upon which the golden throne of Ahrimano is set, and at the base of which are ranged the glorious mansions of his Azad or ministering spirits, and of the blessed whom they serve. It is the Tien-chan, the celestial mountain-land, the enchanted gardens of the Chinese and Tartars, watered by the four perennial fountains of Tychin, or immortality; and the hill-encompassed Ila of the Singhalese and Tibetans, 'the everlasting dwelling-place of the wise and the just.' It is the Sumeru of the contemplative Buddhist, on the summit of which is Tawrutisa, the habitation of Sekra, the supreme god; and where the four-limbed

O'amba-tree perpetually blossoms, filling the surrounding atmosphere with life-sustaining odours, and from between the roots of which proceed the four sacred streams, running in as many contrary directions. It is the Slavratta, the celestial Vartha of the hindoo, the summit of his golden mountain Meru, the city of Brahma, in the centre of Jambadwipa, and from the four sides of which gush forth the four primeval rivers, reflecting in their passage the colorific glories of their source; and severally flowing northward, southward, eastward and westward. And, to conclude this enumeration of concurrent legends, it is that garden in the east, on the summit of a mountain of jacinth, inaccessible to the sinful Arab, 'a garden of rich soil and equable temperature, well-watered, and abounding with trees and flowers of rare colours and fragrance.' "Watered by rivers, its food is perpetual and its shade also :" "therein are rivers of incorruptible milk, the taste whereof changeth not ; and rivers of wine pleasant unto those who drink, with plenty of all kinds of fruit, and palm trees and promegranates."—*Eadie, Bible Cyclop. Sale's Koran ch.* xiii, xlvii, lvi. *Milner's Seven Churches of Asia.*

TREPANG. One of the Holothuriadæ, an edible sea-slug, called also Beche de mer, collected in large quantities throughout the Indian Archipelago, especially among the eastern islands. China is the principal, indeed, almost the only market. There are many varieties. Some sell at £9 7*s.* 6*d.* per 133⅓ lbs.; the trepang (Lotong) of Borneo at £4 3*s.* 4*d.* per 133⅓ lbs.; the trepang (Buangakulit) of Singapore £3 15*s.* 0*d.* per 133⅓ lbs.; the trepang (Pandans), of Borneo, £5 per 133⅓ lbs. See Holothuriadæ. Tripang.

TREPATTRA. HIND. Trifolium pratense.

TRERON PHŒNICOPTERUS of Upper India, and the Tr. chlorigaster of S. India and Ceylon, blend in Lower Bengal, for Tr. Malabarica. Tr. Pompadora. See Birds. Ornithology.

TRESUL, or trident, a weapon of Neptune, seems also that of Siva. See Trisula.

TRETA YUGA. SANS. from tree, three, and yuga, a definite period of time. The four yuga are numbered according to the quantity of religion in each ; thus the satya has four parts, the treta, three, the dwapara, two, and the kalee, one. The Treta yuga is the hindu silver age. See Surya-vansa. Yuga.

TRIKOOTA. SANS. from tree, three and kuta, a mountain peak.

TRIPOORANTAKA. SANS. from tree, three, pura, a house, and antaka, a destroyer.

TRIPOORA. SANS. from tree, three, and poora, a town.

TRIPOORA SOONDUREE. SANS. Soonduree, beautiful.

TRISHIKHA. SANS. from tree, three, and shikha, the ascending flame.

TRIVENEE. SANS. from tree, three, and vinee, a stream.

TREVANDRUM. The chief town of Travancore.

TREVACARRY. In the chain of mountains which pass by Gingi, fossils are found. Those of Trevacarry, a village 21 miles from Pondicherry, are worthy of observation.—*Sonnerat's Voyage, p.* 5, 8.

TREVELYAN, Sir CHARLES EDWARD, K. C.B., of the Bengal Civil Service, wrote on the condition of the people of India, 1 vol. 8vo. Calcutta, 1839. He served in the Home Treasury Office, and in 1859 was Governor of Madras, from which Her Majesty removed him in 1860, on the grounds of his acting with less dependance on higher authority than was deemed expedient. He was subsequently Financial Secretary of India. Bold in design, energetic in execution, earnest in manner, thirsting for learning and knowledge, in conversation, he ever took for granted that all were equal to himself.—*Thurlow, p.* 34.

TREWIA NUDIFLORA. LINN.

Tetragastris ossea, *Gærtn.* | Kanshi. MALEAL.

This tree grows on the coasts of India ; its root is used in medicine.

TRIAD. The triads of the gentile world are frequently resolved into corruptions of the doctrine of the trinity, revealed to the patriarchs, and preserved by tradition among the descendants in the scenes of their wide-spread dispersion. We repeatedly meet with a pagan trinity. The famous Siberian medal, now placed in the imperial cabinet of Petersburg, represents on one side a deity with three heads and six arms ; he sits cross-legged upon what Dr. Parsons calls a low sopha, or rather the symbolical lotus ; and on the reverse there is the following inscription, translated by Colonel Grant :—

> "The sacred image of God in three images:
> By these collect the holy will of God—
> Love him."

This medal has been supposed to have been brought from the empire of the Dalai-Lama in Tibet, but it seems to be the ordinary form of Vishnu, a hindu of deity. A triple god is described by Kircher among the Japanese, and the celebrated triad of the hindoos, Brahma, Vishnu, and Siva, is well known. At night and in the west, the sun is Vishnu ; he is Brahma in the east and in the morning ; from noon to evening, he is Siva. Maurice notices another triple god in India, compounded of Sre Mun Narain, a beautiful woman, named Maha Lakshmi, and a serpent.

These persons are supposed by the hindoos to be wholly indivisible ; the one is three, and the three are one. A royal grant of land in Carnata, translated from the Sanscrit by Sir W. Jones, closes with the following inscription : "Sri Viru Pacsha !" or the god with three eyes.

Geryon, the three-headed, is famous in classical antiquity.

"Qualis Atlantiaco memoratur littore quondam.
Monstrum Geryones immane tricorporis iræ,
Cui tres in pugna dextræ varia arma gerebant
Una ignes sævos."

"Thus on the coast, from hoary Atlas named,
Stood triple Geryon : in his three right hands
Three weapons fierce he brandished, vengeful fire."

The triad of the Greeks, so frequently referred to by Proclus, has been largely examined by Cudworth. The inhabitants of northern Europe had various trinities :

That of the prose Edda is Odin, Vilé, and Ve.
Of the Voluspa, Odin, Hæuir, and Ledur.

The Scandinavians swore by Odin, Freyr, and Njord.

The Nornir or Destinies were three. Among the Druids the number three was sacred and mystical : hence, their writing-rods of three sides, and the fondness of the ancient British bards for the triad, tribanau or triplet,

Eiry myuydd—gwangeus Iar—
Gochwiban gwynt ar dalar—
Yn yr ing gorau yw'r Car.

"Snow of the mountain ! the bird is ravenous for food—
Keen whistles the blast on the headland—
In distress the friend is most valuable."

The Triad of the Assyrians was Ana, Belus, and Hea.—*Parson's Remains of Japhet, chap.* 7. *Von Strahlenberg's Intro. to Descrip. of Siberia. Sir W. Jones on the Gods of Greece, &c. Asiat. Res. vol.* i. *p.* 250. *Plate in Maur. Indian Antiquities, vol.* iv. *p.* 750. *Asiat. Res. vol.* v. *p.* 254. *Asiat. Res. vol.* iii. *Sil. Ital. Bell. Pun. lib.* xiii. v. 200. *Proc. in Plat. Timæum. lib.* v. *c.* 10. *Eddalæren og dens oprindelse, by Finn Magnusen, Copenhagen,* 1824, *in Milner's Seven Churches of Asia, p.* 87-91.

TRIAD of the Chinese. In the bosom of the sceptical and avaricious Chinese people, there has always remained a powerful and vivacious spark that the Tartar government has never been able to extirpate, and secret traid societies have been formed all over the empire, the members of which have seen with impatience the Mantchu domination and cherished the idea of overthrowing it to obtain a national government.—*Huc Chinese Empire. vol.* i. *p.* 1384.

TRIANGLE. This, in hindu mythology, when the apex points downwards, is symbolical of Vishnu, considered as the principle of humidity; to descend being the property of water, and it naturally assumes that figure : when with the apex upwards, it is a symbol of Siva, as fire, it being the unvaried form of the igneous element.—*Moor's Pantheon page* 23.

TRIANGULAR SPURGE. Euphorbia antiquorum, *Linn.*

TRIANGULI. HIND. Phaseolus trilobus.

TRIANTHEMA CRYSTALLINUM. VAH.

Tr. triquetra, *Rottler.*	Papullaria crystallina, *Forsk.*

Alethi, HIND.

A plant of Arabia and India.

TRIANTHEMA DECANDRUM. LINN.

Zaleya decandra, *Burm.*

Gado bunya	BENG.	Vallai Sharunne,	TAM.
Biskhopra,	DUK.	Galijeru.	TEL.
Trailing Trianthoma	ENG.	Tellagalijera.	„
Swit punarnavi,	SANS.		

A weed common in peninsular India, its roots, size of a small finger, light brown outside, white within, are aperient. Four pagodas' weight of bark of the root made into a decoction with 1 lb. water and boiled down to ½ a lb. will open the bowels.—*Ainslie. O Sh. p.* 353.

TRIANTHEMA INTERMEDIA. STOCKS. Waho, HIND.

TRIANTHEMA MONOGYNA, ROXB. syn. of Tr. obcordatum, *Roxb.*

TRIANTHEMA OBCORDATUM. ROXB.

Tr. monogyna, *Roxb.*	Tr. pentandra, *DC.* var. obcordatum.

Sabuni	BENG.	Sharvalay kiray	TAM.
Nasurjangi	DUK.	Sharanne	„
Warma	HIND.	Ambati maddu	TEL.
Itsits	„	Red variety, Yerra galijeru.	„
Punarnavi,	SANS.		

A troublesome weed, springs up everywhere ; the young leaves used as spinach, when somewhat old mixed with others and used as greens. The root is found in bazars ; colour pale, much wrinkled, bitterish, and rather nauseous to the taste, is considered cathartic, and given in powder to the extent of two teaspoonsful twice daily with a little ginger. The fresh root also is given as a cathartic mixed with ginger.—*Jaffrey, O'Shaughnessy, page* 353.

TRIANTHEMA PENTANDRA, var. obcordatum, *DC.* syn. of Trianthema obcordatum, *Roxb.*

TRIAS OBLONGA. Many of the mango trees have this species of Trias growing on them. It is the smallest plant of the orchid tribe in the Tenasserim Provinces.—*Mason.*

TRIBRI. HIND. Cucumis sativus.

TRIBULUS, of Pliny, is the Trapa natans or European water chesnut. Two species of Trapa vegetate at Lahore and Cashmere, and afford a considerable revenue, principally to the Cashmerean government. The water-

nuts are boiled, and so sold in bazars. A poultice of Trapa natans is recommended to resolve indolent tumors, probably Trapa bispinosa would serve the same ends.—*Thirty-five Years in the East, by Dr. Honig. p.* 359.

TRIBULUS, a genus of plants belonging to the Nat. Ord. Zygophyllaceæ, of which Tr. alatus, Tr. lanuginosus, Tr. cistoides, *L.*, and Tr. terrestris occur in India. One or other species is common in the plains, some occur to from 3,000 to 5,000 feet in the Himalaya, and one is found to 10,500 feet in Tibet.—*Dr. J. L. Stewart.*

TRIBULUS CISTOIDES. LINN. A plant of the W. Indies grown in the gardens of India ; it has some aperient properties.—*Roxb. Voigt.* 184.

TRIBULUS LANUGINOSUS. LINN. *Roxb.* ; *W. & A.* ; *W. Ic.* Woolly caltrops.

Khussuk-us-saghir,	AR.	Kokullak,	PANJ.
Gokur,	BENG.	Sudu mostra,	SANSC.
Gokhru,	DUK.	Sembu nirinchi,	SINGH.
Woolly Caltrops.	ENG.	Nerinji,	TAM.
Gokuru, Gokru,	HIND.	Palleru,	TEL.
Neringil,	MALEAL.	Chiri palleru,	„
Bakhra,	PANJAB.	Yerra palleru,	„
Bhukri,	„		

The woolly caltrops grows throughout India. It has large bright yellow sweet scented flowers, and it fruits all the year round. The generic name is from the Greek τρίβολος, three spiked or three pointed. This is often confounded with the Pedalium murex. It is universal over the ground in Rajwarra. The seeds and capsules are highly mucilaginous. It is a common annual with yellow flowers and angular thorny fruit. Leaflets are eaten mixed along with others in time of scarcity. It is used in Cochin China as an astringent, in the south of Europe as an aperient and diuretic.—*Jaffrey. Eng. Cyc. Ainslie's Mat. Med. p.* 252. *Riddell. Gen. Med Top. p.* 193.

TRIBUTARY MAHALS. See India.

TRIBUTE is paid by many eastern nations. About fifty thousand Mons or Peguans pay tribute to Siam, and between latitudes 3° and 7° N. the Malays in the principalities of Patani, Calantan, and Tringanu on the east, and on the west those of Quedah and Perak, are subject through the governor of Ligor to the Siamese sovereignty ; but that sovereignty is by no means undisputed by the inhabitants in the less accessible parts.—*Bowring's Siam, vol.* i. *p.* 83.

TRICHECHUS DUGONG. ERXLEBEN. syn. of Halicore Indicus, *F. Cuv.* Tr. dugong, *Gm.*, syn. of Halicore dugong. See Dugong.

TRICHENDOOR. See Hindu.

TRICHILIA EMETICA.

El-caja,	AR.	Djous-el-Kai (fruit.)	AR.

Common on the mountains of Yemen and in Senegal. The fruit is used by the Arabs in powder mixed with oil against the itch.—*O'Shaughnessy, page* 245.

TRICHILIA SPINOSA. WILLD.

Thorny Trichilia.	Atalantia monophylla.
Limonia monophylla.	Turræa virens, *DC.*

Kaat Koorundoo, TAM.

From the berry of this thorny plant is prepared a warm oil, which the native practitioners consider as a valuable application in chronic rheumatism and paralytic affections. —*Ains. Mat. Med. page* 74, *Roxb. Voigt.* 138.

TRICHINOPOLY, in L. 10° 49·8′ N., and L. 78° 40·9′ E., in the Carnatic, a large military station. The land tripled in value in the twenty years ending 1870. The Dak bungalow is 297 feet above the sea. It is a large town on the Cavery river, which gives its name to a revenue district of the Madras Presidency. The country is flat and well irrigated by channels from the Cavery, which divides at Trichinopoly, and forms the island of Sri-rangam. The northern branch called the Coleroon flows to the ocean, but the southern is crossed by an anicut. The district contains 709,196 inhabitants and the town about 60,000. See Jalicut, Kollari.

TRICHIURUS LEPTURUS. LINN. The silvery hair-tail is one of the largest of the flattened small scaled fishes, It occurs at Shantung in the gulf of Pecheli in China, in N. China, and Corea, and is largely salted, dried and eaten. It is captured near the surface.

TRICHOCOMA PARADOXUM. See Fungi.

TRICHODESMA. The species of this genus are deemed diuretic, and are supposed cures for snake bites.—*O'Shaughnessy, p.* 467.

TRICHODESMA INDICUM. R. BR.

Borago Indica, *Linn.*

Ratmomdi, ratisurkh,	KASHMIR.	Guva gutti,	TEL.
		Nilakai,	PANJAB.

It is used for purifying the blood, also as a diuretic and a cure for snake bites.—*Powell Handbook v.* i. *p.* 366.

TRICHODESMA ZEYLANICA. R. BR. syn. of Borago Zeylanica, *Linn. Roxb.*

TRICHODESMIUM EHRENBERGII, and T. Hindsii occur in India. During the year 1823, Ehrenberg spent several months on the borders of the Red Sea, at Tor, very near Mount Sinai, and there witnessed the surprising phenomenon of the blood-red coloration of the entire bay, which forms the part of that town. The open sea, outside the coral reef, was of the ordinary colour, but the short waves of the calm sea bore to the shore, during the heat of the day, a mucilaginous matter of a blood-red colour,

depositing it on the sandy beach, so that in the space of little more than half an hour, the entire bay was margined by a red border many feet in width. The coloration was owing to minute almost invisible flocci, some greenish in colour, others of an intense green, but mostly of a deep red : the water in which they floated was, however, perfectly colourless. This very interesting phenomenon, explaining so satisfactorily the etymology of the name this sea has received, (an etymology which has hitherto remained in complete obscurity), during several days was investigated at leisure with every possible care. The colouring matter was examined with the microscope. The flocci were found to be composed of little bundles of oscillatoria-filaments ; they were in shape fusiform or elongated, were irregular, rarely more than a line long, and were invested with a kind of mucilaginous sheath. The flocci themselves did not exactly resemble one another, nor did they contain filaments. Whilst the sun was above the horizon, the flocci remained on the surface of the water in the glasses he had brought up ; during the night they sank to the bottom, or when he shook the glass, though remounting to the surface some little time afterwards. Two minute species of Trichodesmium collected in the Atlantic imparted a cloudiness to the water over a very large area, but were not coloured. They were so diffused that it was difficult to collect the excessively minute flocci, far smaller than those at Colombo, and colouring the sea there. —*Ehrenberg on the coloration of the Red Sea in Poggendorf's Annals. Annals and Magazine of Natural History. Ceylon Observer.*

TRICHOGLOSSUS ENTELES, and T. iris, the pretty little lorikeets of Timor.

TRICHOGLOSSUS ORNATUS, of Celebes, a beautiful brush tongued paroquet.

TRICHONOTIDÆ, a family of fishes including the genera Trichonotus, 1 Hemerocoetes.

TRICHOON KARKA. ROTH. syn. of Amphidonax karka, *Lindl.* Arundo karka, *Royle.*

TRICHOPODUSTRICHOPTERUS. PALLAS. Like the rest of the family, this species is capable of sustaining life out of water, particularly if kept in wetted fresh leaves, or occasionally sprinkled with water. At Penang it is numerous in streamlets and ponds, where it is eaten by the poorest classes. The exquisite beauty of the metallic iridescent colours make these fishes acquisitions in garden tanks. Like Osphromenus olfax they are very pugnacious among themselves. A species of Trichopodus was discovered by Dr. Campbell in the rivers of the Sikkim passes in the northern frontier of Bengal.

TRICHOSANTHES, a genus of plants belonging to the Cucurbitaceæ, and of which six East Indian species, anguina, bracteata, cordata, cucumerina, dioeca, and heteroclita are known ; some are used as vegetables, but others contain a purgative principle. T. amara, of St. Domingo, has bitter and astringent seeds, sometimes emetic.—*O'Sh. p.* 209.

TRICHOSANTHES ANGUINA. LINN.

Chichinga,	BENG. HIND.	Galar tori	PANJAB
Jijinga,	,,	Pandol,	,,
Jinga,	,,	Pottola,	SANS.
Pai-len-mwæ,	BURM.	Kadotri,	SIND.
Chichonda.	DUK.	Rebbri,	,,
Common Snake Gourd,	ENG.	Podi-urilanga	SINGH.
		Pudalungai,	TAM.
Chichuda,	HIND.	Lingapotla	TEL.
Purwar,	,,	Pottlakaya,	,,
Petala ular,	MALAY.	Poalkaya,	,,
Petalri-ular,	,,	Polla kaya,	,,

The snake gourd is generally cultivated for its long snake-like fruit used in curries, and often cut into lengths and filled with a preparation of minced meat. This is sown in the rains, and grown generally over a high pandall, in order that the fruit may have space to hang down ; a small stone or weight is tied to the end to increase its length, which varies from a foot and a half to three feet or more. Raw, it resembles a cucumber in flavour, but is better dressed in a stew or curry. This curious contorted gourd is peculiar to India, and is in very general demand for vegetable curries. The plant is of easy culture and is to be seen on trellises around the doors of the native cabins ; the fruit grows beautifully striped, small, and tapering, so that hanging down from the trellis, they look like striped snakes suspended from the foliage of trees.—*Riddell, Jaffrey, Mason. Voigt.* 57. *Roxb.* 3. 701.

TRICHOSANTHES BRACTEATA. LAM.

Tr. palmata,	*Roxb.*	Tr. anguina,	*Wall.*
Tr. kaki konda,	,,	Modecca bracteata	*Lam.*
Tr. laciniosa,	*Wight.*		
Buro makal,	BENG.	Anko-rutê,	TAM.
Bracteated Snake-Gourd,	ENG.	Abuva, Avva guda,	TEL.
		Kaki donda ; Abuba	,,

This grows in both the peninsulas of India, in Bengal, the Dehra Dhoon, and the Khassya mountains. It is a large climbing plant, with a globular fruit, which is regarded by the natives as poisonous, but the stem is much esteemed in diseases of cattle and in inflammations of the lungs.—*Dr. Gibson. Roxb. Voigt.*

TRICHOSANTHES CORDATA. ROXB.

Trichosanthes palmata,	*Roxb.*	Bhooim-Koomra,	BENG.

This plant grows on the banks of the Megna river, where the inhabitants use the root as a substitute for Calumba root, and it has been sent to England as the true Calumba of

Mozambique. It has large white flowers. Its Bengali name is identical with that of the sweet potato, Batatas paniculata. The root is tuberous, perennial, growing to the size of a man's head.—*Roxb.* iii. 707. *Voigt.* 58. *O'Shaughnessy, p.* 550.

TRICHOSANTHES CUCUMERINA. Linn.; *Roxb.*; *W. & A.*

T. cordata,	*Wall.*	T. palmata,	*Roxb.*

Ban potel,	Beng.	Podavalam,	Maleal.
Bun-putol,	"	Pepudel, Pudel,	Tam.
Jungli chuchinga,	,,	Cheud potla, Patola,	Tel.
Tha-b'hot-kha,	Burm.	Adavi	,,
Bitter gourd,	Eng.	Chedu	"
Jangli chuchinga,	Hind.	Cheti,	,,

This plant grows in the valleys of the Himalayas, in hedges in Bengal, in the two peninsulas of India, and in Tenasserim. Its unripe fruit is very bitter, but is eaten by the natives in their curries, and is reckoned anthelmintic.—*Roxb.* iii. 702. *Voigt.* 57. *Mason. O'Shaughnessy* 350. See Cucurbitaceæ. Gourds.

TRICHOSANTHES DIOECA. Roxb.

Bun-putol.	Beng.	Kommu potla.	Tel.
Pulwul.	Hind.		

This occurs wild in Bengal, but is cultivated there for its unripe fruit and tender tops, which are eaten in curries and reckoned very wholesome. An alcoholic extract of the unripe fruit is described as a powerful and safe cathartic in 3 to 5 grain doses, repeated every third hour till the desired effect is produced.—*O'Sh. p.* 350. *Gen. Med. Top. p.* 209. *Roxb.* iii. 701. *Voigt.* 58.

TRICHOSANTHES INCISA. Rottl.

Birme ke-jur,	Duk.	Chinna Avagooda vayroo,	Tel.
Sirroo Corruttivayr,	Tam.		

This has a light coloured and very bitter tasted root. Pounded small and mixed with margosa oil, it is applied to offensive sores inside the ears, and is also poured up the nostrils in cases of ozæna. The taste of the rind is singularly bitter, but in three grain doses, thrice daily, it produced no sensible effect.—*Ains. Mat. Med. pp.* 77, 114. *O'Shaughnessy, pp.* 349.

TRICHOSANTHES KAKI KONDA. Roxb. syn. of Trichosanthes palmata, *Roxb.*

TRICHOSANTHES LACINIOSA. Wight. syn. of Trichosanthes palmata, *Roxb.*

TRICHOSANTHES VILLOSA of Java, fruit acts like colocynth.—*O'Sh. p.* 350.

TRICOOR, a prefix of the toolam, an Indian weight.—*Simmonds' Dict.*

TRIDACNA, a genus of molluscs, the shells of which are the largest known amongst acalephous molluscs. They are all of tropical seas. There are six recent, and one fossil species. T. gigas is sometimes 4½ feet long, weighing 500 pounds. T. safrana is of a beautiful blue round the edges: a third species is T. squamosa.—*Figuier. Woodward.*

TRIDACNA GIGAS, the gigantic clam shell, was formerly of such value that the Republic of Venice presented one to Francis I, who gave it to the church of St. Sulpice in Paris, and it is still used there as a basin for holy water. Its shell is transversely oval, with great imbricato-squamous ribs, the scales short, arched, and lying near together; the interstices of the ribs are not striated. The size and weight of this immense bivalve, the largest and heaviest known, combined with the beautiful marble-like appearance and whiteness of the inside of the valves, have always caused it to be sought for as an ornament for grotto-work or for garden-fountains; and, indeed, the valve of a large individual forms a very picturesque basin for catching the clear falling water and transmitting it through the deep interstices of its indented edge to the reservoir below. This species can hardly have been the Tridacna of Pliny ('Nat. Hist.,' xxxii. 6) but his Pedalia or oysters a foot long, from the Indian Sea, may have been Tridacnæ of modern authors. At Carteret Harbour, New Ireland, the natives brought many very large individuals, whose flesh they ate raw. The species occur at Tongataboo, at the Moluccas, at Timor, and at Wagyou. It appeared always to inhabit rather shallow water.—*Eng. Cyc.*

TRIDACNES—— ? See Chamacea. Chamidæ.

TRIDACNIDÆ, a family of Conchiferous mollusca comprising the genera Tridacna and Hippopus.

TRIDANDI, a saiva mendicant, who carries in his hand three wands, to illustrate his command over his thoughts, words, and acts.—*Wils.* See Sanyasi.

TRIFOGLIO. It. Trifolium, Lat. Clover.

TRIFOLIUM, a genus of plants belonging to the natural order Fabaceæ. Several European and one Egyptian species are known. Tr. alexandrinum, frugiferum, arvense, glomeratum, incarnatum, lappaceum, maritimum, medium, michelianum, pratense, repens, resupinatum, spumosum, suffocatum, subterraneum, stellatum, and strictum. They are the trefoils or clovers, so largely used in Europe as fodder for cattle; and Dr. Irvine mentions Tr. Indicum or Indian trefoil called in Hindi Bun-mether, Jhoonjoorie or Goolabe, as very common in Ajmeer, Marwar and Jaipoor. Camels are fond of it; other cattle do not eat it. One of the European species, Tr. repens, the white or Dutch clover, is said to be the shamrock worn by the Irish as a badge. Leaves with three divisions have, from remote times, been regarded with superstitious reverence.—*Voigt. p.* 210. *Eng. Cyc. Genl. Med. Top. p.* 205.

TRIGLIDÆ, the gurnard family of fishes, of the order Acanthopterygii. The genus Trigla with bright colours occurs in British seas. The family is arranged into four groups. One genus Dactylopterus, of which there are four species, has two species, D. volitans of the Mediterranean and D. orientalis of the East Indies. The flying gurnards raise themselves into the air by means of their pectoral fins, and swing themselves forward for a hundred feet.

TRIGO. PORT. SP. Wheat.

TRIGO DE INDIAS. SP. Wheat.

TRIGONELLA. A genus of plants of the natural order Fabaceæ or Bean tribe; there are about thirty species, and Tr. cœrulia, corniculata, fœnum-græcum, and ornithopodioides occur in India.

TRIGONELLA CORNICULATA. LINN.

T. elatior, *Sm.*

A native of France, but cultivated in India. It has small yellow flowers and fruits in the cold season.

TRIGONELLA FŒNUM-GRÆCUM. L.

Halbeh,	AR.	Shemlit,	PERS.
Shimlet,	„	Metha and Muthe,	SANS.
Mithi-shak,	BENG.	Uluwa,	SINGH.
Mithika,	„	Vendi keray,	TAM.
Mentia,	CAN.	Vendium,	„
Methi,	DUK. HIND.	Menti kura,	TEL.
Fenugreek,	ENG.	Mentulu,	„

The seeds,

Halbeh,	ARAB	Moohteeh,	HIND.
Fenugreek seed,	ENG.	Vendeum,	TAM.
Methi,	GUZ. DUK.	Mentooloo,	TEL.

The leaves.

Mehtie ki baji,	DUK.	Vendium keeray,	TAM.
Fenugreek greens,	ENG.		

This plant is a native of the south of Europe, but is cultivated in Asia Minor and in India. Mucilage, starch, fixed oil, and colouring matter, constitute the greater part of its seed, which are used by the native practitioners in dysenteric affections, cough and special diseases, and the Arabs employ it in poultices and fomentations. It is cultivated for a pot herb, considered very wholesome. It imparts a very strong odour and taste to curries, and the seeds are said to be slightly tonic. They are also used as coffee after roasting, and to form a yellow dye; and are said to be emmenagogue.—*Powell, Handbook p.* 339. *Ainslie's Mat. Med. p.* 269 *and* 257. *O'Shaughnessy, p.* 291.

TRIGONELLA TETRAPETALA. ROXB. syn. of Cyamopsis psoraloides.

TRIGONOMETRICAL SURVEY of India began at Cape Comorin in 1800. Its originator was Colonel Lambton, who has been succeeded by Sir George Everest, Sir Henry Waugh, Colonel J. T. Walker, and Colonel Thuillier, and about three-fourths of the whole of British India has been surveyed. It is calculated that by the year 1886, the whole of the vast area of India, 1,556,836 square miles, will have have been surveyed by the Grand Trigonometrical Survey, and by the Topographical and Revenue Surveys, though portions may require resurveying. In the triangulations of India, chains of triangles have been carried along the principal meridians, and the course of the eastern and western frontier, and these were connected together by other chains, the northernmost of which followed the Himalayan frontier line, while others were carried along certain parallels of latitude at convenient intervals. Colonel Everest's meridional arc is the axis of the system. Base lines are measured at the extremities of the longitudinal chains and at the points where the chains cross Colonel Everest's arc. The great quadrilateral figure which connects Debra Dhoon with Kurrachi comprises four base lines and about 2500 angles, appertaining to 8 chains of triangles.—*Ann. Ind. Admin.*

TRIKALA, of the Cis-Sutlej, is wheat and barley sown together. It is called "guji" in the Punjab.

TRIKALA MALLE. TEL. Malva rotundifolia, *Linn.*

TRAKANTA-JATI. BENG. Monetia tetracantha.

TRIKH GANDERE. HIND. Rhododendron arboreum.

TRI-KUTA-DEVI, three peaked or trident goddess, a triple peaked mountain in the outer Himalaya, south of Chaneni, held sacred by the hindus.

TRI-LINGAM, said to be the origin of the name Telinga. It means three lingams.

TRILLISTNIK. RUS. Clover seed.

TRILOTITUS HORSFIELDII. Blepote of Timor, one of the Cheiroptera.

TRIMAL. HIND. Fruit of Ficus macrophylla, also of F. Roxburghii.

TRIMBAK, in lat 19° 54′ N. and 73° 33′ E. in the Dekhan, W. of Nassik. Hill fort S. of the town is 4,255 ft. above the sea. The Hill Fort at Hursh, 3 miles W. of Trimbuk, is 5,659 ft. Otur, near Trimbuk, is 4,096 feet.

TRIMBAL. HIND. of Kangra, Ficus Roxburghii, also F. macrophylla and F. venosa.

TRIMPALI. HIND. Manisurus granularis, *Linn.*

TRIMULGHERRY, a small hamlet eight miles N. of Hyderabad in the Dekhan, near which a cantonment for European soldiers has been located.

TRIMURTI, or three persons, the term employed to designate the triad of gods of the hindu mythology, Brahma, Vishnu and Siva, whose attributes are those of the Creator, the Preserver, and the Destroyer. The consorts of Brahma are Saraswati, Sakti or Maya; of

Vishnu, Lakshmi, Padma or Sri; and those of Siva are Parvati, Bhawani or Durga. The attendant vahan or vehicle of Bramha, is a hansa or goose: that of Vishnu is a garuda or bird, and nandi or the bull pertains to Siva. Meru is the station of Brahma, the sun that of Vishnu, and Jupiter that of Siva. The symbols of the three deities are respectively Time, Water and Fire. Their common titles A. U. M. are, for Brahma, Parameswara; for Vishnu, Narayana; and Mahadeva for Siva. Brahma is not now worshipped. Vishnu under the figure of the sun, by the Saligram and the nine Avatars, while the Lingam and his million epithets are the usual figures indicating Siva. Brahma of the hindu theology is supposed to be the analogue of the Saturn of the West, while Jupiter represents Vishnu and Siva. The tri-murti or three persons, or three forms, is known in the southern peninsula as mu-murte (mur, TAM. three.) In the philosophy of hinduism, not only Brahma, Vishnu, and Siva, but god and the world are one, but the Trimurti are far from being one, for the legends relate their fights and quarrels. Many saiva hindoos believe in the three as triune, but vaishnava hindus are rarely in accord in this, and the bulk of the hindu religionists regard Siva or Ishwara, Vishnu and Brahma or his essence, Parabrahma, as distinct deities.

Of this triad, the present hindoos scarcely recognize Brahma, who has at present not a single temple throughout all India. The worship of Vishnu seems to have come from Tartary, and that of Siva from the basin of the lower Indus through Rajputanah, and to have displaced the nature worship of the Vedas. In the present state of hinduism, however, every hindu has a separate belief, and Siva, Vishnu, hero-worship, the worship of incarnated beings, devil worship, the worship of the lingam, are the prevailing forms. Indra, once regarded as the king of heaven, is almost unheard of and unknown. Amongst the earliest dissenters from Indra were the Yadu race under Krishna's influence. The reasons leading him to this are not known, but the Maha Bharata make him say to Nareda, his father, Why worship Indra as the Supreme god? O father, we are Vaisyas and our cattle live upon the pastures, let us therefore cease to worship Indra, and pay our devotions to the mountain Govarddhana. Up to that time it was to the heaven of Indra that the good who died proceeded.

The two gods, Indra and Agni, rain and fire, were the chief deities worshipped by the Vedic Aryans: Indra, the sovereign of the gods, was the most powerful of the Vedic deities. He is the god of the firmament, the hurler of the thunderbolt, who smote the rain cloud, and brought down waters, who delighted in the Soma juice, in eating, in drinking wine, and in war. Indra is now never invoked, but has been succeeded by Vishnu and Siva.

Agni, another Vedic deity, is the personification of fire, and was worshipped as the destroyer of forests, as useful in the sacrifice and in the household. "When generated from the rubbing of sticks, the radiant Agni bursts forth from the wood like a fleet courser." "When excited by the wind, he rushes amongst the trees like a bull, and consumes the forest as a rajah destroys his enemies." "Such as thou art, Agni, men preserve thee constantly kindled in their dwellings and offer upon thee abundant food."—(*Rig Veda* i. 73.)

Varuna was the Vedic god of the waters, and god of the ocean, but the name was sometimes applied to the sun and sometimes used as a personification of day. As with other gods when addressed he was regarded as supreme, and capable of forgiving sin:—

"Let me not yet, O Varuna, enter the house of clay; have mercy, almighty, have mercy!

If I go along trembling, like a cloud driven by the wind; have mercy, almighty, have mercy!

* * * *

Thirst came upon the worshipper, though he stood in the midst of waters, have mercy, almighty, have mercy!"

Surya, or the sun, called also Savitra, Mitra, Aryaman and other names, was a Vedic god, who continues to be worshipped down to the present day, by brahmins and zoroastrians. The solar race of Kshetrya who appear in the Ramayana, derive their origin from the sun; but in the higher spirit, the sun is regarded as divine, as pervading all things, as the soul of the world and supporter of the universe. In a verse of the Rig Veda (iii, 62 and 10) this idea is supposed to be indicated. It is" O'm! Bhurbhuvassuvaha, O'm! Tatsa vithru varenyam, B'hargo, devassya dhimahi dhiyo yonaha pracho dayath: O'm! Earth, air, heaven, O'm let us meditate on the supreme splendour of the divine sun, may he illuminate our minds. And at the present day the most enlightened brahmans regard this verse as an invocation to the several deities who are implored by the worshipper to aid his intellect in the apprehension and adoration of God.

In connection with the sun are the twelve Aditya, sons of Aditi, the universe. In the later Vedic age, they were identified with the twelve signs of the zodiac, or the sun in its twelve successive signs. Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the Soma plant, but in the Maha Bharata is the mythical progenitor of the great lunar race of Bharata. The Aswini,

apparently a personification of light and moisture, as sons of the sun, also as the sun's rays, and noticed as the physicians of the gods. They are described as young and handsome and riding on horses. Vayu or the air, and the Maruts or winds, are personified and invoked. The Maruts are depicted as roaring amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the Soma juice like Indra, and, like him, the bestowers of benefits on their worshippers. Ushas or the dawn, the early morning, the first pale flush of light: Ushas is compared to a mother awakening her children; to a lovely maiden awakening a sleeping world, to a young married maiden, "like a youthful bride before her husband, thou uncovereth thy bosom with a smile." As a goddess, she is styled the (*Rig. Veda* i. 123, *v*. 2) mighty, the giver of light; from on high she beholds all things; ever youthful, ever reviving, she comes first to the invocation."

Indra, according to Bunsen (iii. 587, 8, iv. 459), is the prototype of Zeus, and was a personification of ether. Soma was offered to him in sacrifice.—*Rig-Veda. Bunsen's Egypt.*

TRINAVINDHU. See Ravana, Suryavansa.

TRINCOMALLEE. A bay, harbour, and town in Ceylon. The flagstaff point is in lat. 8° 33½′ N., long. 81° 19′ E. It is high and covered with trees. The harbour and its bays form a capacious inlet. Trincomallee was taken by the British in the end of 1795, but Ceylon was incorporated after the peace of Amiens, 27th March 1802. The mean temperature of Trincomallee is 81½°, and its climate is so dry that occasionally there is no rain for nine months, both anomalous conditions when the proximity of the ocean is considered. Kandy, in the centre of the island, which is only 1800 feet above the sea, and is situated in a mountain valley, has a mean temperature of about 73°, and that of Newera Ellia, elevated 7000 feet, is probably about 60°.—*Hooker and Thomson.*

TRINCOMALLEE WOOD. Berrya ammonilla, *Roxb.*

TRINCUTTEE. See Nicobar Islands.

TRIND. HIND. Rosa macrophylla.

TRINGANU. A fertile and well wooded district, containing gold and tin, between the Malacca straits and the gulf of Siam, containing about 50,000 souls. Tin is used as money. See India, Jakun, Kedah or Quedah, Semang, Tringany River.

TRINGA. A genus of birds common in Europe and Asia. Tringa sub-arquata, the Curlew sandpiper, of the circuit of the northern regions, to beyond the equator and Australia, is very common in India.

Tringa canutus, the Knot, is of the circuit of the northern regions: rare in India.

Tringa platyrhyncha, the Broad-billed Sand-piper of Europe, Asia, Sumatra, Borneo, and Timor, not uncommon in India: rare in the U. S. of America.

Tringa minuta, the Little Stint of Europe and Asia, is very common in India.

Tringa Temminckii. Temminck's Stint of Europe, Asia, and N. Africa, common in India.

Tringa alpina, or Tringa variabilis, the Dunlin of the arctic regions, circuit of northern regions, Japan, Timor (Temminck) Guiana: is not rare in India.

TRINGANY RIVER, on the east coast of the Malay peninsula, in lat. 5° 21′ N., long. 103° 4′ E., has a little trade in pepper and gold, and refreshments are procurable for ships. The roadstead is safe from March to September. See Tringanu.

TRINGU-PITTAY. SINGH. Flour of wheat.

TRINI or Terni. HIND. The root of Calligonum polygonoides.

TRINITY of christians, God the Father, God the Son, and God the Holy Ghost. See Triad, Trimurti, Tree of Life.

TRINJAM. TAM. Cheiroptera. Bats.

TRINGLI BENG. HIND. Manisuris granularis.

TRINRAGAN—? Palmyra palm.

TRIONYX. A genus of reptiles of the order Chelonia and class Testudinata; the following species occur in India:—

Tr. sinensis, *Wiegm*, of China, Chusan and Formosa.

„ Gangeticus, *Cuv*, of the Ganges and Penang.

„ Javanicus, *Shweigg*, of the Ganges, Penang and Dehkan.

„ ornatus, *Gray*, of Siam and Cambogia.

„ sub-planus, *Schweigg*, of Singapore and Penang.

„ Guntheri, *Gray*; also Tr. Ægyptiacus, Euphraticus, Gangeticus, hurum, *Gray*, Javanicus, ocellatus, subplanus. See Chelonia.

TRIOSTEUM HIMALAYANUM. Discovered by Dr. Wallich's people at Gossainthan in Nepal.—*O'Shaughnessy, page* 377.

TRIOSTEUM PERFOLIATUM of United States is called fever root, and wild ipecacuan. The bark of the root is emetic and purgative, leaves diaphoretic, their efficacy impaired by age; they should be preserved in closely stopped jars and changed annually. —*Lindley, Fl. Med. p.* 445.

TRIPANG. MALAY. Biche de mar. Mr. Crawfurd, after stating that the fisheries of the Indian islands form the most valuable branch of their commerce, and that a great

variety of the fish caught are dried in the sun, observes that ordinary dried fish forms no portion of the foreign exports of the islands, but fish-maws and shark-fins are sent to China from the northern coast of Australia. The inhabitants of Celebes, receiving advances from the resident Chinese, have been long in the habit of making annual voyages thither in quest of tripang. Gutted, dried in the sun, and smoked, it is considered cured, and fit for its only market, that of China, to which many hundred tons are yearly sent for the consumption of the curious epicures of that country. The fisheries of the tripang for China resemble that of the anchovy to the people of Europe. Some of them are of excellent flavour. Fish constitutes the chief animal aliment of all the inhabitants, and everywhere of those of the sea-coast who are by profession fishermen. Among the best fisheries are those of the eastern coast of the Malay peninsula, those of the entire Straits of Malacca, of the northern coast of Java, and of all the coasts of Borneo and Celebes, with those of the Philippine Islands. The taking of the mother-of-pearl oyster, the pearl-oyster in a few places, of the holothurion or tripang, and of the shell tortoise, form valuable branches of the Malayan fisheries.—*Crawfurd's Dictionary, page* 138. See Holothuriadæ. Trepang. Fisheries.

TRIPASSUR, in L. 13° 8′ N., and L. 79° 53′ E., a town in the Carnatic twenty-five miles west of Madras. The level of the plain is 183 feet above the sea.

TRI PATTRA. HIND. Marsilea quadrifolia.

TRIPE DE ROCHE. Gyrophora.

TRIPHASIA TRIFOLIATA. *DC.*

Tr. aurantiola, *Lour.*	L. diacantha, *DC.*
Limonia trifoliata, *Linn.*	
China orange, ENG.	Lime berry of Manilla, ENG.
Three leaved Triphasia, „	China naringi, BENG

A very handsome shrub, with middle sized, white, fragrant flowers, and a bright red pleasant fruit, said to make good preserves. It belongs to the Citraceæ. Tr. monophylla, *DC.* occurs in Timor, and a species occurs in China and Cochin-China. The three-leaved triphasia bears a small berry, like an orange in miniature, often found in Chinese preserves. —*Mason, Voigt.*

TRIPATAKA. The sacred canon of the buddhists now extant, is called the Tri-pataka, i. e., the three baskets: the first basket contains all that has reference to Vinaya or morality, or discipline; the second contains the Sutra or discourses of Budd'ha; the third includes all works treating of dogmatic philosophy or metaphysics. The first and second each contain five separate works. The second is generally known by the name of Dharma or law; and it has become usual to apply to the third basket, which contains seven separate works, the term Abhidharma, or bye-law. The Sutra are ascribed to Sakya Muni. They consist of ethical and philosophical dialogues by Sakya, and they make mention of the gods Narayan, Jonardhan, Shib, Brahma, Petomah, Bornn (Vorun), and Songkar, other names for Shib, Kubir, Sokr or Vasob, and Vissoo Kormo.

Mahinda, son of Asoka, is supposed to have brought the Attha-katta, ancient commentaries in Pali, to Ceylon, and to have translated them into Singhalese, which Buddhaghosha, about A. D. 430, re-translated into Pali. According to another account, the doctrines were first reduced to writing by the Ceylon priests during the reign of king Vartagamani, 88-76 B. C., and by a synod assembled 10-40 A. D. by the Turushka king Kamshka. For the former the language used was the vernacular, from which in the 5th century it was translated into Pali. For the latter, Sanscrit. Hardy, in his Eastern Monachism, has discussed the views held of Buddha in Ceylon; the changes made must have been very early, for eighteen heresies are deplored in the Mahawanso within two centuries from Sakya Sinha's death. In Ceylon, this faith has not been subjected to much persecution. In the 16th century, the Tamil invaders made every effort to destroy the books, but the priests sent missions to Siam, properly ordained priests were imported from Burmah; and by the 18th century, buddhism had regained its ascendancy. The priests latterly have been actively diffusing a knowledge of their creed. They have printing presses, from which tracts, pamphlets and serials issue in great numbers. They present some new and ingenious arguments, but the defiant and blasphemous expressions which they contain against the sacred name of Jehovah, are probably the most awful ever framed in human language.—*Cal. Rev.*

TRIPATY. A town about eighty miles from Madras, where there is an avatara of Vishnu, called Balaji. In Sanscrit this avatara is named Venkatesh; in the Telinga country and language, Venkatramma Govinda; in Gujerat and to the westward, Takhur, or Thakhur, as well as Balaji: the latter name obtaining in the neighbourhood of Poona, and generally through the Mahratta country. This incarnation took place at Tripaty, where, in honour of Balaji, on the top of a hill is a splendid temple, very rich, and much respected, with a revenue of one lac and twenty-five thousand rupees. All acts of this temple, to which

an extensive district is attached, are carried on in the name of the sri-mahant. Pilgrimages are made to Tripati from all parts of India, especially from Gujerat, the trading inhabitants of which province, of the tribes of Bania and Battia, and others, are in the habit of presenting five or ten per cent. of their annual profits to this temple, whose deity appears to be the tutelary patron of traffic: rich gifts and votive offerings are likewise received from other quarters. In this avatara, Vishnu, in his form of Balaji, was attended by his sakti Lakshmi, and by another wife, Satyavama, and they are generally seen with him, as well as in his avatara of Krishna, with whom Satyavama appears to have been a favourite, we find her with Lakshmi, in immediate attendance on her divine spouse in his paradise of Vaikant'ha as well as participating with her favoured associate in promoting the tranquillity of the Preserver, while reposing on sesha, in chira-samudra, or the sea of milk. In this hindu temple, the image is seven feet in height, with four arms, and having in three of his hands the *chakra*, the *chank*, and the *lotus*, and the image is worshipped with those of Lakshmi and the serpent sesha. It is built of stone and covered with plates of gilt copper. The hill on which the temple has been built rises from a valley in the centre of a range of hills, the very sight of which, though at the distance of many leagues, is so gratifying to the hindu devotees, that upon first catching a glimpse of the sacred rocks, they fall prostrate, calling upon the idol's name. The early history of the pagoda is involved in the obscurity of Indian mythology and fable. Its antiquity is undoubted, and the brahmans assert that it was erected at the commencement of Kali-yug, of which nearly 5,000 years have expired. Oblations are offered to its god by Vishnu's votaries from all parts of the Indian world. Princes send their *vakils* or ambassadors to present their offerings to the shrine, and the poorer peasant, who may have less to offer, wraps up some petty oblation in a piece of wax cloth. The legend connected with these offerings is as follows: the idol, smitten with love for the blooming Judroavuttee, daughter of the rajah Akasha, determined to espouse her, but wanting money for the matrimonial expenses, he raised the wind by the aid of Kuvera, the Indian Plutus. This god, however, directed that the money thus lent should be repaid annually to the sovereign of the countries lying between the Palar and Soonamooki rivers; and the votaries at the shrine pour in, in great numbers, during the *Brumhantsaween*, or nine days' celebration of the nuptials; and, annually, at this period, two-thirds of the usual collections are made. These offerings are made generally from personal motives, and are of every conceivable diversity of articles: gold and silver lamps, coins of all sorts, bags of rupees, copper money, spices, assafœtida, the hair cut off the head, frequently vowed from infancy, and given up by some beautiful virgin in compliance with her parent's oath. A man who is lame presents a silver leg; if blind, a gold or silver eye. The jewels which a woman has worn with pride from infancy are voluntarily left before the idol. She appears with a shabby cloth before the image and presents a splendid one which has never been worn: she tears the bangles from her infant's legs and fondly hopes that the god will shower down his blessings on her and hers. She has, haply, travelled hundreds of miles to accomplish her object; and performed a journey which to her might, till then, have been one of terror, never before having left her village and the bosom of her own family. The birth of a son, reconciliation with enemies, success against a foe, safe termination of a journey, the marriage of a son or daughter, prosperity in trade, and enjoyment of health, are among the reasons which lead together, in the direction of Tripaty, the wise as well as the ignorant. The offerings are not always presented by the interested party: they may be sent by relations, friends, or vakils; but they are frequently forwarded by gosains. A few months before the Brumhantsaween these set out in different directions, and on reaching the place of pilgrimage, they unfurl the sacred flag of the god with which each is entrusted.—*Cole. Myth. Hind. p.* 158. *Moore's Hindu Pantheon.*

TRIPLE ENERGY, the Hermes Triplex of the Egyptians.

TRIPNO, this, in form, resembles the horoscope of almanacs, somewhat resembling the mahomedan "Takwim." The subject is the duration of the Yoga, Nakshatra, Tithi, Wara, and other astronomical divisions of time. The object of it is devotional.—*Richard F. Burton's Sindh, p.* 400.

TRIPOLI. A mineral, first brought from Tripoli and Africa. It is composed of silica, alumina, and oxide of iron, and consists almost entirely of fossil deposits of the siliceous coats of diatoms, which from their hardness form an excellent means of polishing metals, marble, glass, &c. These fossil deposits are very numerous and in great quantity in different parts of the world. The town of Richmond, in the United States, is built upon a stratum of these bodies twenty feet in thickness; in California and America gene-

rally, in Bohemia, throughout Europe and Africa, and, in Great Britain, we find similar deposits, varying in the different species present.—*Gosse's Natural History, p.* 27.

TRIPOLI, or three cities, is a word supposed to be derived from three colonies, which established themselves on this promontory, in three adjacent places, and not in one city. The present town is built at the foot of the lowest hills of Libanos, about half an hour's distance from the sea shore. The river Kadisha (Holy), otherwise called Nahr-Abu-Ali, flows through it, dividing the town into two equal parts, of which that to the south is the more considerable. It is enclosed by walls of no great height or strength. It is called Tarabolos-us-Sham, or Eastern Tripoli, to distinguish it from Tripoli in Barbary, which is called Tarabolos-ul-Gharb, or Western Tripoli.—*Robinson's Travels,* vol. ii. p. 69.

TRIPOLI SENNA. See Cassia plants.

TRIPUNDRA. Sans. A triple transverse line on the forehead of the worshippers of Siva. It is made with the vibhuti or ashes taken from the fire of an agnihotra brahman, or they may be the ashes of burnt cowdung from an oblation offered to the idol. See Gopi-Chandana. Vibhuti.

TRIPUNKHI. Hind. Coldenia procumbens, *Linn.*

TRIPURA. See India, Siva.

TRIPURA-SUNDARI. See Hindu.

TRISANKU, a prince of Oudh of the solar line, elevated to heaven during his life by the sage Visvamitra.

TRISIRAS. See Yama, Darmarajah.

TRISULA, the trident of Siva. It is considered to be in continual motion over the face of the universe to guard and preserve its creatures. To oppose its course would be to incur immediate death. Its motion would appear to be regular, but varying according to the days in the week. Thus it is imagined that it is unlucky to proceed towards the westward on Sundays and Fridays, to the northward on Tuesdays and Wednesdays, to the eastward on Saturdays and Mondays, and to the southward on Thursdays. The trisula or trident symbol of Siva was once used on a copper paisa weighing 98½ grains for circulation in the province of Benares only.—*Prin. Ind. Ant. Wilson.* See Hindu.

TRISULI GADDI. Tel. Andropogon trispicatus, *Schult.*, syn. of A. tristachys, *Roxb.* The name signifies "trident grass."

TRITANU. See Surya.

TRITHU. Hind. Euonymus fimbriata.

TRITICUM, a genus of plants belonging to the Gramineæ, several species of which are extensively grown in S. E. Asia, and furnish the wheat seed or grain largely used for food, since the most ancient times. It is grown largely as a winter crop in Coimbatore, Salem, Mysore, Berar, Sindh, Oudh, Rajputanah and in the Panjab plains, T. æstivum being the common species, and T. durum the more frequent about Loodiana and Multan, of many varieties, white or red, generally bearded, but beardless wheat is common in some parts.

The starch is often separated from the gluten and used for various purposes in domestic economy. Twelve samples of red and sixty-two of white wheat were exhibited at the Lahore Exhibition. Red wheat holds a very much lower place in the estimation of the Panjab natives, and sells at a cheaper rate than white, the former being consumed by the poorer classes and the bulk of the population, whilst the use of the latter is restricted to men of wealth. Several varieties of white wheat are also grown. The Gilgit or paighambri, a small round fancy grain, is also called "Mullane" or "Rai Munir," from the places where it was first grown: there are also daud khan, ghoni, kabr and vadanak (kanag dagar, Shahpur), the last named being a particularly fine large grain.

Some kinds are grown to great heights in the Himalayas, wheat being one of the chief crops up to 9500 feet on the Chenab, and, according to Dr. Cleghorn, occurring to 15,000 feet on the Sutlej, good to 11,500 feet, and grown to 13,000 feet in Laduk. At Umballa, wheat and also barley are sometimes sown as early as August and September, so as to be in flower in December, but in this plan it is frequently killed by frost. It derives its name, according to Varro, from "tritum," ground or rubbed, because the fruit in its preparation as a food for man undergoes the process of grinding or trituration. The various kinds of wheat have been known from a very early period, and mention is made of wheat as a food in the earliest records of the history of man. Both the Egyptians and Jews made use of wheat as an article of diet, and this food is early mentioned in the Bible. It was also used by the Greeks and Romans, and Theophrastus and Pliny make frequent mention of it. When the fruit is ground, the testa, or seed-coat, is separated from what is called the flour. This flour consists of the powdered albumen and embryo of the seeds. The proximate vegetable principles which this flour contains are starch and gluten. The starch is a highly carbonized vegetable principle, whilst the gluten is characterised by possessing nitrogen. Foods that contain carbonaceous matters are fattening, whilst those that contain nitrogen are strengthening. It is thus that wheat-flour has come to be the

staple article of diet of the finest races of men in the world. The other cereal grasses contain the same principles, but the gluten or azotised principle is not in so large a quantity as in wheat, as the following analysis of 100 parts of the organic matter of wheat, rice, and barley will show :

	Starch.	Gluten.
Wheat... ...	70·00	23·00
Rice... ...	85·07	3 60
Barley ...	79·00	16·00

The chemical composition of wheat greatly varies, however, according to the soil in which it is grown. In 100 parts, the following was found to be the composition of eight samples.

	Baroach.	Guzerat.		Bombay Bazar.			Madras.	Calcutta.
Moisture ..	12·40	10 88	13·28	13·41	13·32	12·56	10·80	11·78
Nitrogenous matter ..	14·68	13·20	13·19	12·84	14·90	14·26	12·98	12·73
Starchy matter..	69·78	73 23	70·87	70·99	6584	70·26	73·51	72·58
Fatty or oily matter	1·16	1·29	1·20	1·17	1·14	1·06	1·03	1·01
Mineral constituents	1·98	1·30	1·25	1·59	2·10	1·86	1·68	1·90

—*Powell Handbook. Dr. J. L. Stewart, p.* 262. *Dr. Cleghorn Punjab Report, p.* 65. *Eng. Cyc.*

TRITICUM ÆSTIVUM. LINN.

Burr.	AR.	Summer wheat	ENG.
Godhama.	BENG. SANSC.	Gawn.	GUZ.
Gono.	„	Tokar, Tomar,	LADAK.
Marghoom.	BOMBAY.	Gendum,	MALAY.
Ghawat-ghoom	„	Gandam,	PERS.
Gyung-sa-ba.	BURM.	Kunuk,	PUNJAB.
Dro, Do, Tro, To ; of CHENAB and LADAK.		Soomuna.	SANS.
Rozat, Zud, Shruk. „		Kauk,	SIND.
		Giho.	„
Gehun,	DUK. HIND.	Godumbay arisi,	TAM.
Kum'h,	EGYPT.	God'humulu,	TEL.

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 13,000 feet, highest limit 15,000 feet. Both bearded and awnless varieties occur ; kunuk denotes the flour, not the grain. Rice is not observed above 6,000 feet.

This variety is cultivated in many parts of British India. Two sorts are grown in Mysore, called Hot-te Godhi and Jeve Godhi, the latter being covered with husks like paddy. Jeve Godhi is only grown in the lands bordering on the Pennar, and the gardens in the Bangalore Division. The Hot-te Godhi is largely cultivated in dry lands in the Chittledroog Division, and the vicinity of Hurrihur. This is the wheat usually employed for making loaf bread. It is exported to the Neilgherries.—*M. E. J. R. Cleghorn Punjab Report, p.* 65. *Ainslie.*

TRITICUM DURUM. DESF.

True-bearded wheat, ENG.

Is grown in Switzerland, Italy, Sicily, Spain, and in the Punjab, and it is frequent about Loodiana, Multan, &c.—*Edgeworth.*

TRITICUM HYBERNUM. LINN.

Lammas wheat. | Winter wheat.

Is grown in the Punjab and in the N. W. Himalaya.

TRITON'S BAY or Warangari, a bay in New Guinea.

TRITRAN or "Three Corners" of the people of Sindh, is the same as that called Katar by the Persians and Affghans. The latter people are very fond of it, especially the lower orders in the country villages.—*Burton's Sindh, p.* 294.

TRITON, a genus of shells belonging to the family Muricidæ. The genus has 100 recent and 45 fossil species.

TRIUMANNA. See Hindu.

TRIUMFETTA, a genus of plants belonging to the natural order Tiliaceæ, Tr. angulata, annua, lobata, rotundifolia and trilocularis.—*W. Ic. p.* 320. *Voigt.*

TRIUMFETTA LOBATA. MCCLELLAND.

Phetwun, BURM. | Bet-won, BURM.

This fibrous plant is annual and grows to a height of five or six feet. It presents a small yellow flower in December, consisting of five petals, and in February presents a small round capsule covered with stiff bristles.—*McClelland.*

TRIVANDRUM, in L. 8° 29·1′ N. and L. 76° 55·7′ E., a town in Malabar, near the sea shore, and the chief town of the principality of Travancore. Its observatory is 195 feet, and the mean height of the town 135 feet above the sea. It is built at the outlet of the Karamani river. It contains a population of 51,718.

TRIVENI. SANS. Three plaited locks, in hindu mythology, the mystical union of the three sacred rivers, the Ganges, Jumna and Saraswati, severally the consorts, or energies, of the three great powers, Siva, Vishnu, and Brahma. Triveni, or the three plaited locks, is a mythological junction ; a female triad, similar to that of the Trimurti of male powers. The Gunga or Ganges, Yamuna or Jumna, join near Allahabad, and the Saraswati is also supposed to join the other two underground. A person dying near the imagined confluence of the three streams, or even those of the Gunga and Yamuna, attains immediate beatitude, consequently self or self-permitted immolation, suttees, &c., are meritorious on this peculiarly holy spot. The junction of the three waters at Allahabad is a sacred prayag, and an annual mela is held in March for purposes of ablution.—*Tr. of Hind. vol.* i. *p.* 15. *Cole. Myth. Hind. page* 398. See Krishna.

TRIVENI, a very old place, spoken of by both Pliny and Ptolemy. It is a school of great repute for indigenous Sanscrit. The great pundit Juggernauth Turkopunchanum,

who was Sanscrit tutor to Sir William Jones, and who compiled the digests of Hindoo laws under the patronage of Lord Cornwallis, was a native of this village.—*Tr. of Hind. vol.* i. *p.* 16.

TRIVIATPUTRAM. TAM. Bauhinia tomentosa, *Linn.*

TRI VIKRAMA, a name of Vishnu. It means he who took the three steps, and alludes to the sun's rising, culminating, and setting. See Avataram. Vamana.

TRIWAKKA. HIND. Rumex vesicarius.

TRO. HIND. Hordeum hexastichum, also Triticum æstivum.

TROCHALUS, a genus of insects, one of the Coleoptera of Hong Kong.

TROCHUS, a genus of molluscous animals of the family Turbinidæ. There are known 150 recent and 360 fossil species of Trochus. See Mollusca, Turbinidæ.

TROGLODYTES, of Herodotus, were a diminutive, small sized, race of men dwelling in Ethiopia, and their food is described as that of lizards, serpents, and other reptiles, their language like the screaming of bats.—*Melp. p.* 341. *Tod's Travels, p.* 84, 85.

TROGLOTYDES NEPALENSIS. HODGS.

Tr. subhimalayanus, *Hod.*

Nepaul Wren.	ENG.	Marchok-pho.	*Lepch.*

This wren is found in Nepaul, Sikkim, and the N.W. Himalayas. Its colour is darker than that of the European wren.

TROGLODYTES PUNCTATUS. BLYTH.

Spotted wren,	ENG.	Marchok-pho,	*Lepch.*

Occurs at Darjeeling, and is of the size of that of Europe.

TROGONIDÆ, a family of birds which includes the following Indian species of Harpactes.

H. fasciatus, *Gm.* Malabar Trogon.
H. Hodgsoni, *Gould*, Red-headed Trogon.
H. oreskios of Burmah.
H. kasumba, Malacca, Sumatra.
H. diardi ,, ,,
H. rutilus ,, ,,
H. Reinwardtii of Java.
H. ardens of Philippines.

TROMBAY, in L. 19° 2′ N., and L. 72° 56′ East, in the Konkan, N. of Bombay. Trombay is conspicuous for the mountain called Neat's Tongue, which attains the altitude of 1000 feet.

TRONG. MALAY. Brinjal, the egg plant.

TROPÆOLUM MAJUS. LINN.

Indian cress,	ENG.	Nasturtion,	ENG.

A showy annual, flowers and leaves of which are eaten as salads, and the seeds pickled in salt and vinegar as a substitute for capers.—*R. Brown.*

TROPHIS ASPERA. RETZ.

Achymus asper, *Soland MSS.*
Epicarpurus orientalis, *W. Ic.*; *Blume.*
Streblus asper, *Lour.*

Sheora,	BENG.	Sahadra,	URIA.
Shara-gach'h,	,,	Barinika.	TEL.
Dahya,	HIND.	Barranki,	,,
Kurrera,	MAHR.	Bari venka,	,,

This tree is very plentiful in Ganjam and Gumsur, attaining a height of 30 feet, and a circumference of 2 feet from the ground to the nearest branch being 6 feet. It is more common in Guzerat than in the other parts of the Bombay country, and the wood is there reckoned of good quality for small purposes, for it will seldom square above 4 inches. It is said to be used in Ganjam for bandy wheels. Its scabrous leaves are used to polish horn and ivory, &c. The bark is used medicinally, the leaves and sap are used for wounds and for a disease of the eye termed jokia in Orissa, said to be peculiar to children. The berries are greedily eaten by birds.—*Dr. Gibson. Captain Macdonald. Royle Ill. Him. Bot Voigt. Ell. Fl. Andh.*

TROPIC BIRDS; of these there are the Phaeton æthereus, *Linn.*, the white tropic bird, and P. phænicurus, *Linn.*, the roseate or red-tailed tropic bird. The former has chaste and delicate satiny plumage. They are called by sailors the boatswain or straw tails, from the two bright red projecting tail feathers, which they name the marline spike, and are used as ornaments in the Society Islands. The Spaniards call them Rabijunco, or rush-tails. They are interesting to sailors, because met with far from land, to which seamen believe they nightly return to roost. The red tailed species is met with in the Bay of Bengal, the Indian ocean, and throughout all the Indian Australian tropics. The white tropic bird also occurs in the Bay of Bengal and tropical seas, and is said to breed in the Mauritius on trees.—*Michelet on Birds. Jerdon's Birds.*

TROPIDOPHIS. See Hydridæ, Reptiles.

TROPIDORHYNCHUS TIMORENSIS. A bird of Timor.

TROR. HIND. Polygonum polystachyum.

TROSUM. HIND. A tree of Jubbulpore with good timber, but the tree does not occur in any quantity.—*Cal. Cat. Ex.* 1862.

TROTAK. HIND. Equisetum debile.

TROTU. HIND. Dæmia extensa.

TROUBADOUR. The Scandinavian bards, the Provencal Troubadour, the Neustrienne Trouveur, and Minnesinger of Germany. have all something in common with the Rajpoot Bardai.—*Tod.*

TROWSER CHECK of various kinds is manufactured in the district of Cuddalore and in the outskirts of Madras.

TRUAL. HIND. Impatiens, *sp.*

TRUBU. The roe of the Alausa troli, a fish of which the salted and dried roes form a very considerable article of trade in the

western parts of the Malayan Archipelago. It seems to be local, and like salmon and some other fish, to frequent rivers for the purpose of spawning. Its favourite resort is the muddy eastern coast of Sumatra, and more especially the narrow strait which divides Bancalis and some other low islands from the main land, and into which the river of Siak disembogues. At a place called Bukit-batu (rock-hill), a considerable fishery of the trubu is carried on. The river of Bukit-batu is a very small stream, close to the mouth of which stands the town of Bukit-batu, which is a place of considerable trade, the grand staple being roes of the trobo-fish, or telur-trobo (trubu, roe, or egg,) as they are called. There, three or four hundred boats, with two and three men in each, often go out at a time to the fishery, which is outside the straits of the Tanjung-Jati" or Teak tree promontory. The fishery of the trubu is of immemorial antiquity, and is referred to by De Barros as existing on the arrival of the Portuguese just as it does at present. The rivers (of Sumatra), says he, contain a great variety of fish, and in some of them, such as that of Siaca (Siak), they catch small shads (saves), of which the people of the country use the roe only, and of these they have a greater abundance than we have of the fish themselves.—*Decade* 3, *Book* 5, *chap*. 1. *Crawfurd Dictionary, page* 440. *Anderson's Mission, p*. 335. See Fisheries.

TRUE ANCHOVY. Eng. Engraulis encrasicolus.

TRUE CARDAMOM. Eng. Elettaria cardamomum, *Wh. and Mat.*

TRUE COTTON. Eng. Gossypium arboreum, *Linn.*

TRUE EUPHORBIA. Euphorbia antiquorum.

TRUFFLES, the Tuber cibarium, *Sieb.*, are found in the Punjab Himalaya towards Kashmir, and above Kangra. Skinner says a fungus like the truffle occurs in the route he took towards Europe.—*Dr. J.L. Stewart, Punjab Plants, p*. 268. *Skinner's Overland Journey, Vol. II. p*. 71.

TRUKUDAKA DYNASTY. See Inscriptions.

TRUMBA, also Kala Trumba. Hind. Fagopyrum esculentum.

TRUMBAL. Hind. Ficus cunia.

TRUMMEL. Punjabi. Ficus macrophylla.

TRUMPET FLOWER. Bignonia, *species*.

TRUMPET HONEYSUCKLE. Caprifolium sempervirens.

TRUMPET-SHELL. The chank.

TRUMPET WEED, of the Cape, Lamminaria buccinalis, measures 12 to 14 ft. long.

TRUTSA. Hind. Cousinia, *sp.*

TRYPHON. See Greeks of Asia.

TRYPOXYLUM, a genus of insects with habits similar to Pelopæus.

TSA-BA-LEN. Burm. Andropogon schænanthus, *Linn.*

TSABRI. Hind. Fagopyrum esculentum.

TSAGYEN HILLS, of Burmah, yield marble.

TSA-LAYS. Burm. a measure of capacity equivalent to an English pint.—*Simmonds.*

TSALE, or Tschalleh. Tibetan. Borax. Mentog, Tib. "Borax flowers" is fine borax from Puga and Changthang, which needs no further refining.

TSALLA-GHADDA. Tel. Asparagus adscendens, *Roxb.*

TSAL-TSALA, the Tsal-tsala or Abyssinian spear-fly, is mentioned in Is. vii. 18, Deut. xxvii. 42, Job. xli. 7. It is the Tsee-tsee fly of Livingstone, the winged Tsal-tsal or spear-fly of Isaiah. See Tse-Tse.

TSAL-WEE. Burm. A chain of nobility. This is a badge of nobility among the Burmese, and it is supposed to be derived from the brahminical thread.—*Yule.*

TSAMBELAY. Burm. Lagerstræmia parviflora, *Wall.*

TSAM-IHU-FULIN. Chin. Azadirachta indica.

TSA-MON-H'PYU ? Burm. Anethum graveolens, *Linn.*

TSA-MOUN-TSA-BAH. Burm. Aniseed.

TSA-MUOT. Burm. Anethum graveolens, *Linn.*

TSA MYEIK. Burm. Anethum sowa, *Roxb.*

TSAM-PAY-NA-GO. See Ruby Mines.

TSANG-PO. A river on the N. E. of India, supposed to be the Dihong; its waters are divided from those of the Ganges by the Bara Lacha range of mountains. This river, called in Tibet the Tsan-pu, is there also supposed to be the Dihong.

TSAN-PE-NA-GO, a noble range of hills eastward from the town of Malé, in Burmah, which rise in bold and craggy peaks, and attain an elevation of probably some 6,000 feet. This range is also named Shwe-oo-doung, and is sixteen miles to the westward of the ruby mines. Snow lies on them for five months in the year.—*Yule, p*. 181.

TSAN-SAY-PYU ? Burm. A tree of Moulmein; the wood is used for ordinary house building purposes. The leaf is eaten boiled as greens.—*Cal. Cat. Ex*. 1862.

TSA-PATT. Hind. Ephedra Gerardiana.

TSAPU. Hind. Alnus, *sp.*

TSAR. Hind. Oreoseris lanuginosa.

TSARBIS. Hind. Plectranthus rugosus.

TSARMA, also Tsarmang. HIND. Hippophae rhamnoides, also Lycium ruthenicum.

TSARRI. HIND. Cicer soongaricum.

TSAR-WOT. BURM. A measure of capacity equal to an English gallon.—*Simmonds.*

TSATIN. HIND. Leptopus cordifolius.

TSAT-THA. BURM. A tree of Moulmein; the wood is used for building purposes.—*Cal. Cat. Ex.* 1862.

TSA-THA-KHWA. BURM. Coccinea indica, *W. & A.*

TSAT-LIE, or Tseh-li, a silk obtained in Nankin and the northern parts of the Chinese empire, superior to the Canton kinds.—*Simmonds' Dict.*

TSAVILA, a weight of 20 grains.—*Simmonds.*

TSAY-THAM-BY-AH. BURM. Gardenia lucida, *Roxb.*

TSCHASII. RUS. Clock.

TSCHEMA-PUNGEE MARA. MAL. Cochlospermum gossypium, *DC.*

TSCHENGENE. TURK. Gypsy.

TSCHEREPIZA. RUS. Tiles.

TSCHERNILO. RUS. Ink.

TSE, also Tsa-pat. HIND. Ephedra Gerardiana.

TSEDZE. HIND. Panicum miliaceum.

TSEEN, another name for the mas or mace, a Chinese weight and measure, which contains from 100 to 140 copper cash.—*Simmonds' Dict.*

TSEERI-KURA, properly Sira kura. TEL. Amarantus oleraceus.

TSEET. A timber of Amherst, employed for house posts and in boat building. It is said to be saul wood of small calibre.—*Cal. Ex.* 1851.

TSE-FOU-YOUEN-KOUEI. A Chinese encyclopædia published under the dynasty of Song, in the year 1005.—*Huc's Christianity, vol.* I. *p.* 78

TSEIT, a Burmese measure of capacity, equal to 2 gallons.—*Simmonds' Dict.*

TSE-KI. CHIN. Porcelain.

TSEKKA-DOUN. A timber of Amherst, said to be of a fruit tree; the wood is used for house posts, rafters and boat-building; it is like teak, but much disposed to split.—*Cal. Ex.* 1851.

TSELKACHE. HIND. Coccinea indica.

TSENG BYIOU. In Tavoy a compact greyish-brown wood, suitable for common carpentry.—*Mr. Blundell.*

TSENGOO. See Fish.

TSER. HIND. Pinus excelsa.

TSERD-KHAR. HIND. White thorn, in Tibet called in books starbu: Tserd-Khar is also the synonyme of Hippophae salicifolia, Buckthorn, and H. rhamnoides.

TSERKUJI. HIND. Prunus Armeniaca.

TSE-TSE, a fly of Africa, the Glossina morsitans of the naturalist. It is not much large than the common house fly, and is nearly the same brown colour as the honey be with three or four yellow bars across th after part of the body. Its alertness enabl it to evade dexterously attempts to catch i by the hand. Its proboscis is a slender glos style. Its peculiar buzz is well known to th ox, the cow, the horse, and dog, for with the its bite is death; but man, game, and all wil animals, even sucking calves, the mul ass and goat, are all exempt. Its object see to be to replete itself with blood. In the c a few days after the bite, the eye and no begin to run, the coat stares, a swelli appears under the jaw, and perhaps anoth at the navel, emaciation followed by flac muscles ends in death. The Tsal-tsalya Zimb of Abyssinia seems identical with t Tse-tse fly. It abounds on the banks of t Zambesi river of Africa.—*David Livingsto M. D., Travels in S. Africa. London,* 18 See Tsal-Tsala.

TSETSEN KHAN. See Kalkas.

TSETTI MANDARUM. MALEAL. Po ciana pulcherrima, *Linn.*

TSE-VANG RAHDAN. See Kalkas.

TSHA. BURM. A bast from Sterculia ur See Kotheela.

TSHAMPA, a population lying betw the mouth of the Mekhong and the front of Cochin China.—*Latham.*

TSHAN-TSHAY. In Amherst, a use wood, but liable to attacks of insects and split.—*Cat. Ex.* 1851.

TSHAUP-YO. A timber of Amherst, u for house posts and musket stocks. It is a he white wood, exceedingly strong, but liable attacks of insects.—*Cal. Ex.* 1851.

TSHEIK KHYEE. Sapindus, *sp.*

TSHELLIK ——? Strychnos tieute.

TSHEN, the third recorded Chinese nasty, began B.C. 1050, lasted 269 years. emperor Yeu-Yang began to reign B 781. His 6th year was B.C. 776. Confu lived under his dynasty, and he recorded observations of the solar eclipses from 481 upwards to 720.

TSHEN BYOO-MYA-YEN.

TSHERI VELLOO. TEL.

TSHIET-KHYEEN. A herst, used for house posts crooked grained sal.—

TSHIL ANKAILU. rium.

TSHO, also Tso hence Tsho-Maph Tsho, the great lak

TSHO-KAR.

TSHO-MOR

in Rukcha, Ladak, is a fine sheet of water, 16 miles long and two to three broad. See Ladak.

TSHO-RUL, or Bitter Lake in Ladak, is about five miles to the north of Pankong; its waters are very bitter. It is about 16 miles long and two broad.

TSHUDE. See India.

TSHWAI-LWAI. A timber of Amherst used for musket stocks and sword sheaths; it is a hard, red, crooked grained wood, fit for cabinet work.—*Cal. Cat. Ex.* 1851.

TSIAGRI NUREN. MALEAL. syn. of Dioscorea tryphylla, *Linn.*

TSIAMPA. See Marco Polo.

TSIA-PUNGUM. MALEAL. Cæsalpinia sappan, *Linn.*, also Michelia Rheedii, *Wight.*

T'SIELA. MALEAL. Ficus t'siela, *Roxb.*

TSIEN. CHINESE. A coin called *Dehos* by the Tartars, and *Sapeck* by the Europeans, is the only currency of the empire. Gold and silver are never coined; they circulate in ingots of different weights. Gold-dust and leaf-gold are also in use for commercial purposes.—*Huc's Recollections of a Journey, p.* 63.

TSIEN TANG. A river of China; the Bore or Eagre of this river is famous in Chinese history. According to a Chinese proverb, it is one of the three wonders of the world, the other two being the demons at Tang-chan and the thunder at Lung-chan. As in other countries, the bore appears generally on the second or third day after the full or change of the moon, or at what are called spring tides, and particularly in spring and autumn, about the time the sun is crossing the line. Should it so happen that strong easterly gales blow at these times, the Eagre rolls along in all its grandeur and carries everything before it. Dr. Macgowan gave an account of it at Hang-chow-foo. Mr. Fortune from a terrace in front of the Triwave temple saw on a sudden all traffic in the thronged mart suspended; porters cleared the front street of every description of merchandise, boatmen ceased lading and unlading their vessels, and put out into the middle of the stream, so that a few minutes sufficed to give a deserted appearance to the busiest part of one of the busiest cities in Asia: the centre of the river teemed with craft from small boats to large barges, including the gay flower-boats. Loud shouting from the fleet announced the appearance of the flood, which seemed like a glistening white cable stretched athwart the river at its mouth as far down as the eye could reach. Its noise, compared by Chinese poets to that of thunder, speedily drowned that of the boatmen, and as it advanced at the rate of 25 miles an hour, it assumed the appearance of an alabaster wall, or rather of a cataract four or five miles across, and about thirty feet high, moving bodily onward. Soon it reached the advanced guard of the immense assemblage of vessels awaiting its approach, all intently occupied in keeping their prows towards the wave, which threatened to submerge everything afloat: but their boats all vaulted, as it were, to the summit with perfect safety, and when the Eagre had passed about half-way among the craft, on one side they were quietly reposing on the surface of the unruffled stream, while those on the nether portion were pitching and heaving in tumultuous confusion on the flood; others were scaling with the agility of salmon the formidable cascade. This grand and exciting scene was but of a moment's duration. The wave passed up the river in an instant, but from this point with gradually diminishing force, size and velocity, until it ceased to be perceptible, which Chinese accounts represent to be eighty miles distant from the city. A slight flood continued after the passage of the wave, but it soon began to ebb. The Chinese say that the rise and fall of the tide is sometimes forty feet at Hang-chow. The maximum rise and fall at spring tides is probably at the mouth of the river, or upper part of the bay.—*Fortune.*

TSIERU KUGANELI. MALEAL. Phyllanthus urinaria.

TSILLA, properly Chilla ghenzalu. TEL. Strychnos potatorum.

TSIN, 4th dynasty, began B.C. 255, and lasted to 207, 49 years. About B. C. 221, the prince of Tsin, one of the vassal states into which the till then feudally governed China had been divided, made himself sovereign of the empire under the title of Che-hwang, also written Che-hoang-ti. He was a great conqueror, and was successful in opposing the inroads of the northern barbarians, the Heung-noo or Huns, one of his measures to withstand whom was the erection of the celebrated Great Wall. Prior to the first emperor Chi-hoang of the T'sin dynasty, about 200 years before the Christian era, the country had been sub-divided into numerous principalities and commonwealths, but that warrior emperor brought them all under subjection, and it is supposed to be from his time that the country was called China, from Tsin or Chin, the name of his dynasty. It was this emperor also who built the Great Wall to keep off the incursions of the Tartars. It was done by forced labor; every third labouring man was compelled to work for his bare food as a remuneration. It extends from the sea to the most westerly province of Shin-see, about 1,500 miles. It was built of earth faced with brick, it crosses mountains, valleys and rivers, and was finished in five years. Its breadth admits of six horsemen riding abreast, and it has a tower

every hundred yards. It was Chi-hoang-ti who introduced yellow as the colour of the royal family's clothes. The Chin dynasty was overthrown by Linpang, of the Han province, who was the first of the Han dynasty. With the destruction of the Tsin dynasty, great injury resulted to the Chinese annals.

TSI-NGUH-MYO. See Ruby Mines.

TSINNA AVAGUDA VERU. TEL. Trichosanthes incisa.

TSINNA DULAGENDI VERU. TEL. Tragia cannabina.

TSINNA MUTA-POLAGUM. TEL. Pavonia Zeylanica, *Cor.*

TSIN-THA-MA-NWAY. BURM. Cocculus cordifolius, *DC.*

TSIOMPA. See Pulo Ceicer de terre.

TSIPPOR. HEB. A bird.

TSIRI KURA. TEL. Amarantus campestris.

TSIRU PANNA. MALEAL. Calophyllum spurium, *Choisy*, also C. calaba, *Linn.*

TSJA. JAP. Tea.

TSJAHALA. MALEAL. Ficus venosa.

TSJAKA MARAM. MALEAL. Artocarpus integrifolius.

TSJANA KUA. MALEAL. Costus speciosus.

TSJANA SPECIOSA. GMEL. Costus speciosus, *Roxb. Sm.*

TSJANGELAM PARENDA. MALEAL. Vitis quadrangularis.

TSJAPANGAM. MALEAL. Cæsalpinia sappan.

TSJELA. MALEAL. Ficus tsiela.

TSJEM CUMULU. MALEAL. Æginetia indica, *Willde.*

TSJENDANA. MALEAL. Sandal wood.

TSJERIM COTTAM. MALEAL. Antidesma pubescens.

TSJEROU. URIA. Melochia corchorifolia.

TSJEROUKATA. MAL. Webera tetrandra.

TSJEROU-PONNA. MALEAL. Calophyllum calaba.

TSJEROU-THEKA. MALEAL. Clerodendron serratum.

TSJERU UREN. MALEAL. Riedleia corchorifolia.

TSJERU CANSJAVA. MALEAL. Cannabis sativa.

TSJERU JONGANAM PULLA. MALEAL. Mollugo spergula.

TSJERU PARUA. MALEAL. Sida acuta.

TSJERU TSJUREL. MALEAL. Calamus rotang.

TSJERU VALLEL. MALEAL. Hydrolea Zeylanica.

TSJETTI MANDARUM. MALEAL. Poinciana pulcherrima.

TSJETTI-PULLI. MALEAL. Eleusine coracana.

TSJO, also Tsjo karao. JAPANESE. Boehmeria nivea, China grass.

TSJORATTI. MAL. Gomphia angustifolia.

TSJOVANNA-ARELI. MALEAL. Nerium odorum.

T'SLA GADDALU. TEL. Asparagus racemosus, *Willde.*

TSO. HIND. Echinops nivea.

TSO TIBETAN. A lake. See Tsho.

TSOAY-DAN. In Amherst and Tavoy a heavy, hard, tough wood, not subject to insects, and being tough and short, it is suited for wheels, musket-stocks, &c.—*Cal. Cat. Ex.* 1851. *Mr. Blundell.*

TSOD-KYI-LENA. HIND. properly Ktsokyi-lena. TIBETAN. Antelope wool.

TSODMA. HIND. Urtica hyperborea.

TSO-GAM, a salt lake in Eastern Ladak Tibet, in L. 33° 70′ N. and L. 78° 34′ E., and 14,580 feet above the sea. See Tsho.

TSO KOOEE. See Kush.

TSO-KUL, or salt lake in L. 33° 33′ N. and L. 78° 44′ E. in Pankong (referred to Pangur), S. of the salt lake Tsomognalari, and 14,400 feet above the sea.—*Cumming.*

TSO MITBAL a salt lake, in L. 33° 25′ N. and L. 78° 40′ E. in Pankong, S. of the salt lake Tsomognalari. It is 14,167 feet above the sea.—*Schl. Herm.*

TSO-MO-GNA-LA-RI, a salt lake in L. 33° 39·8′ N. and L. 78° 38. 5′ E. in Pankong, near Takung. It is 14,010 feet above the sea. The Tsomognalari lake is divided into two parts by a river delta, analogous to the lakes of Brienz and Thun in Switzerland. The two are about equal in surface; but according to native information, they differ in height at about 40 feet; the upper lake, which contains nearly fresh water, almost drinkable, being therefore 14,050 feet.—*Schl.*

TSOMORIRI, a salt lake in L. 32° 45′ 4″ N. and L. 78° 16′ 6″ E. (referred to Náma Bíngbo, on its southern border), in Spiti. It is elevated 15,130 feet above the sea.—*Schl. Hern.* See Cho-Moriri, Tsho-Moriri.

TSOLING, in 1812, were 57—viz., of the Kharchin nomades 7, Orat 3, Sunit and Isuth 1, Mau-mingan 4, Kalkas 3, Bargow 15, Old Eluth 18, and 6 of the new or Eluths reclaimed since 1754, all distinguished as belonging to the Chahar country. There is at Chahar also a large quasi-military establishment for the care of the oxen and sheep of the pasture.

TSOUK-YOA. BURM. Dalbergia alata.

TSU. CHIN. Vinegar.

TSUI. HIND. Euphorbia Royleana, Tsui-Kabuli. Cactus Indicus.

TSUK. HIND. Cousinia, *sp.*; Hippophae rhamnoides.

TSULLA-GHEDALU. TEL. Asparagus sarmentosus. See Muslie.

TSUNG. TIBETAN. Allium cepa.

TSUNG-JIN-FU. CHIN. The imperial clan court, charged with the registration, payment, and jurisdiction of the imperial family.

TSUNG LING. CHINESE. literally Onion mountain, the Karokoram or Kouen Lung mountains; which, as high as 17,000 feet, are covered with wild leeks.—*Cunningham.*

TSUNG-MIN. See Yang-tze-Keang.

TSUNG-TU. See Kwang-tung-chi.

TSUNT. HIND. Pyrus malus. Bau tsuntu. Cydonia vulgaris.

TSUNU. HIND. Amygdalus persica.

TSURA PALAM. TAM. Zizyphus napeca.

TSWOT-BA-LWOT. A timber of Amherst; this is said to be from a fruit tree, the wood resembles the Jarool or Lagerstræmia.—*Cal. Ex.* 1851.

TU. See Japan.

TUAC. TIMOR. MOLUC. See Tuba.

TUAC——? Crotalaria juncea.

TUALIKE. TEL. Schmiedelia serrata, *DC.* Its ripe berries are eaten, and the astringent root is employed to check diarrhœa.

TUAR. BENG. HIND. Cajanus Indicus.

TUATUKA. MAHR. Bignonia chelonoides, *Linn.*

TUBA, of Mindoro, or Tuac of Timor and the Moluccas, the sap of a palm, converted by distillation or fermentation into spirit or vinegar.

TUBA, a root? of Singapore used for stupifying and catching fish. Possibly the seed of the Cocculus Indicus.

TUBA-BIDJI. MALEAL. Cocculus Indicus.

TUBBAS, a province on the boundary of Herat, adjoining Kayn, and further to the west. It is subject to Persia, and is inhabited by shiahs; its principal places are Tublus, Toon, and Goonabad; of them, Toon is the largest.—*Papers East India, Cabul and Afghanistan, p.* 135.

TUBBUL. AR. A drum, of peace or war.

TUB-CAMPHOR. See Camphor.

TUBEEH, act of praising God.

TUBEEH ROOKOOKEE. See Rookoo.

TUBER CIBERIUM. The common truffle, grows in Kashmir and Ladak. See Truffle.

TUBIKI TEL. Diospyros embryopteris.

TUBQATEEA, or Mudareea, an order of fakirs or devotees. See Fakir.

TUBUALI. See Tin.

TUBU. MALAY. Sugar-cane.

TUBUNNA. BENG. Celtis Orientalis, *Linn.*

TUBUQ. HIND. a tray. Maywa-ka-tabaq, or fruit-tray, p'hool-ka-tabaq, flower or fairy-tray.

TUBUR I ALLUM, a mahomedan saint in whose name they perform ooroos.

TUBUT MAKOOS, the chapter of the Koran read backwards. See Soora-i-tubut.

TUCKA, a weight in Bombay, equal to 0·2182 grains, used for pearls.—*Simmonds.*

TUCKI, also Tuckir. HIND. Asarabacca; Asarum Europœum, *Linn.*

TUDELA. See Karund.

TUDOR MUL. See Fasli.

TUDOS. See Kelat, p. 488.

TUDUNG, also Chapeyan. MALAY. Hats.

TUDUVELLE KIRE. TAM. Solanum trilobatum.

TUFAN. ARAB. Typhoon.

TUFA-US-SHAITAN. AR. Atropa acuminata, *Royle*, also A. mandragora, *Linn.*

TU-FEH. CHIN. professional robbers, now merged into the word Tae-ping.

TUFFAH. ARAB. Apple.

TUFFAH-ARMINA. AR. Armeniaca vulgaris, *Lam*, the peach.

TUFFAH-UL-ARZ. AR. Anthemis nobilis, *Linn.*

TUFSEER. AR. A commentary.

TUGAR, also Tiraimun and Upaoon. Tabernæmontana coronaria. The sweet-scented wood and root are considered and used as a stimulant; but chiefly used in scents.—*Gen. Med. Top. p.* 152.

TUGGUR. HIND. Asarabacca, Asarum Europœum, *Linn.*

TUGU-HSEN-PAN. BURM. Gardenia florida, *Linn.*

TUGURA. BENG. HIND. Tabernæmontana coronaria.

TUILES. FR. Tiles.

TUIL-KIRE. TAM. Achyranthes polygonoides.

TUILLU—? The thorny tree called Jaya or yellow myrobalan, with small green fruit.

TUIN. HIND. Viburnum fœtens.

TUI TUI. AUS. Aleurites triloba, *Forst.*

TUIRJA. the Turanian race; See Turan.

TUJ. BENG. SANS. Cassia lignea. Cinnamon. Tuj-ka-tel. HIND. Cassia oil, Cinnamon oil.

TUK——? Hydnocarpus.

TUKAN GEDONG. See Karang Bollang.

TUKARIANI. TAM. Cassia tora.

TUKBEER. ARAB. The mahomedan creed.

TUKEEA. HIND. A pillow, a faqeer's stand or residence.

TUKHARISTAN. A province of Balkh, lying east of the city of that name, and west of the Jihun. The chief town is Talikan.

TUKHM. HIND. PERS. any seed, as
—— balangu, Lallemantea Royleana.

—— dhalyan, Rhus *sp.*, seeds
—— khatmi, Althea rosea, seeds.
—— gandah, a seed from Delhi, considered astringent.
—— khiyarain, HIND. Cucumis sativus.
——i-kutan, PERS. Linseed.
—— sipidan, PERS. Sinapis Chinensis.
—— khurma. Phœnix dactylifera, kernel.
——i-balsan. Balsamodendron Gileadense.
——i-gawah-zimij. Seeds of Berberis lycium, asiatica or aristata.
——i-kanaucha. Salvia Moorcroftiana.
——i-kasus. Hyoscyamus nigra, also Polanesia viscosa.
——i-turb. Raphanus sativus.
——i-wasma. Indigofera tinctoria, seeds.
——i-zard alu. Prunus Armeniaca, stones.
—— malanga. HIND. Lallemantia Royleana, also Salvia pumila.
—— tumma. HIND. Cucumis colocynthis.

TUKHTA. GUZ. HIND. Planks.

TUKHT-I-RAWAN. A travelling throne in which dancing girls and musicians are carried on men's shoulders in front of a bridal procession.

TUKHT-I-SULIMAN. In Kashmir are two eminences which bear this name; one near Kashmir is called Sir-i-Shu, or Siva's head, by the hindus, and also Sankara char: and the hill on the opposite side of the city is called Huri Purbat, or the hill of Vishnu or Hari. On the latter hill is the fort of Kashmir. All accounts agree that the heat on the plains under the Sulimani range is excessive. The Kayser mountain seems a collection of inaccessible precipices—*Vigne.* See Kaysar. Khyber.

TUKHT-I-TAOS, the famous Peacock throne of the emperors of Delhi. It was so called from its having the figures of two peacocks, with their tails spread. They were so naturally executed in sapphires, rubies, emeralds, pearls, and other precious stones of appropriate colours, as to represent life and strike every beholder with the most dazzling splendour. The throne itself was six feet long by four feet broad; it stood on six massive feet, which, with the body, were of solid gold inlaid with rubies, emeralds and diamonds. It was surmounted by a canopy of gold supported by twelve pillars, all richly emblazoned with costly gems, and a fringe of pearls ornamented the borders of the canopy. —*Tr. of Hind. vol.* ii. *p.* 297.

TUKI, also Tuka. TEL. Diospyros ebenaster.

TUKKUL, a system of temporary clearing. See Kumari.

TUKLA. HIND. Rottleria tinctoria.

TUKHM-I-KARPAS. Seed of a plant from Delhi, astringent, and stimulating, given in flatulent indigestion, two rupees a seer.—*Gen. Med. Top. p.* 159.

TUKSEER. AR. Tafsir? the science of numbers.

TUKUA—? Cotton manufactures.

TUKU PERU of New Zealand. Balsam antartica.

TUL. HIND. Morus parvifolia.

TULA. BENG. Gossypium Indicum, *Lam*, also G. herbaceum, *Lam.*

TULAH. PERS. The name of a flower or herb called also Nan-e-Kelagh.

TULAK. AR. A divorce. Tulaq-i-byn, the husband's once saying to his wife, "I have divorced you." Tulaq-e-rujaee, the above repeated twice. Tulaq-e-mootuluqqa, ditto thrice.

TULAK-BARA. MALAY. Ballast.

TULAM, or Tola, a weight of 3 drs. apothecaries'.—*Simmonds', Dict.*

TULANCH. HIND. Rubus lasiocarpus.

TULASI. Ocymum sanctum, regarded as sacred and made into a rosary by the vaishnava hindoos. It is regarded as a type of Vishnu, and every vaishnava household has a plant in its parterre, which is encircled daily in the morning and worshipped.

TULASI VER. TAM. root of Ocymum sanctum, also Ocymum villosum?

TULDA BANS. BENG. Bambusa tulda, Dendrocalamus tulda, *Pers.*

TULDONEE. A river of Boondee.

TULENNI PHUL. HIND. Hamiltonia suaveolens.

TULIDUN. HIND. Solanum nigrum.

TULIKUKAR. Gardenia tetrasperma. See Karkun-i-Hazara.

TULIPA STELLATA.

Lallee waroon	HIND	Nulkia,	HIND.
Myhoula,	,,	Peperi	PANJAB

This tulip is abundant in the Kangra valley and the Kumaon hills, whence its bulbs, which are edible, are exported. Also found in the Sutlej valley between Rampur and Sungnam, at an elevation of 4,000 to 6,000 feet.—*Cleghorn Punjab Report, p.* 68.

TULIP TREE. Thespesia populnea.

TULK HIND. Mica.

TUM. A weight in Mysore of 32 lbs.; 3 irase.

TULKA PYRE. TAM. Phaseolus.

TULKLU. HIND. Morus alba, M. serrata.

TULL. See Thull; Tor.

TULLUBDAH. See Kol.

TULUKUL. HIND. Morus serrata.

TULOUR, or Salibaboo Islands, lying between Mindanao and Celebes, are three in number, of considerable size and moderately elevated. Kabrouang is the name of the most southerly, and has a peaked

mountain on it. Its southern end is in lat. 3° 47′ N. and long. 127° 11′ E. Tolour or Karbalang is the larger and more northerly island, and lies from lat. 4° to 4° 28½′ N.

TULSI. HIND. is the synonym of three species of Ocymum., viz., O. sanctum, Tulsi proper, O. album, the safed or white tulsi, and O. basilicum, the kala or black tulsi.

TULSIA. HIND. Amaranthus anardana.

TULSI BAI. See Holkar, Mahratta Governments.

TULSI-KE-MUNKE. DUK. Beads of Ocymum sanctum. Tulsi-ki-jar, the root.

TULSU MUDRIGA. BENG. Leea macrophylla, *Roxb.*

TULU, also Tuluva, a language spoken on the S. western point of the peninsula of India by a small remnant of people. See Dravidian. India.

TULUKAN AMMA. See Hindu.

TULWAR. HIND. A sword.

TUMAL. HIND. Diospyros tomentosa, *Roxb.*

TUMAKU. Tobacco.

TUMAN, in the Mongol language, signifies ten thousand. It was borrowed by the Persians and Arabs, and with them means a weight or sum of money, originally equal to ten thousand mithkals or Arab drachms of silver. In the year 1871, a tuman of Ispahan was equal to five rupees of British India.—*Yule Cathay, p.* 117.

TUMATTI. TAM. Bryonia callosa.

TUMB or Tomb, Great and Little, two small islands in about lat. 26° 15′ N., on the north side of the Persian Gulf.

TUMBA. HIND. Lagenaria vulgaris.

TUMBA KODIWALI. MAL. also Tumba Kodiveli. Plumbago Zeylanica, *Linn.*

TUMBAKU. GUZ. HIND. PERS. Tobacco.

TUMBALI. TAM. Tumal. BENG. Diospyros tomentosa, D. melanoxylon, *Roxb.*

TUMBALOO, or Lota, a small metal pot.

TUMBATIN. TEL. Canavalia gladiata.

TUMBE CODIVELI. HORT. MAL. Plumbago rosea.

TUMBI. HIND. Lagenaria vulgaris. In the valley of the Beas, Cucumis colocynthis, *Linn.*

TUMBI. HIND. Rosa macrophylla.

TUMBIKA. TAM. Embryopteris glutinifera, *Roxb.*, also Diospyros ebenaster and D. embryopteris.

TUMBI KARRA. TEL. Diospyros ebenaster.

TUMBI-KI BAJI. DUK. Tumbi kire. TAM. Tumbi-kura. TEL. Phlomis Indica.

TUMBI MARAM. TAM. Diospyros melanoxylon. Ebony.

TUMBI PALLAM. TAM. Fruit of Chirongia sapida, also of Diospyros melanoxylon.

TUMBOLI. Diospyros melanoxylon.

TUMBOORA. HIND. A drum.

TUMBURU. HIND. A celestial musician.

TUMI CHAVA KARRA. TEL. Diospyros ebenaster.

TUMIDA. TEL. Diospyros melanoxylon, *Roxb.*

TUMIEN. The silk petticoat of the Talaing women; it is of bright hues.

TUMIKA. HIND. BENG. Diospyros glutinosa. Embryopteris glutinifera, *Roxb.*

TUMIKA CHAVA. TEL. Diospyros ebenaster, *Konig.* D. embryopteris, *Pers.*

TUMMA. HIND. Viburnum cotinifolium.

TUMMA. PERS. Cucumis colocynthis, *L.*

TUMMA CHETTU. TEL. Acacia Arabica.

TUMMEDA CHETTU. TEL. Diospyros melanoxylon, *Roxb.*

TUMMEDA MAMIDI. TEL. Semecarpus anacardium, *Linn.*

TUMMI. TEL. Leucas cephalotes, *Spreng.* the Phlomis cephalotes of *Roxburgh*, is the most celebrated species. The leaves are eaten, the flowers are sacred to Siva, and are offered in his temple. But there are many species to which the term Tummi is indiscriminately applied.

TUMMICA. TEL. Diospyros melanoxylon, *Roxb.*

TUMONGONG. Amongst the Malays, a high officer of state, to whom the superintendence of internal police matters is entrusted. A hereditary elective officer of Johore.—*Journ. Ind. Arch. No. IX. vol. V. p.* 568.

TUMR. EGYPT. ? Turmeric.

TUMR-I-HINDEE. PERS. Tamarind.

TUMTUM. ARAB. Rhus coriaria. Sumach.

TUMA SANS. From tumus, darkness.

TUMULUS. Tumuli are met with in Wales, Scotland, Ireland, France, Sweden, Russia, Tartary and Africa. Those in Ireland and in the plain of Troy are precisely similar to those of the United States. In America they are scattered in profusion from Lake Erie to the Gulf of Mexico, and are found in Texas, New Mexico, and S. America; other antiquities also are found in the valley of the Mississippi. Tumuli are not numerous in Ohio, but often found in Kentucky, and more commonly in Tennessee and Mississippi. One of the largest is at Cahokia in Illinois, being a parallelogram 235 yards long by 170 broad and 90 feet high. Cairns and tumuli are found on the peaks of the Neilgherries. They contain agricultural implements; and iron spear heads, bells, and sepulchral urns, with figures of coiled snakes, tigers, elephants, dogs and birds, sickles and gold rings, have been found buried under the piles of stones. It is supposed that the Kurumbar race formerly interred in cairns. See Cairns. Barrow. Tope.

TUMUTTI. TAM. Bryonia callosa. The oil of its seed is the Tumutti-kai Yennai.

TUN, also Tuna, also Gul-tun. HIND. Cedrela toona.

TUNAKAYIKO. See Inscriptions.

TUNANA MADANA. HIND. Rhamnus purpureus.

TUNANI ZANANI. HIND. Viburnum fœtens.

TUN-BI. BURM. Timber.

TUNDHE. HIND. Rhamnus purpureus, also Viburnum fœtens.

TUNDI KOIR. TAM. Fibre of Calotropis gigantea.

TUNDU. CAN. Cedrela toona.

TUNEANG. A group of eight islands on the south coast of China, which derive their name from Tuneang, the largest and the most northerly of the group, and which is five miles in circumference.

TUNG. HIND. Rhus cotinus, and R. parvifolia, also Picea Webbiana and P. pindrow; also Taxus baccata.

TUNG. BENG. Rottleria tinctoria, *Roxb.*

TUNG. CHIN. Copper.

TUNG. A long-measure of Sumatra, corresponding to the English foot.—*Simmonds.*

TUNG-CHI. See Kwang-tung-chi.

TUNGA. See India.

TUNGA MUSTE, also Must-akamu, TEL. Cyperus hexastychus, *Rottl.* C. rotundus, *R.* i. 197. The tuberous root is used in making perfumes.

TUNGANI, a race of military settlers who came originally with military conquerors from the west of Asia, and settled down in the country of Yarkand.—*Cayley.*

TUNGE. See Kunawer.

TUNG-EU——? Dryandra cordata.

TUNG-GULI. JAV. Cathartocarpus fistula.

TUNG-HSEN-PAN. BURM. Gardenia floribunda?

TUNGLA. HIND. Rhus parviflora.

TUNG MRU. See Mru.

TUNG OIL TREE of China, yields a valuable oil. It is expressed from the seeds of Elesococca oleifera, and is much used by carpenters for boats, furniture, &c.—*Simmonds' Dict. Fortune's Residençe amongst the Chinese.*

TUNG-PAN. See Kwang-tung-chi.

TUNG-QUIN GULF. See Tonking.

TUNGRANG PASS in L. 31° 37′ N. and L. 78° 27 E. in Kanawur, leading from the Todung to the Sutlej valley, 13,739 ft.—*Ger.*

TUNG-SI. CHINESE. Fishing tackle made of snake's gut.

TUNG-TSAU. CHIN. Aralia papyrifera.

TUNGU. HIND. Pistacia integerrima.

TUNGUDDA. TEL. Cyperus juncifolius.

TUNG-THU, dwell between the Setang and the Salwin, and in Amherst Province, and are in their dialect more closely connected with the Yuma languages than with the Burman. The Tungthu has a large glossarial agreement with Karen, but it has special affinities with the Kumi and other Yumi dialects, and particularly with the Khy-eng. The Tungthu are Islamized Chinese and are said to resemble the Anamese, but as their dress resembles that of the Anamese, this may create deception. They occupy a portion of province Amherst, and are the only people there who understand the plough. This has a metal blade. They are esteemed good cultivators.

TUNGUS, a general name applied to a population common to a vast area in Siberia and China. Their physiognomy connects it with the tribes of Northern Asia in general, and their language forms a transition between the monosyllabic and agglutinate forms of speech. The Tungus, under the name Mantchu, constitute the dominant population of China itself. These tribes under Chinese rule, in Mantchuria, on the water-shed of the Amur or Sagalin, are termed Mantchu. The Mantchu proper have a literature with an alphabet modified from the Mongol. They are agricultural and industrial. Chevalier Bunsen observes (Report Brit. Ass. 1847) that the researches of our days have made it more than probable that the Tartar, Mantchu and Tungus belong to one great stock; that the Turkoman, Chud, Fin, Lap and Magyar (Hungarian), present another stock closely united, and that both these families were originally connected with each other. He proposed to call this whole group of languages the Turanian, and in lieu of Indo-Germanic or Indo-European he proposed the term Iranian, following the antithesis of Iran and Turan, established by Heeren and Carl Ritter. He further remarks that "these nations, who probably may be reduced to two families, one centering in the Altai and the pasture lands towards the Himalaya, and the other having its centre in the Ural mountains, have acted in the history of civilisation a most powerful episode by conquest and destruction. They appeared in the fifth century as the Huns, a scourge to Romans and Germans; they produced Jengis Khan, Timurlung and Mahomed II.; they destroyed the Persian empire, subdued Hindustan, and they still sit upon the throne of Byzantium and upon that of China. They seem destined to partake only by conquest in the higher civilisation of the surrounding nations, older or younger ones, the Chinese presenting the one extreme, the Iranians the other. Little disposed to learn from them

as neighbours or subjects, they become more or less civilised by being their masters. They cannot resist the inward force of the civilisation of their subjects, although they repel it as an outward power. The Tungus are the native population of the Amûr, but even if we include emigrant Chinese and Mantchu, they are far from numerous. They may be estimated at 24,000 for the whole of the territory at present in possession of Russia. With two exceptions, the tribes of the Amur belong to the Tunguzian stock. The language of the Gilyak, on the lower Amur, differs from the Tunguzian dialects along the river, but the features of these Gilyak are still Mongol, they have small obliquely set eyes, prominent cheek bones, and scanty beards. With the Aino on Sakhalin, the language differs both from the Tunguzian and Gilyak; their features are decidedly not Mongol, and they are distinguished by a great profusion of hair. The close affinity between the various Tunguzian dialects, and the differences existing between Tunguzian, Gilyak and Aino, will be observed in the following short vocabulary.

	Tunguzians.						
	Yeniseisk.	Nerchinsk.	Manyarg.	Manchu.	Orochi.	Gilyak.	Aino.
One	ummukon.	omon	omun	emu	omoho	niua	chine
Two	dyur	jur	sur	juo	dhu	morsh	tu
Three	illim	ilan	ilan	ilan	ela	chiorch	che
Four	diggin	dyggin	digin	duin	dhi	murch	yne
Five	tungya	tongna	....	sunja	thungha	torch	ashne
Six	niungu	niungun	nugun	ninggun	nungo	ngak	yhampe
River	birrya	bira	.....	bira	bila or widhi.	....	....
Sea	lamu	lamu	....	namu	namu	atui (rur)	chotza
Water	mu	mu	mu	muke	mu	....	wakka
Sun	shiggun	shivun	....	shiun	su	....	tsuhu
Reindeer	oron	sokje	....	oron	....	....	....
Thunder	addi	akdi	....	akjan	....	....	kanna-ka-
Dog	ninakin	nenaki	....	indakhun	enuk	kan	tumui or sheta

The Tunguzian tribes either are nomades, keeping herds of reindeer or horses, or they subsist chiefly upon the produce of their fisheries. The reindeer Tunguzians are called Oronchon or Oroke, a word signifying reindeer-keepers, and are met with on the Upper Amur, and on Sakhalin. Among the other tribes, a tradition prevails of their having owned reindeer at some remote period; and there is one tribe along the sea coast still called Orochi, or Orochon. The Manyarg and the kindred Birar, and Solon, on the Nonni, who occupy the vast prairies above the Bureya mountains, keep large herds of horses. The Goldi, Olcha (Mangun), Gilyak, Orochi of the sea-coast, and Aino, are fishermen, but are hunters also; and the Goldi, especially those settled on the Sungari, cultivate the ground to some extent. It is, however, only the Mantchu and Chinese, and the Daurian living amongst them on the Middle Amur, who till the ground to a larger extent, the Daurian doing so even at the time the Russians first appeared on the Amur. At that period their settlements extended into Dauria, whilst at the present day they are but rarely found above the Dzeya. The Oronchon of the Upper Amur numbered, in 1856, two hundred and six individuals of both sexes, roving over an area of 28,000 square miles, which would give one hundred and seventy square miles to each individual. Next come the Manyarg; their numbers, including the Birar and the Solon, on the right bank of the Amur, are about 20,000, of whom one-sixth at most are under Russian sway. The agricultural population about Aigun, estimated at from 40,000 to 50,000, is also confined chiefly to the right bank of the river, those on its left bank hardly amounting to 2,000. The Goldi occupy one hundred and fourteen so-called villages on the Amur, with three hundred and twenty houses, and 2,560 inhabitants; the Mangun forty villages, with one hundred and ten houses, and 1,100 inhabitants. The Kile on the Upper Gorin, and Negidalze on the Amgun, do not probably exceed 1000 souls. The population along the Usuri is estimated by Veniukof at 1,400 of whom about four hundred are on the left bank of the river. The vast tract extending between the Usuri and the sea-coast, from Castries Bay in the north to the frontier of Korea, is very thinly populated, and it is only in the south, where there are several Chinese settlements, that the population is comparatively numerous. Veniukof reckons the population between the Usuri and the coast, north of Port Imperial, at 1,600; and that 2,500 might be the approximate population of the entire coast-region under consideration. The Gilyak on the Amur occupy thirty-nine villages, having one hundred and forty houses, and 1,680 inmates. The population of Southern Sakhalin, up to

about 49° of north latitude, was calculated by Mamia Rinso at 2,850, in four hundred and thirty-eight huts, which would allow 2·1 square miles to each inhabitant, if we assume a similar population for the northern (Russian) part of the island. Or, arranging this population according to tribes, we obtain a total of 23,500.

Oronchon of the Upper Amur....	...	260
Manyarg and Birar. ...	...	3,000
Daurian, etc.	..	2,000
Goldi on the Amur and Usuri.	...	3,560
Olcha (Mangun) on the Amur.	...	1,100
Negidal and Kile (Sanager).	...	1,000
Orochi of the sea-coast. ...	...	1,000
Oroke on Sakhalin. ...	...	1,000
Gilyak on Lower Amur and Sakhalin.		8,180
Aino on Northern Sakhalin....	...	1,000
Chinese on the Usuri, etc. ...	...	1,400

The banks of the Upper Amur, down to the mouth of the Dzeya, are in the occupation of the Tunguzian tribes of the Oronchon and Manyarg (Monagir, Manegre), the principal difference between whom is, that the chief domestic animal of the former is the reindeer (Oronchon, reindeer-keeper), and of the latter the horse. The horses are small, but strong and of great endurance. Before going on a long journey the Manyarg keeps his horse for a day without food, and on his return also the poor beast is made to undergo five or six days' abstinence. This is done with a view of keeping the horse in working condition.

The Oronchon originally lived in the province of Yakutsk, whence they voluntarily emigrated to the banks of the Amur in 1825, and occupied there part of the territory of the Manyarg, whom they compelled to withdraw further down the river. There are two tribes of Oronchon. One of them, the Ninagai, occupies the left bank of the Amur, between the rivers Oldoi and Amazar, and the country up to and beyond the crest of the Stanovoi mountains. In 1856 it mustered sixty-eight males and sixty-six females, and twenty-seven of the former paid annually five shillings and five pence of tribute each, or in lieu thereof twelve squirrel skins, to the officer commanding the post of Gorbitza. The other tribe, the Shologon, occupy the right bank of the Amur, down to the Albazikha rivulet. They number seventy-two individuals of both sexes, including forty males, of whom seventeen had to pay to the commandant of Ust Strelka a tribute of six shillings and four pence each. They owned eighty-two reindeer. The Manyarg, as stated above, occupy the Amur below the Oronchon, but in spring and summer they ascend it for the sake of fishing, to the Ignashina and Sester, leaving their horses below the Albazikha. They also dwell in the valley of the Dzeya, and generally speaking, the whole of the prairie region down to the Bureya mountains, where their horses find forage; whilst the Oronchon, on account of their rein-deer, are confined to the mountainous districts. The Birar residing along the Bureya river are a sub-tribe of the Manyarg, and the Solon, north of Mergen, are probably related. The Manyarg and Oronchon are rather small and of spare build. Their arms and legs are thin, a feature most striking in their half-naked children, whose bellies moreover are very protruding. The face is flat, but the nose, in many instances, large and pointed. The cheeks are broad, the mouth is large, and the lips are thin; the eyes very small and sleepy-looking, and generally of black or reddish-brown. The hair is black and smooth, the beard short, and the eye-brows very thin. The Manchu features frequently found among the Manyarg are traced by Maack to the officials who annually collect the tribute, and to whom their women are freely yielded up. These Tunguzians lead a wandering life. During spring and the beginning of summer they generally reside on the banks of the river, engaged in fishing, but in the autumn and winter they retire to the interior of the country to pursue the chase. In these migrations the rein-deer or horse carries the scanty property of its owner. The only other domestic animal is the dog. The Solon is a nomadic tribe, allied to, if not identical with, the Manyarg, and occupy the country north of Mergen. They claim to be descendants of the ancient Sushi, by whom was founded the dynasty of the Gin. The word Solon signifies "Shooters." They are indeed expert huntsmen, and even their women mount on horseback and pursue the game. Besides horses, they have dogs for hunting, also sheep, oxen, and camels. The Daurian dwelling on the Upper Sungari, in the neighbourhood of Tsitsikar, are well made, especially the women, and dress like the Manchu in China. The secretaries of the Mandarins who are sent to this part, are privileged by a letter from the Khan to select any women or young girls whom they may fancy. Some of the men whose wives had been taken in this manner, still persist in considering it a special favour to have such fine gentlemen as brothers-in-law. Others, though discontented, are compelled to conceal their chagrin from fear of punishment and disgrace.

The Tunguzians of the Lower Amur are the Goldi, Mangun, and Orochi tribes, and exhibit a great similarity in outward appearance, customs and manner of life.

The Tunguzian tribes are the Goldi and Mangun, along the Amur, Sungari and Usuri; and the Orochi along the sea coast from Castries Bay to about 44° N. lat. The Gol-

i inhabit both banks of the Sungari below ie town of Sansin, the Usuri below the Doikhu and the Amur to the village of Niunuya below the Gorin. Maack calls the ‡oldi living along the Amur down to Nyunga "Kileng;" and those about the mouth of he Usuri, "Hodseng." Below the Goldi the anks of the Amur are occupied by the Manun or Olcha as far as the village of Kadeaa, below the Russian settlement of Jrkuts:oi. These Tunguzians have the usual Mongol eatures, prominent cheek bones, and small ›blique eyes. The nose is not in all cases lat. The eyebrows are more defined and archd. The mouth large, the lips thick and of › dull red colour. The complexion is fair ›nd ruddy. The colour of the hair and eyes s black, but occasionally grey eyes are seen. The size of head is large compared to that ›f the body.

The Gilyak inhabit the banks of the Lower Amur, below Pul, and the northern portion ›f Sakhalin, their limits on the island being ›n the west coast in the village of Pilyavo. 50° 10′ N. lat; and on the east coast 50° 30′ N. lat. There are several tribes of these Gilyak, those of the mainland, the Smerenkur of the west coast of Sakhalin, and the Tro of the east coast, but the distinction between them is trifling. Nor do they differ much in outward appearance from their Tunguzian neighbours. The features are still Mongol, the nose is rather flat, the eyes are small, the lips are voluptuous, the eyebrows bushy, and the beard is stronger than with the Tunguzian. They do not shave the head, but wear the hair tied up into a thick tail or in tresses. The Russians describe their women as frights, but tastes are not always the same, and Rimso, the Japanese, says they are very comely, and doubly attractive on account of their daily ablutions. Their dress does not vary much from that of the Tunguzians. They wear large boots of seal-skin or sometimes cotton, and a blouse of Chinese pattern. The use of fish-skins is much more restricted. If we may credit the statement of Rimso, polyandry prevails among the Smerenkur Gilyak, and the women are treated with the greatest indulgence. Only those however skilled in the use of the needle can expect to get married.—*Klaproth, Asia Polyglotta. Maack, Travels on the Amur. Tronson (Barracouta Bay). Furet, Letter sur l'Archipel. Japonais (Joncquiere Bay). La Perouse. Pfizmaier's Vocabularium der Lino Sprache, Vienna*, 1851, quoted in *Ravenstein's Russians on the Amur, pp.* 338 *to* 391. *Latham.*

TUNGUS. Hind. Tam. Marsdenia tenacissima, also fibre of Calotropis gigantea; also Catgut.

TUNI. Hind. Cedrela toona, C. serrata.

TUNI. Tam. Calico, a cloth, clothing.

TUNIA. See Kutch. Jet.

TUNICATA, the Tunicaries, Class vi. of the Mollusca, viz.

Family I.—Ascidiadæ.	Distomu
Gen. Molgula.	Diazona.
Cynthia.	Aplidium.
Pelonæa.	Polyclinum
Chelyosma.	Parascidium.
Poltenia.	Armorœcium.
Family II.—Clavellinidæ.	Synœcium.
	Sigillina.
Gen. Clavellina.	*Family IV.—Pyrosomidæ.*
Perophora.	
Family III.—Botryllidæ.	Gen. Pyrosoma.
	Family V.—Salpidæ.
Gen. Botryllus.	Gen. Salpa.
Botrylloides.	Doliolum. recent.
Didemnium.	Appendicularia.
Eucœlium.	

TUNKANNA. Sans. Borax.

TUNKAR. Pers. Borax.

TUNKI. Hind. a very thin chapatti, or flour scone, or cake; or large wafer made with butter.

TUNKRA. a pass in Sikkim, in Lat. 27° 38′ N., Lon. 88° 56′ E. Its crest is 16 100 feet above the sea. The ascent on north-west side, gradually, is over a snow-bed and glacier; descent on north-east steep but grassy.

TUN MARAM. Tam. Cedrela toona. See Cedar. Deodar. Furniture. Toon.

TUNMATRU. Sans. From tut, that, and matra, only.

TUNNA. Beng. Cedrela toona.

TUNNI. Pshtu. Taxus bacata. Common yew.

TUNNUHU. See Khutri.

TUNNUS. Mahr. Dalbergia oojeinensis, *Roxb.*

TUNQUIN. The Tunquinese, both men and women, are for the most part well proportioned, of an olive complexion, very much admiring the whiteness of the Europeans. Their noses and faces are not so flat as those of the Chinese, as being generally better made. Their hair is very black, which they usually wear as long as it will grow, being very careful in combing it. The common people plait it in tresses, and tie it like a great roll upon the top of their heads. But the nobility, men of law, and soldiers, tie their locks about their necks, that they may not flutter in their faces. They blacken their teeth and suffer their nails to grow; the longest being accounted the fairest.—*Everard's Treatises, p.* 17.

TUNTRA. SANS. From tantra, religious austerities.

TUN-TUNI-NUTI. BENG. Amarantus fasciatus, *Roxb.*

TUNYEEN, or Tunyeen dha, BURM. A wood scarce near the Moulmein and Sitang rivers, more abundant near Tavoy and Mergui, of maximum girth 5 cubits and maximum length 30 or 40 feet. When seasoned it floats in water. It is used for the construction of the very large boats which go from Moulmein to Toughoo; hence in much demand at Moulmein, but not so much so on the sea coast. The wood when cut has a peculiar and fragrant smell, is tough and oily, and likely to make excellent planes, handles, &c. &c.—*Captain Dance.*

TUOOZ, having recourse to God against evil.

TUP. SANS. A cap, a hat. See Mugut.

TUPAIA, insect eaters, closely resemble squirrels, are almost confined to the Malay islands, as also are Ptilocerus Lowii of Borneo, and Gymnurus Rafflesii.

Tupaia Elliotti, *Blyth.* The Madras tree shrew, occurs in the hills west of Madras, length 14 inches, of which the tail is 7¼.

Tupaia ferruginea, *Blyth.* of Arracan and the Malay peninsula, is insectivorous and frugivorous. It dwells in rudely constructed lairs in the highest branches of trees; it is very agile, and makes enormous bounds.

Tupaia Javanica occurs in Java.

Tupaia murina occurs in Borneo.

Tupaia Peguana, the Sikkim tree shrew, occurs in Sikkim.

Tupaia tana occurs in Sumatra.—*Jerdon p.* 66. *Wallace, p.* 141.

TUPHA, a college. See Inscriptions.

TUPHA. TURK, a horse tail, the tails of the horse and of the yak, used as standards amongst the Turkoman. The Tupha, Tugha or Tau, according to Remusat, is the Turkish name of the horse-tail standard, but is applied also by the Chinese to the Yak-tail, which, respectively, with those nations, mark the supreme military command.—*Rech. sur les langues Tartares,* 303; *also D'Ohsson.* i. 40 *in Yule Cathay,* i. *p.* clxxiv.

TUPI. GUZ. Hat.

TUPONG. MALAY. Flour.

TUPOZ, in Manilla, the intermediate layers of the stem of the wild plantain, Musa textilis, of which are made web cloths and gauzes four yards long, of different degrees of fineness.—*Simmonds' Dict.*

TUPPA. This musical measure belongs to the very extremity of India, being indigenous as far as the Indus and the countries watered by its tributaries; and though the peculiar measure is common in Rajasthan, the prefix of Punjabi shows its origin. Colonel Tod says he has listened at Cam to the viola or hurdy-gurdy, till he could have fancied himself in Mewar.—*Tod's Rajasthan, vol.* i. *p.* 648.

TUPPA, amongst the Bhot race, a probationer for the buddhist religion of Tibet. The word Bhot is traced in the name of Bult in Bultistan, But in Butan, Bot in Tibet, or in such words as the Bhooteya or Bhotiya. The race known as the Bhot in ethnology comprises the Little Tibetans, the natives of Ladak, the Tibetans of Tibet Proper, and the closely allied tribes of Butan. The Bhot of Ladak is strong, hardy, short and square, with a decidedly Mongol physiognomy—by which is meant a flat face, broad cheek, depressed nose, very large ears, oblique and narrow eye curtained at the corners, black hair and low stature, their average height being 5 feet 6·1 inches: the skulls are less Mongolian, having a capacity of 72 cubic inches, 80 cubic inches being a fair capacity for a European. The Grand Llama is a Bhot. The ordinary monk or priest in Tibet is the Gylong, above whom are Llamas or presidents, and below whom are the Tohba and Tuppa. The Tuppa is a probationer who is admitted into the establishment to which he would attach himself at the age of 8 or 10, and receives instruction accordingly. At 15, he becomes a Tohba, and at 24 a Gylong, provided his acquirements be satisfactory. There are two sects, the Gyllupka, who dress in yellow, and the Shammar, in red, the Shammar Gylongs being allowed to marry. The Bhots of the Tibetans have been extending westward. As a general rule, the Himalayas divide Hindustan from Bhutland, but there are Bhots in several parts south of the crest of those mighty mountains in Garhwal and Kemaon.

TUPSEE MUTCHI, the mango-fish.

TUPTA-SHURMI. SANS. From tapta, hot, and shurmi, an image of iron.

TUR, also Arhur, also Tur-dhal. HIND. Cajanus Indicus, *Spreng.* See Dhol, Dhal, Tour. Burri toovar.

TURAB-UL HALAK. ARAB. Arsenic.

TURAI. HIND. Luffa acutangula, *Roxb.* Ghi-turai, Luffa pentandra, Ram-turai, Abelmoschus esculentus.

TURAI. A great belt of gravel and sand, filling a trough from five to fifteen miles in length, parallel to the base of the Himalayas, to the depth of from 15 to 150 feet. It is so sickly as to be nearly without resident population; the houses of the cultivators are on the slopes of the hills. It is full of marshes. The belt of saul forest, which is waterless, is next to it towards the mountains, and is al-

nost equally malarious: rivers disappear and pass under it, reappearing in the Turai: it is surrounded by sandstone hills, which skirt the base of the mountains.—*Capt. Herbert in Bl. As. Trans. vols.* xi. xii. See Terai. Therai.

TURAK. In Kashmir, a weight of six seers or 12lbs. English.

TURAKA HARALA. See Hurala.

TURAKA VEPA. TEL. Melia azedirachta.

TURA LODH. HIND. Rondeletia tinctoria.

TURAN, or Tartary, a country bordering on Iran in the north and north-east, which in the remotest times was inhabited by a race who are now spread into different parts of the world, and are known to ethnologists as Scythians, Turanians or Mongolians. Tuirja or Turan are names of which the derivations are still discussed. But Burnouf has called attention to them in reference to the Bactrian satrap of Turina or Turiva mentioned in Strabo. According to Cuvier, the probable cradle of the Mongolian or Japhetic race is the Altai mountains, whence they have spread over northern and central Asia southwards as far as Hindustan north of the Ganges, and eastwardly to the Eastern ocean, where the race is distinctly visible in the Japanese, the Corean people, and those of Siberia. The Arsacidæ were Turanians. In the Zend books the Turanians are styled (Firdusi's Turiya) the foes or antagonists of the Arians. Turvasu means one who possesses the treasures of his enemy, and Turvasa one who conquers when he pleases. The Turanian people, but particularly the Turko-Tartar tribes, have made themselves renowned in antiquity by their warlike disposition and by the wild intractable rudeness of their habits, and have appeared amongst surrounding nations as spoilers, destroyers and plunderers. The Aryan tendency is to form national and political communities, marry one wife, and worship one supreme and spiritual deity. The Turanian tendency is to have little national or political cohesion, to marry one or more wives, without much sentiment: and worship gods and heroes without much idea of a spiritual existence, beyond that implied in the notion of ghosts and demons. Turanian races have a longing for spiritual excitements. Perhaps, as the vividness of religious faith is common amongst mountaineers, the simple pastoral and secluded life common to most of the Turanian tribes may impart a tendency to reverie and visionary absorption. The great horse sacrifice is allowed to have been originally Turanian, whether derived directly from the Sakæ, or indirectly from Persia and Media, where the white horse was an important element in a campaign of Cyrus; and Mr. Atkinson found traces of this sacrifice still lingering on the southern borders of Siberia. The Turanian family of languages is agglutinative. They are scattered over the whole of the northern part of Europe and Asia, from China to the Pyrenees, and from Cape Comorin across the Caucasus to Lapland. The Hungarian, Lapponian, and Finish dialects are now classed as members of the great Turanian or Tartar family of tongues, which is spoken by all the tribes from the Himalaya to Okotsk and to Lapland, and includes the Hungarian, Crimean and Turkish tongues. Farrar states that the terms Turanian, Nomadic, or Allophyllon of Pritchard, are names applied to all languages not belonging to the Arian or Semitic, and which comprise all languages spoken in Asia or Europe not included under the Arian and Semitic families, with the exception of the Chinese and its dialects. These are Tungus, Mongol, Turki, Samoiede and Finn. The writers on this Class are Rask, Klaproth, Schult, Castren, and Muller. But even Muller admits that the characteristic marks of union, ascertained for this great variety of languages, are as yet very vague and general if compared with the definite ties of relationship which severally unite the Semitic and Arian. The Turanian languages occupy by far the largest portion of the earth, viz, all but India, Arabia, or Asia Minor and Europe; but except agglutination there is not a single positive principle which can be proved to pervade them all. They have priority of affinity with the languages of Africa and America and even with the Chinese.

The Ugro-Tartarian languages, the languages of High-Asia and other regions, which other writers style Turanian, are those of Dr. Pritchard's second group of nations belonging to the same great family, and include the various hordes who have been known under the names of Tartar, Turk, Mongol, Mantchu and Tungus. All these nations appear, from the result of late researches, to be allied in descent, though long supposed to be quite separate. In the vast wilderness extending from the chain of the Altai to that of the Himalaya are the pasture-lands, where, during immemorial ages, the nomadic tribes of High Asia have fed their flocks and multiplied those hordes which from time to time descended in immense swarms on the fertile regions of Asia and of Europe. Perhaps the earliest of these invasions of the civilized world was that of the Hiong-nu, expelled from the borders of China by the powerful dynasty of the Han. These were the people who, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes

from the same regions under Togrul-Beg, and Seljuk, and Mahmud of Ghizni, and Jengiz, and Timur and Othman, overwhelmed the kaliphat and the empires of China, of Byzantium, and of Hindustan, and lineal descendants of the shepherds of High Asia still sit on the throne of Cyrus, and on that of the Great Constantine, while the branch which ruled in India under the title known to Europe as the Great Moghul closed in 1862 by the death at Rangoon of the last emperor of Delhi, then a prisoner of the British. As a branch of the Ugro-Tartarian, he speaks of some of the insular nations to the eastward of Asia and near the coast of the Pacific Ocean. The idiom of the islands comprised in the empire of Niphon, as well as that of the independent Liu-kiu Archipelago, bears some signs of affinity to those of the Ugro-Tartarian nations, and he adds that Mr. Norris, who has studied the Japanese, and whose very extensive knowledge of languages renders him a great authority in such questions, had assured him that the principle of vocalic harmony and other phenomena of the Tartar languages prevail in the idiom of the Japanese and Liu-kiu islands. In his group of the Ugro-Tartarian, Pritchard also classes the aboriginal inhabitants of India who, he supposes, were expelled from Hindustan by the brahmins and the Arian people who accompanied them across the Indus, and retired, as it is supposed on apparently insufficient proof, into the Dekhan. They still occupy the greater part of that peninsula, and a portion, at least, of the island of Ceylon. Their idioms—the Tamil, the Telugu and the Karnataka of the Mysore,—are sister dialects of one speech, and he considers it likely that the languages of the mountain tribes of India, the Bhil, the Gond, the Toda and others belong to the same stock. Dr. Pritchard adds that Professor Rask had conjectured that these nations are also of the Tartar stock. Their language has some of the peculiarities of structure which have been pointed out. He also observes that there are some curious analogies between the Tamulian and other dialects of the Dekhan and the languages of Australia, with which we have obtained some acquaintance through the labours of Mr. Threlkeld and several other missionaries, and from the able researches of Captain Gray. Turkish is a Turanian dialect. Its grammar is purely Tataric or Turanian. The Turks, however, possessed a small literature and narrow civilization before they were converted to mahomedanism; and as the language of Mahommed was Arabic, a branch of the Semitic family, closely allied to Hebrew and Syriac, this together with the Koran, and their law and religion, the Turks learned from the Arabs, their conquerors, many of the arts and sciences connected with a more advanced stage of civilisation. Arabic became to the Turks what Latin was to the Germans during the middle ages; and there is hardly a word in the higher intellectual terminology of Arabic, that might not be used, more or less naturally, by a writer in Turkish. But the Arabs, again, at the very outset of their career of conquest and conversion, had been, in science, art, literature, and polite manners, the pupils of the Persians, whom they had conquered; they stood to them in the same relation as the Romans stood to the Greeks. Now, the Persians speak a language which is neither Semitic, like Arabic, nor Turanian, like Turkish; it is a branch of the Indo-European or Aryan family of speech. A large infusion of Persian words thus found its way into Arabic, and through Arabic into Turkish, and the result is that at the present moment the Turkish language, as spoken by the higher ranks at Constantinople, is so entirely overgrown with Persian and Arabic words, that an uneducated Turk from the country understands but little of the so-called Osmanli, though its grammar is exactly the same as the grammar which he uses in his Tataric utterance. The whole of what is called the Turanian family of speech consists of terminational or agglutinative languages, and this Turanian family comprises in reality all languages spoken in Asia and Europe, and not included under the Aryan and Semitic families, with the exception of Chinese and its cognate dialects. The name Turanian is used in opposition to Iranian, and is applied to the nomadic races of Asia as opposed to the agricultural or Aryan races. The Turanian family or class consists of two great divisions, the Northern and the Southern. The Northern is sometimes called the Ural-Altaic or Ugro-Tataric, and it is divided into five sections, the Tungusic, Mongolic, Turkic, Finnic, and Samoyedic.

The Southern, which occupies the south of Asia, is divided into four classes, the Tamulic, or the languages of the Dekhan; the Bhotiya, or the dialects of Tibet and Bhotan; the Taic, or the dialects of Siam; and the Malaic, or the Malay and Polynesian dialects. The most characteristic feature of the Turanian languages is what has been called Agglutination, or "gluing together;" and what distinguishes the Turanian languages is, that in them the conjugation and declension can still be taken to pieces; and although the terminations have by no means always retained

their significative power as independent words, they are felt as modificatory syllables. The difference between an Aryan and a Turanian language is somewhat the same as between good and bad Mosaic. The Aryan words seem made of one piece, the Turanian words clearly show the structures and fissures where the small stones are cemented together. Where nomadic tribes approach to a political organisation, their language, though Turanian, may approach to the system of political or traditional languages, such as Sanskrit or Hebrew. This is indeed the case with the most advanced members of the Turanian family, the Hungarian, the Finish, the Tamil, Telugu, &c.

The Tungusic branch extends from China northward to Siberia, and westward to 113°, where the river Tunguska partly marks its frontier. The Tungusic tribes in Siberia are under Russian sway. Other Tungusic tribes belong to the Chinese empire, and are known by the name of Mandshu, a name taken after they had conquered China in 1644, and founded the present imperial dynasty.

The original seats of the people who speak Mongolic dialects lie near the Lake Baikal and in the eastern parts of Siberia, where we find them as early as the ninth century after Christ. They were divided into three classes, the Mongol Proper, the Buraiat, and the Olot, or Kalmuk. Chingis-khan (1227) united them into a nation and founded the Mongolian empire, which included, however, not only Mongolic, but Tungusic and Turkic, commonly called Tataric tribes.

It will thus be seen that the races, known as Turanian, contain those vast tribes which occupy Central and Northern Asia, and include, according to modern ethnology, the Tartar, Finn, Turk and Magyar. The prevailing characteristic of the Turanian race, according to Bunsen, is the propensity to magic or Shamanism. Turanians in the west lose much of the Mongolian type. In British India and on its borders are four distinct branches of this family of languages spoken by members of the Turanian race. In the north are the Himalayan tribes, with their dialects, occupying from the Kunawars on the Sutlej to the Boti of Bhutan in the extreme east. Then there are the Lohitic class of languages, comprising with the Burmese and others of the Malay peninsula the dialects of the Naga tribes and of the Mikir in Assam, and of the Bodo, Kachari, Kuki and Garo in Eastern Bengal. Nearly related to this class is the Kol or Munda family of languages, including the Kol, Sonthal and Bhumi of Sinh'bhum and Western Bengal and the Mundala of Chota Nagpur, the Kur or Muasi and the Korku in Hushangabad, and westwards in the forests of the Tapti and Nerbudda until they come in contact with the Bhil of the Vind'hya hills, and the Nahal of the Kandesh belong to this family; indeed Mr. Hislop held that the word Kur is identical with Kol.

The fourth branch is Tamulic or Dravidian, to which belong the Brahui of Baluchistan, the Gondi, the Tuluva of Kanada, the Karnata of the Southern Mahratta country, the Todava of the Neilgherries, the Malayalam of Travancore, the Tamul and the Telugu.

The Kur and the Sonthal are closely related, and are separated from the Dravidian. The Kur or Muasi and the Korku or Kurku, to the north-west and west of the Mahadeva hills, are, in language at least, quite distinct from the Gond tribes. Mr. Hodgson is of opinion that the Tamulian, Tibetan, Indo-Chinese, Tungus, Chinese, Mongol and Turk, are so many branches of the Turanian family; and he regards the aborigines of British India, as Northmen of the Scythic stem, but he remains undecided whether they owe their Scythic physiognomy to the Tungus, the Mongol, or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalayas at one period and at one point, or at several periods and at as many points. All writers are of opinion that when the Aryans entered India, they found the country occupied by prior Scythic races, to whom their writers apply such contemptuous expressions as Dasya, M'hlecha, &c. These prior races seem to have been driven largely out of Northern India into and through the Vindhya mountains into the Peninsula of India and Ceylon, where their idiom, the Tamul, Telugu, Malayalam and Karnatica, are sister dialects of one speech; and Dr. Pritchard concurs in opinion with Professor Rask, who regards the languages of the mountain tribes of India, the Bhil, the Gond, the Toda and others, as also of the Tartar stock, and mentions that some curious analogies have been observed between the Tamulian and other dialects of the peninsula and the languages of Australia. Mr. Logan, however, who has had great opportunities of contrasting and comparing the Dravidians from various parts of India, inclines to call them South Indian. He remarks that, physically, the population of Southern India is one of the most variable and mixed which any ethnic province displays. A glance at a considerable number of Kling (Telugu) and Tamular of different castes and occupations, shows that the varieties when compared with those of similar assemblages of men of other races, such as Europeans,

Ultra Indians or Indonesians (including negroes in the last two cases), are too great to allow of their being referred to a single race of pure blood. Some are exceedingly Iranian, some are Semetic, others Australian, some remind us of Egyptians, while others again have Malaya, Polynesian and even Simang and Papuan features. This varied character of the races of the south of the peninsula may be seen daily, in Madras, to which all the races from the south of India resort.—*Wh. H.* iv. *Pritchard. Bunsen. Muller. Logan, Journ. Ind. Archip. Hyslop, Journ. Ant. Soc. Nagpore.*

TURAN, a gulf mentioned by Al Biruni; it is at present known as the bay of Sunmianee.

TURANJ. HIND. Citrus medica. Citron.

TURANJABIN, HIND. Manna of Alhagi maurorum, Persian manna.

TURANO-AFRICANS. See India.

TURAWEEH. AR. Prayers offered daily by mahomedans at 8 A. M.

TURAYI, also Pamidi Tangedu. TEL. Poinciana pulcherrima, *Linn.*

TURBAD. HIND. Ipomœa turpethum.

TURBAN.

Pagri,	HIND.	Dustar,	HIND.

The head dress of the mahomedans, possibly from the two Persian words, sir, the head, and band, a tie. A principal site of the manufacture of cotton turbans formerly was the town of Arnee in the Chingleput district, but they are now made at Oopada in the Rajahmundry district, and also in the district of Madras. A principal site of the manufacture of silk turbans was Seringapatam in Mysore. They are of a pink colour, and are sold at from Rupees 10 to 25 Rupees each. An exchange of turbans is the symbol of fraternal adoption.

TURBINELLA, a genus of Gasteropodous molluscs, family Muricidæ, of which 70 recent and 20 fossil species are known. Turbinella rapa, the chank shell, is used in India as a musical trumpet, and is sawn into rings to form bracelets, anklets. It was the war-trumpet of the ancient hindus, and the hindu god Vishnu holds a chank in one of his four hands.—*Tod's Rajasthan, vol.* i. *p.* 372. See Chank. Mollusca.

TURBINIDÆ, the ninth family of Gasteropodous molluscs, as under,

GEN. Turbo. Top-shell, rec. 60 sp., *fossil,* 360 sp.
Phasianella. Pheasant-shell, rec. 25 sp., *fossil,* 70 sp.
Imperator. rec. 20 sp.?
Trochus. rec. 150 sp., *fossil,* 360 sp.
Sub-genera. Pyramis. rec.
Gibbula. rec.
Margarita. rec. 17 sp.
Elenchus. rec.
Rotella. rec. 10 sp.
Monodonta. rec. 10 sp.? also *fossil.*
Delphinula. rec. 20 sp., *foss,* 30 sp.
Sub-genera. Liotia. rec. 6 sp., also *fossil.*
Collonia. rec. also *fossil.*
Cyclostrema. rec., 12 sp., also *foss.*
Adeorbis. rec., also *fossil,* 5 sp.
Euomphalus. *fossil,* 80 sp.
Sub-genus. Phanerotinus. *fossil.*
Stomatella. rec. 20 sp.
Sub-genus. Gena. rec. 16 sp.
Broderipia. rec. 3 sp.

TURBITH-MINERAL. Sub-sulphate of mercury.

TURBITH, or Turpeth. The cortical part of the root of the Ipomœa turpethem, of the East Indies. It is a longish root, about the thickness of the finger, resinous, heavy, of a brownish hue without and whitish within. It is used in medicine.—*Lewis's Mat. Med.*

TURBO. See Turbinidæ.

TURBUZ. HIND. Cucurbita citrullus.

Turbooj,	HIND.	Turbooz,	BENG.
Turmooj,	„	Water-melon,	ENG.

This is grown in the beds of rivers in the hot season, but may be cultivated in gardens during the rains. Its fruit is esteemed by all classes.—*Riddell.*

TURBOT. See Kelat.

TURBOT. A small flat Tenasserim fish, a species of brachirus, with the aspect of the turbot, with two pectorals, the dorsal, caudal and anal united, and of a dark grey colour on the upper or right side.—*Mason.*

TURBUD. HIND. Ipomœa turpethum.

TURCHINA. IT. Turquoise.

TURCH-TEZAH. PERS. Garden cress.

TURCOMANIA. See Iran.

TURDINUS CRISPIFRONS. BLYTH. very like T. macrodactylus (Malacopteron macrodactylum, *Strickland,*) v. Brachypteryx albogularis.

TURDUS, the Thrush. M. Homeyer has discriminated the Missel Thrush, common in the W. Himalaya, from Turdus viscivorus of Europe, and has designated it T. Hodgsoni; it appears to be somewhat larger than the European bird, with more of the albescent hue on the outer tail-feathers.

Turdus iliacus. The 'Redwing' of Europe, W. Asia and Barbary, has been observed in large flocks in Kohat. It is migratory, breeding in the extreme north.

Turdus fuscatus, Pallas (Naumanni of *Temminck,*) species inhabiting Siberia and Japan, and straying rarely into Europe, has been once obtained in Nepal.

Turdus merula. The 'Blackbird' of Eu-

ope, W. Asia, N. Africa, Madeira, Afghanisan ? Kashmir ? China ? Females from Afghanstan and Chusan cannot be distinguished rom the common European blackbird ; it is ommon in the mountains surrounding Kashnir, at from 10,000 to 13,000 feet elevation The Prince of Canino has recently distinguished a nearly affined "Merula dactyloptera" rom Syria.

Turdus pilaris. 'The Fieldfare' of Eurpe and W. Asia, is migratory. One specinen has been killed at Saharunpur. In the Himalaya generally, it is replaced by T. atrogularis, a common bird of N. Asia, which occasionally strays into Europe and has been obtained so far west as in Denmark ; in ndia it occurs sparingly in Lower Bengal luring the cold season.

Turdus (or *Merula*) *simillima*, of the mounainous parts of S. India, and M. Kinnisii of hose of Ceylon, though nearly affined, are ufficiently well distinguished from the Blackbird of Europe. In the Himalaya generally, he latter is replaced by M. boulboul (pœcilopera of *Vigors*), which is not unfrequently brought in cages to Calcutta, where it is known s the 'Kastura.'

Turdus viscivorus, the 'Missel Thrush' of Europe, W. Asia : its representative in the W. Himalaya, T. Hodgsoni, appears to be constantly a little larger and has more of the whitish hue upon the outermost tail-feathers ; upon which slight differences, M. Homeyer listinguishes it by the name T. Hodgsoni.—*Cal. Rev. Adams. Jerdon.*

TUREEQUT. AR. the path (i. e., heaven.)

TUREH-TEZAK. PERS. Garden Cress, Lepidum sativum.

TURSA. HIND. Tamarix Indica.

TURFAN. See Arians.

TURFANI. See Wool.

TURI, Tawuri, T'hori or Tori, dwell in the Thuls of Dawudputru, Beejnote, Noke and Noakote and Oodur ; they own and hire out camels, but like the Bawuri and Khengar are great thieves, and are called "bhoot" or evil spirits and sons of the devil. See Kohat.

TURI. MAH. Tour. Dhal.

TURIA. HIND. Brassica juncea.

TURISHI. TEL. Turishu. TAM. Sulphate of copper. Blue stone.

TURI, also Bhoosa. HIND. Chopped straw.

TURIN. See Ken.

TURINA. See Turan.

TURISHKA, a name applied in India to the Turk tribes of High Asia. There are no records extant of the invasion of India in A.D. 381 by the Turki tribes, half a century after Mahmud's expedition from Zabulist'han against Cheetore, in the reign of rawul Khoman. See Turk ; Turkana.

TURIVA. See Turan.

TURK. Among the Arabs, this word was as vaguely applied as the word Scythian among the Greeks ; it was indiscriminately applied to the Tartars, the Cheremisse, the Morduin, and other tribes. Turk, applied to an Osmanli, is deemed derogative. The Kirghis, originally a small tribe settled in a remote corner of southern Siberia, on the banks of the Yenisei river, migrated or were removed in the 17th century to the shores of the Balkash and Isikul lakes. In their new abode they amalgamated with the Kasak and Burut, and absorbed a host of smaller tribes, the debris of the old Ghuz, Koman, and Kipchak, and have gone on increasing until their number is now nearly three millions of souls, and constitute almost the exclusive population of the steppe from the Ural river in the west to the Mongolian frontier on the east, and north and south from the Siberian line to the plateau of Pamir. Amongst hindoos, Turk means any mahomedan, and Turkabhahsha, any mahomedan tongue. See Aborigines, India, Iran, Kazzilbash, Sanscrit, Shaman, Tartar, Turishka, Turan.—*Turnerelli's Kazan, vol.* ii. *p.* 200.

TUR-KA-DHAL. HIND. Cajanus Indicus, *Spreng.* See Dhol ; Dhal.

TURKALANKARA. SANS. From tarka, the name of the nyana darshana, and alankara, an ornament.

TURKANA. Amongst the Rajpoots, means tribute. It is derived from the Hindi word Turk or Mahomedan, races who exacted tribute from the Rajpoots. See Turishka.

TURKARI. HIND. a vegetable.

TURKARIAN. Vegetable curries.

TURKHANI, or Turcolani. This tribe came to Sind and were in power from A. H. 962 to A. H. 1021. See Afghan.

TURKISTAN, Elchi, Yarkand, and Kashgar, are the three principal towns in Turkistan. Elchi, in L. 36° 50′ N. and L. 78° 20′ E. 5,500 feet. Yarkand, in L. 38° 10′ N. and L. 74° E. 4,200 feet. Kashgar, in L. 39° 15′ N. and L. 71° 50′ E. 3,500 feet. Elchi is represented to have the coldest, as Kashgar the hottest, temperature of the three towns throughout the year. Snow falls at Kashgar, but never remains longer than a few hours, but it is seen lying in Yarkand for three or four days together. See Jews, Kalmuck, Kirghis, Persian kings, India. Bokhara is an isolated kingdom in Turkistan of small extent surrounded by a desert. It lies between the parallel of 36° and 45° N. and 61° 67′ E. lon. It is an open champagne country of unequal fertility, and intersected by the Oxus on its southern border. Its rivers are the Amur or Oxus, the Sir

or Jaxartes, the Kohik or Zarafshan, and the rivers of Kurshi and Balkh. It is ruled over by an amir, now under Russia whose sway comprised between the 37° and 43° north lat., and between the 60° and 68° of east long. The Uzbek are undoubtedly the preponderating race in Bokhara, not so much from their number, as by the ties which bind them together. They are divided into stems and sections, like the Kirghiz, and have their elders, or beys, who enjoy a certain consideration among them. The Uzbek branches, with some of their subdivisions, are enumerated in the work called "Nassed Mameti Uzbekia."

Eastern Turkestan was subject to China from the beginning of the Christian era to the time of Changiz Khan; and after the middle of the 18th century, the Chinese regained possession of it. Eastern Turkistan is eminently mahomedan, and its rulers had always been mahomedan from the time of Taghalak Timur, who was, we are told, the first mahomedan sovereign of Kashgar of the lineage of Chinghiz. Buddhism indeed was found still prevalent in the cities of Turfan and Kamil at the time of the embassy of Shah Rukh in 1419, and probably did not become extinct much before the end of the century. But, in the western states, mahomedanism seems to have been universal from an earlier date and maintained with fanatical zeal. Saintly teachers and workers of miracles, claiming descent from Mahomed, and known as Khwaja or Hojah, acquired great influence; and the sectaries attached to the chiefs of these divided the people into rival factions, whose mutual hostility eventually led to the subjugation of the whole country. For, late in the seventeenth century Khojah Appak, the leader of one of those parties called the White Mountain, (having been expelled from Kashgar by Ismail Khan, the chief of that state, who was a zealous supporter of the opposite party or Black Mountain) sought the aid of Galdan Khan, sovereign of the Eleuth or Kalmuk race of Dzungaria. Taking the occasion so afforded, that chief, in 1678, invaded the states south of the Thian Shan, carried off the khan of Kashgar and his family, and established the Khojah of the White Mountain over the country in authority subordinate to his own. Great discords for many years succeeded, sometimes one sometimes another being uppermost, but some supremacy always continuing to be exercised by the khans of Dzungaria. In 1757, however, the latter country was conquered by the Chinese, who in the following year making a tool of the White party, which was then in opposition, succeeded in bringing the state of Turkestan also under their rule.

Chinese Tartary, also known as Bocharia, Little Bokharia, and Eastern Turkestan, is a great depressed valley shut in by mountains of great height on three sides, and on the east are barren sands which merge imperceptibly into the great desert of Gobi. The Tian-Shan range separate it from Dzungaria, the Bolor range from Transoxiana, and the Kara Koram and Kuen Lun from India and Tibet on the south. The land is clayey near the front of the mountain base, but sandy in the central tracts. Rain is rare, and the air is of exceeding dryness, but the climate is temperate and healthy. It is well watered from the mountains, the waters converging towards the Ergol or Tarym.

The country has gold, copper, salt, sulphur and the jade stone. The southern line of the caravan route passes through it from Khamil to Aksu and Kashgar. From Aksu to Kokand is 800 miles. Alti-shahr, or the six cities, forms the western district, comprising Yarkand, Kashgar, Khotan, Aksu, Yanghisar and Oosh-Turfan, with territories subordinate to each.

Chinese Turkestan includes the provinces of Yarkand, Kashgar and Khoten; Yarkand is the entrepot of trade between China and Bokhara; Khotan, from the time of Ctesias, has been celebrated for its mineral products, its jade and emeralds, its shawl wool and flax: it was at one time the entrepot of a vast trade with Hindustan, and now imports largely furs, broad cloth, leather, and sugar. The inhabitants of the country call themselves Turk, speak the Turkish language, and profess the mahomedan religion.

The people of Asia, who inhabit the countries which extend northwards to the Russian frontiers, westwards to the Caspian Sea, and southwards to Afghanistan, are for the greater part descendants of Turks, and it would be more proper to give to all these countries, the general name of Turkestan, dividing it into,

1st, Northern or Russian Turkestan, comprehending in it the three hordes of the Kirghis nation; 2ndly, Southern Turkestan, inhabited by the Khivan, Turkoman and Kara-kalpak, and including also Great Bucharia, Kokand, and Tashkend; 3rdly, Eastern Turkestan, comprising Little Bucharia, which is subject to China. The Chinese and Mancboo call by the name of "hoei hoei" all the mahomedan tribes who live under their dominion. This word, therefore, has ceased to designate a nation. As the Ouigour Hoei hoei, called simply Hoei hoei under the Mongol dynasty

 TURKO-TARTAR.

of Yunan, were mahomedans ; this name is applied by the Chinese to all those of the same religion, in the same manner as the Russians are often called Greeks, because they are of the Greek church. The inhabitants of the towns of Little Bucharia are in part descendants of the ancient Ouigour Hoei hoei, and consequently Turks, in part Sarti, or Bucharians, who are scattered as merchants all over central Asia, and who are Persians. There are many of them at Peking, Hangtcheoufou, Canton, and other commercial cities of China. Their mother tongue is Persian, but they also speak the oriental Turki, which is the general language of Turkistan, and the most diffused in Little Bucharia. The Ouigour writing character was the original source of those still used by the Mongol and Manchu, and was itself almost certainly derived from the old Syriac character through the Nestorians. The modern Tartar characters are written (and it is presumed, read) in vertical lines from top to bottom of the page, the lines succeeding each other from left to right. What Ouigour meant with Mongol authors is doubtful, but the people and language so called by the Western Asiatics were Turkish. Captain Valikhanoff speaks of the language now in use at Kashgar as being Uigur, but it is not clear whether he means that this term is known to the natives.—*Russians in Cent. Asia, p.* 67. *Yule Cathay* I. *p.* 206. *Timkowski's Journey to Peking, vol.* I. *pp.* 6, 378-79.

TURKO-TARTAR. The people of Turkestan are from two distinct sources, viz., the settled races, descendants of Semitic and Iranian conquerors from the south, and the races who have been occupying the country from pre-historic times. This latter part of the inhabitants have been styled Turko-Tartars. The people are in their habits the same as they were 2000 years ago. The Turko-Tartaric race stretches from the Polar sea to the Hindu Kush, and from the interior of China to the shores of the Mediterranean. Vambery divides the Turks who, from East to West occupy this extent, into

1. Burut, black or pure Kirghis.
2. Kirghis, properly Kazak.
3. Karakalpak.
4. Turkoman, and
5. Uzbek.

The Burut, pure or black Kirghis, dwell on the eastern boundary of Turkistan, viz. the valley of the Thian Shan chain of mountains, and they inhabit also several points on the shores of the Issik Kol, close upon the frontier chain of mountains. They are powerful, thick set, strong boned figures, but remarkably agile and have acquired much warlike renown. Their face is less flat than the Mongolian and Kalmuk, and less fleshy ; their foreheads somewhat higher, and their eyes are less almond-shaped than the Kalmuk : few of them have red or fair hair or a white complexion. The Burut are in contact with Kalmuk and Mongolians, and in consequence their language has many Mongolian words, and now and then they profess themselves more or less mahomedans, but shamanism largely prevails. The Burut is the wildest and most savage and most superstitious of them, but less malicious than the Kirghis and Turkoman. The Burut has not wholly abandoned shamanism, and knows little of mahomedanism.

The Turkoman is the fourth gradation of the Mongolian Turkish race, and in many respects they resemble the Kasak and Kara Kalpak. The pure Turkoman type as met with the Tekke and Chador tribe in the centre of the desert, is of middling stature, small oblong head, not high cheek bones, somewhat snub noses ; longish chins, feet turned in, with the bright, sparkling, fiery eyes, of the desert races, but more particularly the Turkoman. The blonde colour is common, indeed the Kelte race amongst the Gorgen Yomut are generally half blonde. The Goklen and other tribes near Persia evidence an intermixture with the Iranian Persian. The Turkoman is slender and agile, and they are hardy and enduring under privations. They early separated themselves from other Turko-Tartarian nations moving from Mangishlak in the east to the northwest and thence to the south. In their present country, the Salor and Sarik are the oldest tribes; after them the Yomut, who at one time ranged from north to south along the shores of the Caspian. The Tekke were transferred by Taimur to Akhal. The Ersari, at the close of the 18th century, moved from Mangishlak to the shores of the Oxus, and recently many of the Chadar moved to the other bank of the Oxus. The chief avocation is pillage. The men wear long locks till the close of the first year of their marriage. The women are handsome, and perfect beauties are to be seen, not inferior to the Georgians in growth and regularity of features. The young girls of all nomade tribes are good riders, but Turkoman women excel all the others. Turkoman women, amongst the nomades, wear heavy silver ornaments. They are the labourers of the community, are virtuous, devoted and much respected. Uzbek women go unveiled. Though settled in Central Asia for centuries past, the Uzbek still meditates on robbery and war, and if no foreign enemy be found, they attack each other in bloody inter-

nal strife. The Uzbek is honest, upright has much Turkish open-heartedness, they are proud of their education, and represent all the best side of the national character of the Turks.

The nomade Uzbek and Turkoman of Central Asia are largely engaged in a slave trade, stealing the Persians and selling them in Bokhara. The Uzbeks of Khiva practice it when driven towards Persia by the Turkoman, and of the Turkoman, the Tekke tribe capture the people of Khorassan, Herat, and Seistan, and the Yomut tribe, those along the southern shores of the Caspian, but the Salor, Sarik, Kara Chadar, and Alieli capture sheah Persians from the territory of the Persians.

The name by which Vambery designates these peoples is Turko-Tartar, from amongst whom came the warrior peoples known in the west as the Hun, the Avar, the Utigur, the Kutrigur and Khazar. And the manner of living, the customs and physical conditions, as then described, of the Tartar tribes whose arms reached from the Jaxartes to the heart of Rome and Gaul, have much resemblance to those of the present inhabitants of Turkestan ; and the people of Central Asia, particularly the nomade tribes, are in their social habits the same as they were two thousand years ago. In the tent of many a nomade chief a similar life is observable as that described by Priscus as prevailing at the court of the king of the Huns. Attila, Chengiz Khan and Timur, in historical character, resemble each other, and Vambery is of opinion that energy and good fortune could now almost produce on the banks of the Oxus and Jaxartes one of those warriors whose soldiers like an avalanche carrying everything before it, would increase to hundreds of thousands, and would appear as a new example of God's scourge, if the powerful barriers of Western civilization, which has great influence in the East, did not stop the way.

The Turk, wherever met with, is ever heavy and lethargic in his mind and body, but in his resolves, firm and steadfast, not from principle, but from apathy and aversion to change, and it is from these characteristics that his appearance is earnest and solemn, a profound seriousness, a marble cold expression of countenance, with a great inclination to pomp and magnificence. An Uzbek or Turkoman has a proud bearing as if possessed with a self-consciousness of greatness and power.

The Osmanli Turk's love of independence is boundless. He considers himself born to rule, that hunting and war alone are worthy of him, and husbandry is considered ignominious. In Central Asia, ag culture is exclusively in the hands of Persian slaves—commerce and business w the Tajik Hindu and Jew. The Turk intellectually the inferior of the Iranian Semitic nations. This defect is noticed by o nations who apply to them the terms Turk (Turkdom) Kabalik (coarseness), Yugu (thickness), and Sadeluk (simpleness), and these qualities, as the Osmanli is easily taken in by the Armenian, Greek and Arab, the Turk is as easily so by the Tajik and Hindu. In transactions the Turks are regarded as possessing more honesty, frankness and confidence, plainness, simplicity and uprightness. Compared with the Persians, the Turk is a faithful servant, attached soldier and upright man. They are more brave, persevering, and love more to rule than any other Asiatic people. They are unpolished, wild and uncultivated, but seldom cruel out of malice. They crave riches, but only to expend them. They exact much labour from their subordinates, but protect and deal liberally with them. The Turk is innately a nomade, and like other nomades is distinguished for hospitality.

In Balkh and near Andkhui the harvest is at the beginning of June ; in the oasis countries in July, in Kung rat and in the north of Khokand not till the beginning of August. Of the rivers, the Oxus is the most important, and the Zarafshan, Shahr Sabz, and Jaxartes follow. See Kirghis. —*Vambery's Sketches of Central Asia, pp.* 293 to 312.

TURKEY, a dominion in the east of Europe, west of Asia, and north of Africa, ruled by a race of Osmanli Turk, descended from Othman, who founded the empire in A. D. 1299. The population in Europe and Asia number 35,350,000, of whom 21 *millions* are mahomedans, with 14 millions of christians of the Greek and Romish church. The revenue is about 14½ millions of pounds. They consist of Osmanli Turks, Greeks, Armenians, Jews, Slave or Slavonians, Roumain, Albanian, Tartar, Arab, Syrian, Chaldeans, Druse, Kurd, Turcoman and Gypsies. A pastoral band *of four* hundred Turkish families was journeying westward from the upper streams of the *river* Euphrates. Their armed force consisted of four hundred and forty-four horsemen, and their leader's name was Ertoghrul, which means "The Right-Hearted Man." As they travelled through Asia Minor, they came in sight of a field of battle, on which two armies of unequal numbers were striving for the mastery. Without knowing who the combatants were, the Right-Hearted Man took instantly the chivalrous resolution to aid the weaker party ; and charging desperately and victori-

usly with his warriors upon the larger host, e decided the fortune of the day. Such, ccording to the oriental historian Neschri, is he first recorded exploit of that branch of he Turkish race, which from Ertoghrul's son, Othman, Osman, or Usman, has been called he nation of the Ottoman Turks, and the Osmanli. And in this, their earliest feat f arms, which led to the foundation of heir empire, we may trace the same spirit f haughty generosity, that has been their haracteristic down to our own times. The ittle band of Ertoghrul was a fragment of a ribe of Oghuz Turk, which, under Ertohrul's father, Sulaman Shah, had left their ettlements in Khorassan, and sojourned for time in Armenia. After a few years, they eft this country also, and were following the ourse of the Euphrates towards Syria, when heir leader was accidentally drowned in that iver. The great part of the tribe then disersed; but a little remnant of it followed wo of Sulaman's sons, Ertoghrul and Dundar, who determined to seek a dwellinglace in Asia Minor, under the Seljukian Turk, Ala-ud-din, the sultan of Iconium. The dversaries, from whose superior force they delivered him, were a host of Mongols, the deadliest enemies of the Turkish race. Ala-ud-din, in gratitude for this eminent service, bestowed on Ertoghrul a principality in Asia Minor, near the frontiers of the Bithynian province of the Byzantine emperors. The rich plains of Saguta along the eft bank of the river Sakaria, and the higher district on the slopes of the Ermeni mounains, became now the pasture-grounds of the father of Othman. The town of Saguta, or Saegut, was his also. Here, he and the sheperd-warriors who had marched with him from Khorassan and Armenia, dwelt as denizens of the land. Ertoghrul's force of fighting nen was largely recruited by the best and bravest of the old inhabitants, who became his subjects; and, still more advantageously, by numerous volunteers of kindred origin to his own. The Turkish race had been extensively spread through Lower Asia long before the time of Ertoghrul. Quitting their primitive abodes on the upper steppes of the Asiatic continent, tribe after tribe of that martial family of nations had poured down upon the rich lands and tempting wealth of the southern and western regions, when the power of the early khalifs had decayed like that of the Greek emperors. One branch of the Turks, called the Seljukian, from their traditionary patriarch Seljuk Khan, had acquired and consolidated a mighty empire more than two centuries before the name of the Ottomans was heard. The Seljukian Turks were once masters of nearly all Asia Minor, of Syria, of Mesopotamia, Armenia, part of Persia, and Western Turkestan: and their great sultans, Toghrul Beg, Alp Arslan, and Malek Shah, are among the most renowned conquerors that stand forth in oriental and in Byzantine history. But, by the middle of the thirteenth century of the christian era, when Ertoghrul appeared on the battlefield in Asia Minor, the great fabric of Seljukian dominion had been broken up by the assault of the conquering Mongols, aided by internal corruption. The word Turk has the same root as that of Turan, the country of the restless-horse-riding-nomade tribes, the great Turanian and Mongolian family, in contradistinction from the Aryan, Iranian or Indo-European race, and it is derived from the root "to-ar," to fly. The Turks are a very ceremonious people, and a people who think state and show indispensable; and any one by whom these are despised is looked upon by them as vulgar and ignorant, and unaccustomed to good society.

Orfa is the capital of a Turkish pashalik which extends in a north-west direction from the mouth of the Shat-ul-Arab to the rocks of Merdin, the Baghdad frontier towards Constantinople. In an east and west line, it stretches from the confines of Persia to the banks of the Khabour which separates it from the pashalik of Orfa (the Osrhoene of the Romans, and that part of Mesopotamia which contained the Harran of Abraham, and the famous Edessa of the crusades). Constantinople, the capital of Turkey, has ever been, from its central position, of importance to trade. When the mighty Roman empire was blotted out, not only the trade with India, but India itself was completely lost to the western world. But after some centuries, when the Genoese engaged in commerce and navigation, a new trade route had been opened up between India and Europe. The merchandise from the western part of India was now carried up the river Indus, as far as it was navigable, and then across country, through Samarcand, to the river Oxus, down which it was shipped to the Caspian Sea. In like manner the merchandise from China and the Moluccas was shipped across the Bay of Bengal, and up the rivers Ganges and Jumna, and then carried overland to the Oxus. Samarcand was then a great emporium, and the merchants of India, Turkey and Persia met there to exchange their wares. The ships sailed across the Caspian to the port of Astracan, at the mouth of the Volga. Thence the goods were carried up the river to the city of Novgorod in the province of Reizan (a city that must have been considerably to the south of the

famous Niji Novgorod of to day), then overland for some miles to the river Don, where they were loaded on barks and carried down stream to the Sea of Azoff, and on to the port of Caffa, or Theodosia, in the Crimea. Caffa belonged at that time to the Genoese, and they came there in their galliasses to fetch Indian commodities, which they distributed throughout Europe. A glance at the map will show what a costly and roundabout route this must have been, but the merchants of those days were clearly of opinion that there is nothing like water-carriage, and they made use of the rivers wherever they could. In the reign of Commodita, emperor of Armenia, a better route was discovered, the merchandise being transported from the Caspian Sea through Georgia to the city of Trebisond, on the Black Sea, whence it was shipped to all parts of Europe. This was doubtless the origin of the connection of the Armenians with the trade of India. So highly was this route approved of, that another Armenian emperor is said to have actually begun to cut a canal, 120 miles in length, from the Caspian to the Black Sea, for the greater convenience of the trade; but the author of this scheme was slain and the enterprise fell through.—*Rich's Residence in Koordistan, vol. i. p. 7. E. L. Creasy's History of the Ottoman Turks, p. 2.* See India, Khulm, Kouyun Jouk, Kurdistan, Kerman, Tartar, Turan.

TURKEY COMPANY. See Leeds.

TURKEY, or French Berries. See Dyes.

TURKI. See Ladak.

TURKISCH KORN, also Mays. GER. Maize.

TURKISH OLIBANUM. Mastic.

TURKISS. GER. Turquoise.

TURKISH ARABIA. The name given to the region around Baghdad. See Irak.

TURKOLUM. TAM. Calyptranthes jambolana.

TURKOMAN, the name given to the peoples occupying the country south of the Oxus or Turkistan, stretching from Balkh to the shores of the Caspian, and filling up the space between that sea and the Aral. On the south it is bounded by hills, the continuation of the Hindu Kush, and the Parapamisus of the ancients, and a line drawn from Balkh to Astrabad on the Caspian will separate the country of the Turkoman from that of the Afghans and Persians. On the south-eastern shore of the Caspian, the country is mountainous, but in all other places it is a flat sandy desert, into which the mountain streams, the Murghab and the Tejend, fall and are absorbed, and never force their passage to the Oxus. The Turkomans are exclusively nomade, in which they differ from the Uzbeks; the total number of families is 140,000. According to Sir John Malcolm, Turkoman is an abbreviated compound of Turk-manund: the latter term signifies "resembling." The Turkoman are a wandering and marauding race. They are divided into several tribes, often at feud with each other, and always hostile to the rest of mankind. The Persians fear and detest them, the fact of their being sunni mahomedans rendering them still more obnoxious in the eyes of the shiah Persians. The aggregate number of the Turkomans is not known. The Turkoman is a shepherd and neatherd; the warlike Kurd is pastoral and nomade; the Georgian is largely endowed both physically and mentally, but are less tenacious in purpose. Amongst their families are treasures of female beauty. The Turkoman inhabit the countries which lie between the eastern shore of the Caspian and the river Moorghab; this is the extreme length of their territory. There are some encampments of them beyond this river, but they are very few in number. In breadth they may be said to occupy the country from the line formed by the Goorghan and the prolongation of the Elburz chain (north of Boojoord, Deregex, Koochan and Meshed), up to the deserts of Khiva and Bokhara, and they are sure to be met with where the soil is fertile and well watered. A tribe or two, here and there, may also be seen on the banks of the Oxus. It is a rare occurrence to find them living in villages; when this happens they have been forced to do so by the sovereign who has subdued them. These people have been accustomed, from the most remote ages, to dwell in tents, which enables them to wander about with their flocks with greater facility. This mode of life is also a means of escaping from the Persian dominion, of which they have always been, and to this day remain, the most determined enemies. The wants of a Turkoman are few in number, a tent, called a khirgah, shelters the whole family, and this is of a superior manufacture to any thing of the kind made by the nomadic tribes of Persia. They can make these khirgah warmer than the best-built houses—a matter of some consequence to them, seeing how severe the winters are in the country they inhabit. The khirgah is conical in form, the frame-work being made of laths of hard wood interlaced one with the other, which can be opened or folded up at pleasure, according as they wish to camp or decamp; a camel, or at most two, is able to carry this tent. Thick felts are stretched either entirely or partially across this framework, according as the Turcoman may wish to avoid the burning rays of the sun or protect himself from the rain or cold: they are very

commodious, and of all sizes, and a high price is given for them by some of the Persian nobles.

The Turcoman, whose principal occupation consists in making chap-aouls, or raids, upon the Persians, belong to the three following tribes.

The Yamood, settled beyond the river Attrak, near the shores of the Caspian Sea, and between this and Khiva, consisting of 25,000 families. They are the least ugly of the Turkoman tribes.

The Goklan, on the banks of the Goorghan and the Attrak, between Astrabad and the Attrak consisting of 12,000 families.

The Tekie, who are separated from the Kurds by a chain of mountains which extend from the sources of the Goorghan and the Attrak near Sharaks, consisting of 35,000 families. They wander between the sources of the Attrak and the town of Merv.

The Turcoman are of a Turk race, which, in the 11th and 12th centuries, overran Bokhara, Northern Asia, and, on the westward of the Caspian Sea, Armenia, Southern Georgia, Shirvan and Daghistan. They lead a nomade life, and compose the principal part of the population of these countries, where they are called Tarekameh, Turkmen, and Kizilbashi. To explain the name of Turcoman, the Persians relate, that the Turk tribes, at the time of their invasion of Khorasan, had married the women of the country, and that to their descendants were given the name of Turcoman, which means, like the Turks. This specious etymology appears very paradoxical, since the hordes of this people, who speak Turkish, and have remained beyond the Jihon, also call themselves Turcoman. Klaproth thinks the name rather derived from Turk and Coman, and given to that part of the Coman nation which remained on the east of the Caspian Sea, under the domination of the Turks of the Altai, while another part, which was independent, came and established itself in the vast plains to the westward of that sea, and to the north of the Sea of Azof, and who afterwards pushed forwards into Hungary.

The steppes of Turcomania are very favourable to the development of the equine race, the pasturage and artificial grasses grow in dry soils, having no other nourishment than the winter snows. The fodder thus produced is much more sweet and nutritious than that of the more moist and temperate climates. It produces in their horses a higher temperature and better condition of the blood, as well as a peculiar elasticity and strength of nerve and muscle perfectly wonderful. Green food is produced on these steppes only in the spring; at that season the Turcoman refrain from making any expeditions, and this state of abnegation continues to the end of July. During this period they have time to gather in their crops, and their animals rest those limbs which have so well done their duty the previous season. From the month of August up to the winter they are kept on dry food; this consists of seven pounds of barley per diem, mixed with dry chopped straw, lucerne, sainfoin or clover-hay, unless a chap-aoul is coming off, in which case the horse is put upon half forage.

The Turcoman horses are a modification of the Arab breed, and as good in every respect as the famous horses of the desert. They differ, however, in respect to height, and their form is more developed. Tamerlane introduced new blood by dispersing amongst the tribes 4200 mares, which he had selected in Arabia from the very best breed. Afterwards, Nadir shah renewed this cross with 600 mares, which he confided exclusively to the Tekie tribe. The horses of this tribe are now held in the highest estimation in all Turcomania, especially those from the district of Akhal. The next in reputation after the Tekien horses are those of Mero-Shah Jehan, the horses of the Yamood and the Goklan, and the race of the Moorghab, of the Hazarah, the Uzbek of Meimana, Shibberghan, &c. In the interesting little work by general Daumas on the horses of the Sahara, are a number of curious notes and answers by Abdul Kadr. On being asked how many days the Arab horse can march without resting or being injured, he answered, that if the horse has as much barley as he can eat, he will perform 16 parasangs (64 miles) a-day for three or four months, without a single day's rest. He also states that he has known a horse go from Tlemsen to Mascara in a single day, a distance of about 50 parasangs (200 miles). After such a journey he says the horse ought to be spared the next day. General Daumas relates several anecdotes, within his own knowledge, of Arab horses having gone distances of 70 and 80 leagues, from 170 to 200 miles, in 24 hours.

The Turkoman inhabitants of the deserts, who formed part of the host of Timur, have ever been famous for their terrible inroads into the Persian province of Khorasan. They are Turkomans of the Sooni creed, a cruel and rapacious race, and always prefer fighting to facing a superior force. The arms of the Turkoman are a spear ten feet long and a sword. They are excellent horsemen, and pass their lives in pillage and rapine. Their raids are called chapao. When a chief de-

termines upon making one, a month is given to his followers to get their horses into proper condition. Spies are sent out and on news being brought, the whole party gallops swiftly on the prey, whether caravan or village. In a few minutes all is over, the people carried off into slavery, and the village burnt. The prisoners are tied to the saddle bows of the captors and are treated with horrible cruelty until they are finally sold in the slave markets of Khiva. The horses of the Turkoman have been known to go over six hundred miles in six days.

The desert between Khiva and Merv, is a broken and irregular surface of deep sand with a small growth of brushwood affording excellent fuel, and the thorny herb which the camel loves.

Of the languages belonging to the third branch of the Turanian family, the most prominent among them is the Turkish or Osmanli of Constantinople. The number of the Turkish inhabitants of European Turkey is indeed small. It is generally stated at 2,000,000, but Shafarik estimates the number of genuine Turks at not more than 700,000, who rule over fifteen millions of people. The different Turkic dialects, of which the Osmanli is one, occupy one of the largest linguistic areas, extending from the Lena and the Polar Sea, down to the Adriatic.

The most ancient name by which the Turkic tribes of Central Asia were known to the Chinese was Hiung-nu. These Hiung-nu founded an empire (206 B.C.) comprising a large portion of Asia, west of China. Engaged in frequent wars with the Chinese, they were defeated at last in the middle of the first century after Christ. Thereupon they divided into a northern and southern empire; and after the southern Hiung-nu had become subjects of China, they attacked the northern Hiung-nu, together with the Chinese, and, driving them out of their seats between the rivers Amur and Selenga, and the Altai mountains, westward, they are supposed to have given the first impulse to the inroads of the barbarians into Europe. In the beginning of the third century, the Mongolic and Tungusic tribes, who had filled the seats of the northern Hiung-nu, had grown so powerful as to attack the southern Hiung-nu and drive them from their territories. This occasioned a second migration of Asiatic tribes towards the west. Another name by which the Chinese designate these Hiung-nu or Turkish tribes is Tu-kiu. This Tu-kiu is supposed to be identical with Turk, and, although the tribe to which this name was given was originally but small, it began to spread in the sixth century from the Altai to the Caspian, and it was probably to them that in 569 the emperor Justinian sent an ambassador in the person of Semarchos. The empire of the Tu-kiu was destroyed in the eighth century, by the Hui-he (Chinese Kao-che). This tribe, equally of Turkish origin, maintained itself for about a century, and was then conquered by the Chinese and driven back from the northern borders of China. Part of the Hui-he occupied Tangut, and, after a second defeat by the Mongolians in 1257, the remnant proceeded still further west, and joined the Uigur, whose tents were pitched near the towns of Turfan, Kashgar, Hamil, and Aksu. These facts gleaned chiefly from Chinese historians show from the very earliest times the westward tendency of the Turkish nation. In 568, Turkish tribes occupied the country between the Volga and the Sea of Azov, and numerous reinforcements have since strengthened their position in those parts. The northern part of Persia, west of the Caspian Sea, Armenia, the south of Georgia, Shirwan, and Dagestan, harbour a Turkish population, known by the general name of Turkman or Kisil-bash (Red-caps). They are nomadic robbers, and their arrival in these countries dates from the eleventh and twelfth centuries. East of the Caspian Sea the Turkoman tribes are under command of the Uzbek khans of Khiva, Fergana, and Bokhara. They call themselves, however, not subjects, but guests of these khans. Still more to the east, the Turkomans are under Chinese sovereignty, and in the south-west they reach as far as Khorasan and other provinces of Persia. The Uzbeks, descendants of the Hui-he and Uigur, and originally settled in the neighbourhood of the towns of Khoten, Kashgar, Turfan, and Hamil, crossed the Jaxartes in the sixteenth century, and after several successful campaigns gained possession of Balkh, Kharism (Khiva), Bokhara, and Ferganah. In the latter country and in Balkh they have become agricultural; but generally their life is nomadic, and too warlike to be called pastoral. Another Turkish tribe are the Nogai, west of the Caspian, and also north of the Black Sea. To the beginning of the seventeenth century they lived north-east of the Caspian, and the steppes on the left of the Irtish bear their name. Pressed by the Kalmuk, a Mongolic tribe, the Nogai advanced westward as far as Astrachan. Peter I. transferred them thence to the north of the Caucasian mountains, where they still graze their flocks on the shores of the Kuban and the Kuma. One horde, that of Kundur, remained on the Volga, subject to the Kalmuk. Another tribe of Turkish origin in the Caucasus are

the Bazianes. A third Turkish tribe in the Caucasus are the Kumiik, on the rivers Sunja, Aksai, and Koisu.

The southern portion of the Altaic mountains has long been inhabited by the Bashkir, a race considerably mixed with Mongolic blood, savage and ignorant, subjects of Russia, and mahommedans by faith. Their land is divided into four roads, called the roads of Siberia, of Kasan, of Nogai, and of Osa, a place on the Kama. Among the Bashkir, and in villages near Ufa, is now settled a Turkish tribe, the Mescherak, who formerly lived near the Volga.

The tribes near the lake of Aral are called Kara-kalpak. They are subject partly to Russia, partly to the Khans of Khiva.

The Turks of Siberia, commonly called Tatar, are partly original settlers who crossed the Ural, and founded the khanat of Sibir, partly later colonists. Their towns are Tobolsk, Yeniseisk, and Tomsk. Separate tribes are the Uran'hat on the Chulym, and the Barabas in the steppes between the Irtish and the Ob.

In the north-east of Asia, on both sides of the river Lena, the Yakut form the most remote link in the Turkic chain of languages. Their male population has lately risen to 100,000, while in 1795 it amounted only to 50,066. Their original seats seem to have been north-west of Lake Baikal.

Southern Siberia is the mother country of the Kirgis, one of the most numerous tribes of Turko-Tataric origin. The Kirgis lived originally between the Ob and Yenisei, where Mongolic tribes settled among them. At the beginning of the seventeenth century the Russians became acquainted with the Eastern Kirgis, then living along the Yenisei. In 1606 they had become tributary to Russia, and after several wars with two neighbouring tribes, they were driven more and more south-westward, till they left Siberia altogether at the beginning of the eighteenth century. They now live at Burut, in Chinese Turkestan, together with the Kirgis of the "Great Horde," near the town of Kashgar, north as far as the Irtish.

Another tribe is that of the Western Kirgis, or Kirgis Kasak, who are partly independent, partly tributary to Russia and China.

Of what are called the three Kirgis Hordes, from the Caspian Sea east as far as Lake Tenghiz, the Small Horde is fixed in the west, between the rivers Yemba and Ural; the Great Horde in the east; while the most powerful occupies the centre between the Sarasu and Yemba, and is called the Middle Horde. Since 1819, the Great Horde has been subject to Russia. Other Kirgis tribes, though nominally subject to Russia, are really her most dangerous enemies.

The Turks of Asia Minor and Syria came from Khorasan and Eastern Persia, and are Turkomans, or remnants of the Seljuk, the rulers of Persia during the Middle Ages.

The Osmanli, whom we are accustomed to call Turks par excellence, and who form the ruling portion of the Turkish empire, must be traced to the same source. They are now scattered over the whole Turkish empire in Europe, Asia, and Africa, and their number amounts to between 11,000,000 and 12,000,000. They form the landed gentry, the aristocracy, and bureau of Turkey; and their language, the Osmanli, is spoken by persons of rank and education, and by all Government authorities in Syria, in Egypt, at Tunis, and at Tripoli. In the southern provinces of Asiatic Russia, along the borders of the Caspian, and through the whole of Turkestan, it is the language of the people. It is heard even at the court of Teheran, and is understood by official personages in Persia. The ancestors of the Osman Turks are men as well known to European historians as Charlemagne or Alfred. It was in the year 1224 that Sulaman-shah and his tribe, pressed by Mongolians, left Khorasan and pushed westward into Syria, Armenia, and Asia Minor. Sulaman's son, Ertoghrul, took service under Ala-ud-din, the Seljuk sultan of Iconium (Nicœa), and after several successful campaigns against Greeks and Mongolians, received part of Phrygia as his own and there founded what was afterwards to become the basis of the Osmanic empire. During the last years of the thirteenth century the sultans of Iconium lost their power, and their former vassals became independent sovereigns. Osman, after taking his share of the spoil in Asia, advanced through the Olympic passes into Bithynia, and was successful against the armies of the emperors of Byzantium. Osman became henceforth the national name of his people. His son, Or-khan, whose capital was Prusa (Bursa), after conquering Nicomedia (1327) and Nicœa (1330), threatened the Hellespont. He took the title of padshah, and his court was called the "High, or Sublime, Porte," the Bab-ul-makaddas. His son, Sulaman, crossed the Hellespont (1357), and took possession of Gallipoli and Sestos. He thus became master of the Dardanelles. Murad I. took Adrianople (1362), made it his capital, conquered Macedonia, and, after a severe struggle, overthrew the united forces of the Slavonic races south of the Danube, the Bulgarians, Servians, and Kroatians, in the battle of Kossova-polye (1389). He fell himself, but his successor Bayazeth, fol-

lowed his course, took Thessaly, passed Thermopylæ, and devastated the Peloponnesus. The emperor of Germany, Sigismund, who advanced at the head of an army composed of French, German, and Slavonic soldiers, was defeated by Bayazeth on the Danube in the battle of Nicopolis, 1399. Bayazeth took Bosnia, and would have taken Constantinople, had not the same Mongolians, who in 1244 drove the first Turkish tribes westward into Persia, threatened again their newly acquired possessions. Timur had grasped the reins fallen from the hands of Chingis Khan : Bayazeth was compelled to meet him, and suffered defeat (1402) in the battle of Angora (Ankyra) in Galatia. Europe now had respite, but not long ; Timur died, and with him his empire fell to pieces, while the Osmanic army rallied again under Mahomed I. (1413), and re-attained its former power under Murad II. (1421). Successful in Asia, Murad sent his armies back to the Danube, and after long-continued campaigns, and powerful resistance from the Hungarians and Slaves under Hunyad, he at last gained two decisive victories, Varna in 1444, and Kossova in 1448. Constantinople could no longer be held, and the Pope endeavoured in vain to rouse the chivalry of Western Europe to a crusade gainst the Turks. Mahomed II. succeeded in 1451, and on the 26th of May, 1453, Constantinople, after a valiant resistance fell, and became, as now, the capital of the Turkish empire.

The modern distinction of Turk and Tajik, which, in its literal meaning, denotes men of military and men of civil pursuits, has existed from the most early ages in this extended country. Tajik is always applied to unwarlike peasants and citizens.—*Malcolm's History of Persia, vol.* i. *p.* 125 ; *vol.* ii. *p.* 226, 240. *Muller's Lectures, pp.* 293 *to* 295, *Ferrier Journ, p.* 87. See Argan, India. Iran, Karakul, Kelat, Khiva, Khanat, Kirgis, Mesopotamia, Tartar, Turan.

TURKA. SANS. From tarka, to infer.

TURMERIC.

Zur-sud, Tumr,	AR.	Curcuma,	LAT.
Uruk-us-safar,	,,	Cypira herba indica,	PLINY.
Hurridra,	BENG.	Kunir, Kunit,	MALAY.
Haldi,	,,	Kunbet,	,,
Than-u-wen,	BURM.	Mangella-cua,	MALEAL.
Arsina,	CAN.	Zard-chobeh,	PERS.
Keang-whang,	CHIN.	Karkum,	,,
Hulud,	DUK.	Peeta, Haridra,	SANS.
Tumr,	EGYPT.	Haradul,	SINGH.
Kupeiros Indicos,	GR.	Haran-haha,	,,
Hallad, Haldi,	HIND.	Munjal,	TAM.
Daru-hallad (inferior)	,,	Pampi,	TEL.
Kurkum,	HEB.	Passapu,	,,
Turtumaglio,	IT.		

Turmeric derives its name from "terra merita." Turmeric is the ground tubers of Curcuma longa, C. rotunda, C. angustifolia, C. viridifolia and C. zedoaria. It is extensively grown throughout the East Indies, China and the Archipelago, for home consumption and for export. The bulbs are small and furnished with numerous long palmate tubers, internally of a deep orange colour. There are two descriptions of tubers, the one round, the other long ; but both are yielded by the same plant. The first are round, oval or ovate, about two inches long, and one inch in diameter, pointed at one end, and marked externally with numerous annular wrinkles. The second are cylindrical, not exceeding in thickness the little finger, two or three inches long, somewhat contorted, tuberculated. Both kinds are yellowish, externally more or less orange yellow, passing into reddish-brown. The factured surface has a waxy appearance. The odour is aromatic, somewhat analogous to giuger, but peculiar ; the taste is aromatic. When chewed, it tinges the saliva yellow. Its powder is orange yellow. The tubers are frequently worm-eaten. Turmeric is used in dyeing a yellow colour, which is not however very permanent, and it is also largely used as a condiment in curries.

China turmeric consists of smooth, plump, round, and long tubers, of a greenish hue externally. They yield a bright powder, and on that account are much preferred for medical purposes. Thence they fetch a higher price than any other sorts of turmeric.

Bengal turmeric consists of long thin or narrow tubers, which are moderately smooth externally, of a greyish dull yellow colour, and break with a deep reddish fracture. It fetches a higher price than the Madras sort, on account of its being a much stronger dye.

Madras turmeric is the most showy. It consists principally of large long tubers, but mixed with transverse sections of round tubers. Externally the tubers are marked by longitudinal wrinkles, the surface of which is rubbed and bright yellow, internally the colour is that of a fresh fractured surface of gamboge. Specimens were exhibited at the Madras Exhibition of 1855 from Trichinopoly, Tinnevelly, Madura, &c.

Malabar turmeric and Bombay turmeric consist principally of long tubers, the round tubers being few, and of a very inferior quality. This sort of turmeric is smaller and more shrivelled than the Madras sort, but otherwise somewhat resembles it.

Java turmeric may be said to resemble the China sort. It consists of both round and long tubers, but chiefly the latter. They have a greenish-yellow hue.

Batavian turmeric, round tubers, said to be from Java. Dr. T. Martius notices this sort

s having been brought, for many years, from ɜatavia, and adds that it contains much olouring matter, and is probably the produce of Curcuma viridiflora.

The composition of turmeric in 100 parts in ohn's Analysis, is shown in the following—

'ellow volatile oil.......1	Gum.................... 14
urcumin...... 10 to 11	Woody fibre........... 57
'ellowextractive 11 to12	Water and loss... 7 to 5

Vogel and Pellitier's Analysis.

ιcrid volatile oil.	Starch.
'urcumin.	Woody fibre.
ɜrown colouring matter.	Chloride of calcium.
ɫum a (little)	Turmeric.

Curcumin is the resinous colouring matter ɩf turmeric, which is soluble only in ether. 'urmeric is free of duty. Wholesale price, ɩs. to 14s. per. cwt.

The kinds that are best suited for dyeing are not so good for eating, and vice versa. ' Amba haldi" is the term applied to the ɩyer's turmeric. Turmeric is grown like ginɡer from cuttings, or sets, which are little ɩieces of the fresh root cut up and planted.

In India amongst mahomedans and hindoos, fter betrothment and before marriage, the ɩody is anointed with turmeric both in pubc and in private. Amongst hindoos, when hey for the first time wear a new cloth r dress, they stain its four corners with turɩeric, to ward off the evil-eye and guard gainst malignant spirits.—*Hassal Food and ts Adulterations, p.* 296. *Mason's Tenasserim, Birdwood Bombay Products, Madras Ex. ur. Reports. Poole's Statistics of Commerce. Simmonds. Powell Hand Book. vol.* 1. *p.* 99. *Wilson's Glos.*

TURMERIC TREE. Coscinum fenestraum, *Coleb.*

TURMUJ? BENG. Turmuz. HIND. Cucurita citrullus, *Linn.* Citrullus cucurbita, *Schrœd.*

TURMUZ. HIND. Lupinus albus.

TURN-ABOUT ISLAND, in lat. 26° 26′ N., and long. 114° 59′ E., on the east coast f China.

TURNER, CAPTAIN, was deputed by Warren Hastings in 1783, on a second mission to 'ibet, but was prevented reaching Lhassa y the state of the Government.

TURNERACEÆ, *D.C.*, an order of plants, ncluding two species of Turnera.

TURNING LATHE of India, in its simplest orm, consists of two pegs or pieces of wood riven into the ground, with a short iron peg rojecting from each inwardly; these constitute the centres. When the centres get slack, he pegs, or heads of the lathe as they would e called, are driven a little firmer and furher in; or should this not suffice, the pegs are ulled up and driven into fresh ground. The est consists of a cross piece of wood with a handle like a wooden mattock or coal-rake. This is placed in front of the lathe and steadied by the foot. The work to be turned is spun backwards and forwards by a bow held in the right hand: the tool is managed with great dexterity by the left hand and foot, the rest being steadied by the right foot. The native workman is almost literally quadrumanous, and can make his feet and toes almost as serviceable as his hands and fingers. The lathe costs about Rs. 2, and a native workman will turn out on this as much rough work as an Englishman will on the best footlathe. The tools mainly consist of short bars of steel sharpened at both ends, each end being used alternately; an old file, or anything else that will cut. They have seldom a good edge—they are set on a fineish-grained sandstone, not capable of making them very sharp. A better variety of lathe has the two heads coupled together by a bar, and made fast by wedges: the other arrangements are the same in both. From these two, bed-posts and pieces of wood, from a quarter of an inch to eight inches in diameter, are turned out. Instead of being painted, the works are lacquered on the lathe by holding on a piece of resin coloured with some mineral paint. They give, in this way, at a most insignificant price, the effect of highly polished varnished work. The lathe with one centre and chucks for turning hollow cups and fancy work, is a much more perfect and highly finished implement than the lathes of two centres. It consists of a strong platform of wood, from two to three and a half inches thick, and one by one and a half or two feet square. The heads are morticed into this: an iron post secures the spindle end—the other works with a wooden collar and washer. The chuck is fastened on without screwing. Like the other lathes, it is worked with a bow, but the bow itself in this case is a neat and well finished implement. The tools and mode of working are the same, or nearly so, in all. In this lathe, the most beautiful ebony and ivory work is turned with singular neatness and speed; and we should say a native would beat any European with this variety of implement. They turn off with celerity beads, spheres, balls, boxes, backgammon men, and plain chessmen,—for each of which half a dozen of turns seem to suffice.—*Dr. Buist in Bombay Times.*

TURNIPS, Brassica rapa, require a free light soil; the manure applied to the soil ought to be kept near the surface; one variety, the yellow Maltese, is worthy of a trial on the plains; raised from seed, sown broad cast, when the plants have formed a few leaves, they should be thinned to about 6 inches

apart; used in soups, stews, &c. Turnips are cultivated in all parts of the Deccan at the commencement of the rains and the cold weather. They continue until the latter end of February, and go to seed easily.—*Riddell. Jaffrey.*

TURNOULI. An Afghan race, who chiefly belong to Hazara, but they hold lands on both sides the Indus. They leagued with the Jadoon tribe of the Mahaban, and with the Chuggerzye, Hussunzye and other northern Pathan tribes, they proved most formidable opponents to the Sikhs. The district of western Turnouli is a petty principality, with a geographical area of 250 miles south-east, and a revenue of rupees 28,000 per annum, held as a fief from the Indian government, and its chief possesses independent internal jurisdiction. The tract chiefly lies on the left bank of the Indus, a portion only being on the right bank, and confronts the Hussunzye country. It is inhabited chiefly by the Turnouli, a tribe of martial Pathans. A recent chief, Payuda Khan, was a wild and energetic man, and was never subjugated by the Sikhs or by the Jummoo rajahs. His son, Jehandad, though loyal and respectable, was wanting in moral and physical force. He behaved well to Gholab Sing at a time when that chief had no friends in Hazara, and was confirmed in his fief and received some additional landed grants.

TURNOUR, George, son of the Honorable George Turnour the first Earl of Winterton, was born in Ceylon, in 1799, educated in England, and entered the Ceylon Civil Service in 1818. He wrote on the Buddhist History of Ceylon, and Indian Chronology, in vols. v. and vi. of Bengal As. Soc. A series of essays on the Pali Buddhistical Annals. But his great work was his translation of the Mahawansa. He died at Naples 10th April 1843.

TURON BAY lies to the north-westward of Cham Callao Island in Cochin-China, and is called by the natives Han-san.

TUROOI. Beng. Hind. Luffa acutangula.

TUROO-LUTA. Beng. Ipomœa quamoclit.

TURPANA, properly written Tharpana. Amongst the hindoo races of India, a water oblation, an oblation offered to the gods before eating. The hindoos, at the time of bathing, present water daily to the gods, to the sages, to the yaksha, naga, gandhurva, apsara, asoora, vidyadhara, pishacha, siddha, and to their deceased ancestors. This water oblation they call tharpana, and it should be performed three times a day. Brahmins wash the whole body before eating; the Kshutree, Vaishya and Sudra only the hands and feet. They then assume the yellow silk vestment, which covers them from the waist downwards, and is the sole article of dress worn at meals. In Guzerat, each person has a small oblong wooden stool to sit upon, and the food is placed on a similar stool or short-legged table. The vessels used are brass or copper—a flat round dish, containing bread and preserves, or condiments, and two or three cups of pottage and vegetables. The water-vessel, of silver or brass, with a small drinking cup set upon it, stands on one side. The second course is composed of rice and curds, or similar food. On great occasions, however, the fare is more varied and costly. Ablutions after meals are confined to the hands and face. The men of the family eat at the same table, then the women clean the same vessels, and use them for their own breakfast. The servants take their food after the family breakfast is finished, and they use different vessels. The men chew betel-nut after meals. They strive to avoid the incurring defilement from the touch of a person of lower caste. Such pollution, however, when it occurs, is remediable by the use of "punch guvya," or the five articles derived from the cow, and by fasting for the remainder of the day. The second meal, which is a lighter one, is eaten at about eight in the evening. A brahmin traveller preparing for dinner makes a place called "choko," the floor of which he spreads with cow-dung and earth, moistened with water. When at home, his own "rusodo" or cooking-room, is the place employed, but if necessary, the choko may be made under the shade of a hedge by the way-side, or in any other convenient place. Upon the choko he raises a little temporary stone, which he smears in like manner with cow-dung, and thereupon he cooks his food. The Poorbeea, or eastern brahmins, carry their exclusive notions upon this point to such a length that brothers even are forbidden to use the same choko, nor may one take fire from the stone of another. Hence the saying, "Twelve Poorbeea and thirteen choko," because with that number of brahmins an extra stone would be required for the fire alone. The brahmin, when his food is ready before eating, performs the tharpana, that is to say, he fills a copper cup with water, and puts therein a few grains of barley, some sesamum, leaves of the sacred basil tree, sandal, &c., then holding some sacrificial grass, he fills his joined hands with water, which he pours back again into the cup, saying, "I offer (make turpun of) this water to all the Dev." He proceeds to make similar offerings of water to men, animals, trees, rivers, seas, to the bhoot,

prat, reeshee, progenitors, and other." Then he mentions the names, as many as he can recollect, of his father's ancestors, his mother's ancestors, and his own deceased friends. He now performs the homa, or fire-sacrifice, by throwing a portion of rice and clarified butter into a little copper or earthen vessel, containing fire, repeating, while so employed, the names of the Deva. The brahmin sets aside five portions of food, for cows, beggars, dogs, ants, and sparrows. He then takes a little of each dish, and offers it to the Deo, in a vessel containing five divisions. He now sits down to his breakfast; but, before commencing, repeats the gayatri over a handful of water, with which he sprinkles his own food, and three portions which he sets apart for Bramha, Vishnu, and Siva The first five mouthfuls he swallows are for the "Punch-pran," or five airs supposed to be in the body and necessary to existence. At the conclusion of his repast, he deposits upon the ground a little of what remains, as an offering on behalf of the spirits residing in hell. Long practice enables the brahmin to acquit himself of the performance of this very elaborate and painful ceremonial in less time than is occupied in the description. Brahmins frequently consider it necessary that they should observe practices of peculiar difficulty in order to maintain their superiority over the other castes. Of these the most strict is an observance of the Nagur brahmins, called "Nuven," or purity in regard to food. The brahmin, having bathed, dresses himself in silk or woollen clothes, or if he require to use cotton garments, these must be dipped in water, wrung out, and dried in some place where nothing impure can touch them. Thus habited, he sits down to dinner, but he must preserve himself from numerous accidents which would render him impure, and compel him to desist from his meal. If he touch an earthen vessel he is defiled, unless the vessel have never contained water. The touch of a piece of cotton cloth, or of a piece of leather or paper, which he may accidentally have sat down upon, renders him impure, but if hindoo letters have been written on the paper they preserve him from defilement, because they represent Saraswati, the goddess of learning, the sakti of Brahma. If, however, letters be written on cloth or leather, these remain impure. Thus if the Gita, or any other portion of scripture be required for use at the time, it must be bound with silk and not with cotton, leather must be avoided, and instead of common paste of flour and water, the book-binder must employ paste of pounded tamarind seed. A printed book will not answer the brahmin's purpose, because printing ink contains impure water. Some think that the touch of deer-skin does not defile. Raw cotton does not render the brahmin impure, but if it have been twisted for the wick of a lamp by a person not in the state of "Nuven" it does; and again, if it have been dipped in oil or clarified butter it does not. Bones defile, but women's ivory armlets do not, except in those parts of the country where they are not usually worn, and then they do. The touch of the child of the same caste who has not learned how to eat grain does not defile, but if the child have eaten grain it does. The touch of a donkey, a dog, or a pig defiles, some say that the touch of a cat also defiles, others are inclined to think that it does not because, in truth, it is not easy to keep the cat out. If a brahmin who is in 'Nuven' be eating, or if he have risen from eating, the touch of his person defiles another brahmin who is in 'Nuven,' but has not begun his dinner.—*Forbes' Ras Mala or Hindoo Annals, vol.* ii. *from p.* 256 *to* 259. See Hindoo. Manners.

TURPANI. HIND. Viscum album.

TURPENTINE.

Ratenuj-rumi,	AR.	Trementina,	IT.
Butum,	"	Terebinthina,	LAT.
Terebenthine,	FR.	Zungbari,	PERS.
Turpentin,	GER.	Terpentyna,	POL.
Turpintine,	GUZ.	Skipidar,	RUS.
Kelon-ka-tel,	HIND.	Kota,	NEP.

Turpentine is obtained in the north of Europe, America and in the Himalayas, from species of Larix of Abies and Pinus, or the fir and pine and larch trees, as also from trees of the genus Pistacea in Canada. The Abies excelsa, the Norway Spruce Fir, yields the Burgundy pitch of commerce; the Canada balsam is from the Abies balsamea; Venice turpentine is obtained from Larix europæa; common turpentine is obtained from Pinus sylvestris, and other species of pine and fir, as also from the Pistacea terebinthus. The Pinus morinda of the Himalayas yields spontaneously a very fine resin. Cedrus deodara or Himalayan Cedar, is an elegant and lofty tree, hardy as the larch, and yielding valuable timber. It has been extensively introduced into England by the East India Company, and is interesting as having been long employed in medicine by the hindoos, and known even to Avicenna. Its turpentine, known by the name kelon-ka-tel, is in great repute in the north-west of India, from its stimulant properties and power of healing deep-seated ulcers, as in elephants and camels. —*Royle Productive Resources of India.*

TURPENTINE OIL.

Oil of Turpentine,	ENG.	Turpentine,	HIND.
Eau de rase,	FR.	Acqua di rasa,	IT.
Huile de terebenthine,	"	Aguarras,	SP.
Turpentinöl,	GER.		

This essential oil is drawn from turpentine by distillation. There are two sorts; the best, red, and the other white. That distilled from the turpentine of the common long-leaved fir of the Himalayas, is of very superior quality. Turpentine oil is extensively used in the manufacture of varnishes, &c.—*McCulloch, Royle's Productive Resources of India.*

TURPHYLA. YUNANI. Eulophia virens, *R. Br.*; *W. Ic.*

TURQUESA. SP. Turquoise.

TURQUIA. SP. Maize.

TURQUOISE. ENG. FR.

Turkiss,	GER.	Turchina,	IT.
Ferozah,	HIND.	Turquesa,	SP.

Found at Khojend in Mawar-al-nahr or Trans-Oxiana, at Shebavek, in hills near Shiraz, in the Tibet hills, in Kirman, and in a mountain of Azerbijan, where the mine was discovered about fifty years before Ahmed bin Abd ul Aziz composed his Treatise on Jewels. He describes the mine at Nishapur as most celebrated from early ages for that particular kind of turquoise, entitled Abu Ishaki, which, says he, averts evil from those who wear it, conciliates the favor of princes, augments wealth, preserves the sight, ensures victory over an adversary, and banishes all unpleasant dreams. The ancient sages, when first they beheld a new moon, immediately after fixed their eyes, says he, on the Firozeh. The turquoise of Nishapur is the best. The turquoise, from whatever source, is apt to change colour, if brought in contact with acids, musk, camphor, or other scents, and possibly from the state of the weather. Small clear Persian stones (for it is chiefly found at Nishapur in Khorasan) sell at 6*d.* to 20*s.* each, whilst a fine ring stone will realize from £10 to £40, a perfect stone of the size of a shilling and of good depth was sold for £400. It varies from white to fine azure blue, but it is only the fine blue stones that are of any value. Turquoise is still, in England, believed to protect the wearer from contagion, a belief, as regards that and other stones, very common amongst the ancients. From the Persian name ferozah is the color called Ferozah rang, turquoise blue. The best are from Nishapur, and are described by Ferrier, as classed into eight kinds—fatahi, azhari, sulimani, zanwi, asmani, abd-ul-hamidi, Indalisi, kanjinya. Turquoise of Badakhshan is of a blue colour and is inferior to that of Nishapur. Turquoise is rather a favourite stone with the mahomedans of India. Its various localities have only recently become known. Tavernier remarks that the turquoise is nowhere to be found but in Persia, where there are two mines. The one is called the Old-Rock, three days' journey from Meched, towards the north-west, near a great town which goes by the name of Michabourg. The other, which is called the New-Rock, is five days' journey off. Those of the New-Rock are of a paler blue inclining to white, and less esteemed, so that you may have a great many for a little money. Some years before, the king of Persia commanded that no turquoises should be digged out of the Old-Rock, but only for himself, making use of those turquoises instead of enamelling, of which the Persians are altogether ignorant, to adorn hilts of swords, knives and daggers.

Turquoises are abundant at Leh, and are plentifully found in the more remote regions of Tartary and Yarkand. Some of these stones are as large as a pigeon's egg, and without a flaw; Mrs. Harvey saw some of even double that size, though not perfect. Indeed, the majority were flawed extensively. A small stone, tolerably perfect, costs from one to ten shillings. At or near Khojend is a turquoise mine, but the stones found there are of a greenish hue and far less esteemed than those of Nishapur, in Khorasan. There is another of very insignificant note somewhere in Kerman.—*Fraser's Journey into Khorasan, p.* 105. *Adventures of a Lady in Tartary &c. Mrs. Harvey. vol.* i, *p.* 355. *General Ferrier. Ousley's Travels, vol.* i. *p.* 211. *Emmanuel. Tavernier's Travels.*

TURRA-PHEE. BURM. Calophyllum, *species.*

TURRÆA VIRENS. KON. syn. of Atlantia monophylla.

TURRUKI. See Afghan.

TUR or Turi. In the time of Sakya-muni, a sort of wandering friar.

TURSH. HIND. Sour, harsh. Zirishk tursh, Berberis vulgaris.

TUR SINA. Mount Sinai. See Jibl Musa.

TURTLES are of two kinds,—of the family Trionycidæ or fresh water turtles, and of the Chelonidæ or marine turtles, viz.:—

Fresh water turtles: Trionycidæ.

Emyda granosa, *Gunth.* India.
„ Ceylonensis „ Ceylon.
„ vitrata, *Peters.* Goa.
Trionyx sinensis, *Wiegm.* China, Chusan, Formosa.
„ Gangeticus. Nepal, Ganges, Penang.
„ Javanicus. *Schw.* India, Java.
„ ornatus, *Gray.* Siam, Cambogia, Borneo.
„ Guntheri, *Gray.* India.
Chitra Indica, Nepal, Malay and Eastern Archipelago.

Marine turtles: Chelonidæ.

Caouana olivacea, *Gray.* Indian seas.
Chelonia virgata, *Gray.* Indian coasts.
Caretta squamata, *Gunth.* Archipelago, Maldives, Ceylon.

Dermatochelys coriacea, *Gray*. All seas.

Fresh water turtles are of no use to man. Marine turtles form an important article of food, and their scales are valuable as the tortoise shell of commerce. Four different kinds are distinguished at Cape York and the Prince of Wales' Islands. Three species of these can be identified as the green, the hawksbill, Caretta squamata, and the loggerhead, Caouana olivacea; and the fourth, a small one, which is said to be caught by a live sucking fish (Echeneis remora) being secured by a line passed round the tail, and thrown into the water in certain places known to be suitable for the purpose; the fish while swimming about makes fast by its sucker to any turtle of this small kind which it may chance to encounter, and both are hauled in together.

The green turtle is of so much consequence to the natives of the Archipelago, that they have distinguished it by a special name taken from the animal itself (sulangi, from sulur). The season of the year when it is most plentiful at Cape York, usually extends from about the middle of October until the end of November, but the limits are not constant. During the season they are to be seen floating about on the surface of the water, often in pairs, male and female together. A few are caught at night on the sandy beaches, but the greater number are captured in the water. The canoes engaged in turtling, besides going about in the day, are often sent out on calm moonlight nights. When a turtle is perceived, it is approached from behind as noiselessly as possible,—when within reach, a man in the bow carrying the end of a small rope jumps out, and getting upon the animal's back, with a hand on each shoulder, generally contrives to turn it and secure it with the rope before it has got far. This operation requires considerable strength and courage, in addition to the remarkable dexterity in diving and swimming possessed by all the blacks of the north-east coast of Australia and Torres Strait. There, are some favourite look-out stations for turtle where the tide runs strongly off a high rocky point. At many such places, distinguished by large cairns of stones, bones of turtles, dugongs, &c., watch is kept during the season, and, when a turtle is perceived drifting past with the tide, the canoe is manned and sent in chase. At the islands of Talen-Talen many thousands could be easily procured. The Malays watch during the night, to ascertain where the turtle deposits her eggs, for as soon as she has finished her task, she covers them with her flippers with sand, and immediately retires into the sea. A piece of wood is then put up as a mark for the nest, which is rifled as occasion requires. It is said as a curious fact, that the male turtle never lands. On the south-western coast of Ceylon at certain seasons, the flesh of turtle is avoided as poisonous. At Pantura, to the south of Colombo, twenty-eight persons who had partaken of turtle in October, 1840, were immediately seized with sickness. The hawksbill-turtle, which supplies the tortoise-shell of commerce, was at former times taken in great numbers in the vicinity of Hambangtotte during the season, when they came to deposit their eggs. This gave rise to the trade in tortoise-shell at Point de Galle, where it is still manufactured into articles of ornament by the mahomedans, but the shell they employ is now almost entirely imported from the Maldives. If taken from the animal after death and decomposition, the colour of the shell becomes clouded and milky, and hence the cruel expedient is resorted to of seizing the turtles as they repair to the shore to deposit their eggs, and suspending them over fires till heat makes the plates on the dorsal shields to sta[illegible] from the bone of the carapace, after which the creature is permitted to escape to the water. At the period of breeding, the identical tortoise is believed to return again and again to the same spot, notwithstanding that, at each visit, she may have to undergo a repetition of this torture. In the year 1826, a hawksbill turtle was taken near Hambangtotte, in Ceylon, which bore a ring attached to one of its fins that had been placed there by a Dutch officer thirty years before, with a view to establish the fact of these recurring visits to the same beach. The finest tortoise shell is exported from Celebes to China; the natives kill the turtle by blows on the head, and immerse the shell in boiling water to detach the plates. Dry heat is only resorted to by the unskilful, who frequently destroy the tortoise-shell in the operation. The midas turtle is said to lay from ten to twelve dozens of eggs, and Der. coriacea from eighteen to twenty dozens at once; but many of the marine turtles lay from one-hundred to two-hundred and fifty. The eggs are generally hatched by the sun in three weeks. On escaping from the eggs, the young are of a white colour, and in size a little larger than a rupee; but few survive the attacks of sea-birds, herons and storks, in their way to the ocean, and the sharks and shark-toothed fishes when there. The flesh of the hawksbill turtle is not held in esteem, but the plates of its shell being thicker, stronger, and cleaner than those of any other species, it is of great importance as an article of trade. When heated in boiling water it softens, and by pressure can be made to

assume any form, or two pieces can be made to adhere. In this state gold, silver, and other metals are made to adhere to tortoise shells.—*Journal Indian Archipel. vol.* iii. *p.* 227, 1849. *Tennent's Sketches of the Natural History of Ceylon, p.* 294. *Gunther's Reptiles of British India. Macgillivray's Voyage, vol.* i. *p.* 21-2. *Marryat's Indian Archipelago, p.* 123-183. *Mr. J. Rohde MSS.* See Tortoise shell.

TURTLE-DOVE. A bird of the genus Turtur.

TURTUMAGLIO. IT. Turmeric.

TURTUR, a genus of birds, the turtle-doves, of the sub-family Turturinæ and order Gemitores. Their generic name in the Urdu is "Fakhta." The Indian species are—

- T. rupicolus, *Pallas*, the ashy turtle-dove, of Northern and N. E. Asia, Himalayas.
- „ meena, *Sykes*, the rufus turtle-dove, all British India.
- „ Cambayensis, *Gm.*, the little brown dove, all British India.
- „ Suratensis, *Gm.*, spotted dove of all British India.
- „ resoria, *Linn.*, common ring dove, Africa, Malay peninsula, Java, and Archipelago.
- „ humilis, *Temm.*, red turtle dove, British India, Archipelago.

Turtur bitorquatus, *Tem.*, of Java, Timor, &c., has the grey of the crown and wings, and the vinaceous of the neck and breast deeper and brighter than in the others, black semi-collar moderately broad, and margined (more broadly above) with white; beneath the wings very dark ashy, and vent and lower tail-coverts white.

Turtur brevicaudatus, *Blyth.*, is a more aberrant species, and remarkable for its short tail, in which respect the Malayan T. macrodactylus, *Strickland*, is intermediate to this and the preceding species. Size comparatively small. Length about 5½ in., of which tail 1⅝ in., its outermost feather ⅜ in. shorter than the medial; closed wing 2½ in.; more rounded than in the two other species, having the sixth to the tenth primaries sub-equal and longest; bill to gape $\frac{11}{16}$ in, tarse ⅞ in. Colour of the upper parts somewhat rufescent, and the feathers soft and less elongated, of a rich olive-brown, black-bordered, and paler towards shaft; at forehead inclining to ashy and scarcely stiffened: plumage over the rump discomposed and excessively dense and copious, throat mingled dusky and whitish and rest of the lower parts weak ferruginous, deepest on middle of belly, vent and lower tail-coverts; a series of whitish, terminal specks on the great range of wing coverts, and others tipping the secondaries and tertiaries.

Turtur Dussumieri, *Tem.*, with broad collar from Malasia and the Philippines, has never been seen from continental Malasia (*i. e.*, the Malayan peninsula), where T. tigrinus abounds, distinct alike from T. Suratensis and T. Chinensis.

Turtur humilis, *Tem.*, of India, is somewhat less affined to the rest, and is very remarkable, among the Columbidæ, for the diverse hue of the sexes.

Turtur risorius of India, has the third primary a little shorter than the 2nd, and the 1st ¼ in. shorter, and the 4th ⅜ in. shorter than the 2nd; tail-feathers sub-even or slightly rounded, except the outermost pair, which are ½ in. shorter than the medial. Nuchal semi-collar much narrower than in the others, and no vinaceous hue on the nape below it; beneath, the wings are whitish, and the vent and lower tail-coverts are of a dull ash-grey.

Turtur rupicola, *Pallas*, replaces T. Meena in the Simla and Masuri hills. Other Indian species are named T. auritus, T. chinensis, T. orientalis, T. vinaceus.—*Blyth, Report; Jerdon, Birds.*

TURUI BENG. Luffa, *sp.* Water melon.

TURUNEE. SANS. From tree, to save.

TURUNJ. ARAB. Citron.

TURUNJABIN. PERS. Manna obtained from the tamarisk and camel's thorn, Alhaji maurorum.

TURUSHKA, a name of the Scythi who invaded India; a hindoo name for the mahomedans of India, Tartary, and Kabul. See India. Turishka.

TURUSHU, also Nila tutam. TAM. Sulphate of copper.

TURVASA, a name of Tartary. See India. Turan.

TURWAR. HIND. Cassia auriculata.

TURWEEAH. the eighth day of the mahomedan month, Zeehuj, is so called.

TUS or Tuz, a birch bark, upon which, in addition to leather, we learn that the ancient Persians wrote. The same seems also to have been anciently used in Northern India. In Huen Thsang's time, the early buddhist scriptures of Kasyapa's council were written on the leaves of the Tala palm. In the eleventh century, according to Alburini, paper was used; in the south of India the leaves of the Tar tree are still used, but in the provinces of Central and Northern India, they used the inner bark of a tree called tuz, and it was the branch of a tree of the same kind called bhoj, a species of Morus or Betwa, with which they covered their vessels.—*V.* 2, *p.* 46.

TUS, an ancient city of Khorasan, two marches N. E. from Neshapur, and a little to the north of the modern town of Mesh'hid. It consisted of two towns, Tabaran and Nukan, and was once a place of considerable importance, but it was devastated by the Uzbeks in

996 H. (1588 A. D.), and its place has been taken by Mesh'hid.

TUS, or TUSH. HIND. Wool: shawl-wool. The 1st quality of shawl wool, is called shah-tus or ash-tus. Tus khudrang. HIND., or gray-tus, is the second quality of shawl-wool, its name meaning wool of natural colour.

TUSBEEH, a mahomedan rosary or chaplet of beads, made of date stones, fish bones, cornelian, Mocha stones, pearls, mother of pearl, coral, the seeds of the Canna Indica or Indian shot, olive stones, onyx, ebony, Ocymum pilosum, basilic basil, agati, the seeds of the Corypha umbraculifera. the earth of Karbillah, sandal, and the stones of the Cicca disticha, chulimilli or churmayla.—*Herklots.*

TUSCAN. See India, Semitic races.

TUSE. HIND. Cosciuia *sp.*, also Ficus Roxburghii.

TUSHASPA. See Inscriptions.

TU-SHEEAH. A shiah mahomedan is so called.

TUSHI-RANG. HIND. Dark brown-gray colour.

TUSHRIK. ARAB. Days of communion.

TUSHTUREEAN. Small plates.

TUSHTU KHAN. See Kalkas.

TUSI. See Skyin.

TUSLEEM. See Islam. Salam.

TUSSAH. A kind of silk cloth prepared from a wild silk worm and woven, in some districts in Bengal, into silk of a fine description, much used for ladies' and children's dresses, and in most parts in India for native use, being worn by hindoos for certain ceremonies and while bathing: it is an article of export. In the Dekhan, the tussah worm breeders are a class quite distinct from the weavers, and are either Telingas of low caste or Gonds; the former reside principally at Chilpore, Madapore, and Chimore. At Madapore, which may be regarded as the centre and head-quarters of the tussah breeders, there are at least seventy families. The tussah breeder never thinks of keeping up the breed of the insect throughout the year. When the leaf is off the tree about the middle of March, he deems his occupation gone, and he leaves the object of his former excessive care to shift for itself, thinking of nothing but the present ease, which may be summed up in a few words—sloth, a bare subsistence, and an occasional debauch in his nectar, palm toddy. But with the rains returns his toil, and some little difficulty is experienced in procuring insects for a fresh campaign. If he can gather a dozen of promising cocoons which his experience tells him are of females, he is quite satisfied. Carefully does he watch the bursting of the cocoon, and much care does he take of its winged inmate, having previously prepared for it a house of teak leaves dried. The male is not tardy in approaching. Impregnation takes place, the male dies, and in four days after laying her eggs, the female also. The eggs are in number about sixty: of these one half prove abortive, while the others are hatched in ten days. The small insect is fed on the tender leaves of the Careya sphærica, and in six weeks spins its cocoon; the first brood are spared and allowed to burst their cocoons to supply a sufficient quantity of ova for the tusser harvest. The same process is described as again gone through, with this exception, that the young worms are at this time fed on the leaves of the Pentaptera tomentosa, because those of the Careya sphærica are by this period of the season, supposed to have acquired some influence noxious to the insect. It is during the progress of the worm from the egg to the formation of the cocoon that every energy of the tussah breeder is called into action for the preservation of his charge. Every animal, footed, winged and creeping, is said to be the enemy of the tussah grub. Ants destroy them, kites and crows prey on them, snakes devour them, and squirrels are said to make a repast of them. To protect them first from their insect enemies, the tussah breeder ascends the "muddy" tree (Pentaptera tomentosa), the leaves of which are the insect's food, every branch he carefully clears of the different species of ants by which they may be infested, preventing the access of others by surrounding the trunk of the tree at its foot with ashes. The other enemies are kept off by shouting, throwing stones, firing guns, &c. Their life at this time would appear by their own account, to be one of the most unremitting toil, to devote themselves to which they forswear not only every indulgence but every comfort, and it rouses the apathetic peasant of Telingana to eloquence when he recounts what privations he undergoes, what pleasure he derives himself, and what incessant labour he incurs, while watching the rearing of the worm, and the perfecting of its work. The tussah butterfly is a species of Saturnia, probably the paphia, described by Dr. Helfer as the most common of the native species. From four to five hundred of the cocoons are sold to the banya and weavers for one rupee; the moth is killed by means of heat. There are three tussah harvests, one at the end of the rains, the other two in the cold season. The winding of the silk is accomplished by boiling the cocoons, separating the floss, of which no use is made; and twisting eight or ten filatures from as many cocoons on the middle of the thigh with the left hand of the workman

and to be wound on the instrument; this instrument, the middle bar of the wood, is held lightly in the hand of the workman and made to move in a semi-circle. An ounce and a quarter of silk is the average daily winding of a single workman; his wages are at the common rate of one pice for winding the silk of fifty cocoons, about three pice a day, as he cannot wind more silk than from a hundred and fifty cocoons. The pice, however, are large, and go there by eight to the rupee. The only dyes used for the tusser silk, so far at least as observation or inquiry has gone, are the flowers of the palas, Butea frondosa, and turmeric; by the former the usual familiar colour is produced; by the latter golden yellow is brought out after the threads are for some time immersed in a solution of ashes. The warp threads are stiffened with rice congee. Tussah is made into the saree, punchee and scarfs, at several towns of the sircar of Warungul. But in the Dekhan, the chief seat of the tussah manufacture is the town of Madapore—on the right bank of the Godavery in the Ramgheer sircar, where the moth that yields it is carefully reared, and from whence raw tussah silk is sent to other parts to be woven into cloth. The tussah cloths produced at Madapore are in durability and fineness very inferior to the cloths of the same kind manufactured in Bengal; they are dyed the same colour, and with the same materials as the silks, of which they are about one-half the price. At Madapore there are seventy to eighty families employed in rearing the insect and in the manufacture of the cloth, which is prepared principally for the Hyderabad market. At the Madras Exhibition of 1855, cocoons, from which this description of silk is obtained, were exhibited from several localities. The Saturnia, which is most commonly met with in Southern India, appears to be S. paphia. The caterpillar feeds on the leaves of the country almond tree, Terminalia catappa, whence it is often called the almond moth. It is also found on the leaves of the ber tree, Zizyphus jujuba. the casuarina, &c. The cocoons are ingeniously attached to the twiggy branches of the ber, by a long stalk terminating in a ring, encircling the branch. In the thicker foliage of the casuarina, the silk is woven among the leaves without the above provision. It does not appear that silk in any quantity has been obtained from this source in the Madras Presidency. There, the only use to which the cocoons appear to be turned is that of a ligature for native matchlocks. They are cut spirally into long narrow bands, with which the barrels are tied to the stocks. Considerable quantities of the small silk cloths worn by brahmans at their meals are imported into the Northern Circars from Cuttack. Dr. Roxburgh in the 7th vol. of the Linnean Transactions, described the preparation of the tussah silk of Bengal, derived, there, from two different species of Saturnia. One called *Bughy* by the natives of Beerbhoom, appears to be the same as the Madras species (S. paphia), and is stated to feed on the ber tree and on the asana, Pentaptera glabra. The other, termed jaroo by the natives of the same province, is the S. cynthia, and is domesticated. The caterpillars are fed on the leaves of the castor oil plant (Ricinus), whence it is called the arundy, or arundi silk worm, but it also eats the leaves of the ber and asana. Colonel Sykes, writing in the 3d vol. Trans. Roy. As. Socy. Lond., on the cocoons of S. paphia found by him in the Deckan, under the designation of the kaliswar silk worm, stated that it is met with on the ber tree (Pentaptera glabra), teak tree, and common mulberry. The Chinese tussah is said to be obtained from Saturnia atlas, which is also to be met with in Southern India. Another species of Saturnia (S. selene), the posterior wings of which are prolonged into a tail-like process, is common in Southern India. The caterpillar may be observed feeding in considerable numbers on the Odina wodier, or Be-sharm tree, in February and March. Its chrysalis is enveloped in a silky covering, so like that of S. paphia that it would probably be found to yield a strong and useful thread. It may be worth while to direct attention to the silk spun by several smaller specimens of Bombyx moths, found on different species of Cassia, Acacia and Phyllanthus. A gregarious caterpillar (a species of Lasiocampus) may be observed clustering in great numbers on the stem of the guava, the jamoon (Syzygium jambolanum,) and probably other trees: the silky covering of these also seems deserving of examination. Lieut Colonel F. Cotton sent some of the cocoons gathered by him when exploring the Godavery. The Saturnia genus belongs to the order Lepidoptera and the family Bombycidæ. The antennæ are fringed in the male; the head is small, the wings are very broad and entire; the palpi and trunk are wanting, and some of the largest of the Lepidoptera belong to the genus Saturnia. Saturnia atlas, the Giant Atlas Moth, has wings measuring 7 or 8 inches across. This species also with S. cecropia and S. luna have their wings produced into a tail. The cocoons of S. Cynthia and S. Mylitta are used in India for the production of silk. Latreille states that these are the wild species of silkworm of China. S. Cynthia is the Arrindi

Silk Worm of India (Roxburgh, 'Linn. Trans,' vol. vi.) *Eng. Cyc.* At the Universal Exposition held in Paris in 1855, samples of Indian silk were exhibited with the cocoons of the different species of the Bombycidæ from the Bombyx mori. "pat," Saturnia mylitta, "tussah;" Saturnia assamensis, "monga"; Attacus cynthia, "eri or eriah." The quantities imported into Liverpool were in four years, as under:

1851.	lbs. 12,000	1854.	lbs. 8,000
1853.	„ 2,000	1855.	„ 11,000

The tassah silk moth of Ceylon, Antheræa mylitta, *Drury*, feeds on the country almond (Terminalia catappa) and the Palma christi or castor-oil plant.—*Tennent's Sketches of the Nat. Hist. of Ceylon, p.* 427. *Dr. Walker in Madras Journal of Literature and Science. Jury Reports Madras Exhibition of* 1855 *Rhode, MSS. Major Cuth. Davidson, Assistant Resident. Rapport du Science, Jury mixte International, p.* 54. See Bombyx. Silk.

TUSSANOON, the sunni mahomedans are so called.

TUSSAWOOF, the theology of the soofee mahomedans or mystics of the east.

TUSSILAGO FARFARA. LINN.

Coltsfoot, ENG. | Watpan, HIND.

This is not uncommon in many places in the Punjab Himalaya, at from 5,000 to 11,000 feet. It grows also in Persia, in chalky soils in England, and is found in many parts of Europe. The plant is mucilaginous and slightly bitter, and may be employed as a demulcent possessed of a little tonic property. Its leaves are sometimes applied to wounds. It may be prescribed in the form of an infusion or decoction one or two ounces to a pint of water.—*Drs. Royle; O'Shaughnessy; and J. L. Stewart.*

TUSSOO, a measure of length, 16 of which equal 1 hath or 18 inches.—*Simmonds' Dict.*

TUSTUS. HIND. Viburnum cotinifolium.

TUT, also Tuta, and Tutri. HIND. species of Morus, or mulberry, M. alba, M. lævigata, M. nigra, and M. parviflora. Shah-tut. HIND. Morus alba, &c. Kart tut is the Morus serrata.

TUTA? TEL. Ipomœa reptans, *Poir.*

TUTACORIN, a town in the Gulf of Manaar, in lat. 8° 48′ N. long. 78° 12′ E.

TUTAM. TEL. White copperas, sulphate of zinc.

TUTELAR DEITIES. See Gramadevata, Hindoo, India, Kula.

TUTENAGUE, or China spelter, is an alloy of iron, copper and zinc. It is harder than zinc, though less so than iron, sonorous, compact, and has some malleability. The fresh fracture is brilliant, but soon tarnishes. Till superseded by spelter from Silesia, it was clandestinely exported in large quantities (more than 50,000 cwt. annually) to India, but is now seldom or never shipped, spelter being, on the contrary, imported to compete with it in China. For boxes, dishes, household utensils, and other similar purposes, tutenague is well adapted. Its export price used to be about 14 dollars a pecul. Another proportion is said to be 8 parts of copper, 3 of nickel, and 6½ of zinc, which gives a fusible alloy, very hard, and not easily rolled, but well adapted for casting.—*Simmond's Dict. Hon'ble Mr. Morrison's Compendious Description.*

TUTI. HIND. Cucumis momordica, also Morus alba.

TUTI KURA. TEL. Ipomœa reptans, *Poir.*

TUTI NAGAM. TAM. TEL. Zinc; Spelter.

TUTIRI. HIND. Ehretia aspera.

TUTIYA. HIND. PERS. a metallic salt. Nila-tutiya is the sulphate of copper, or blue vitriol. Hira tutiya also called Hira-kasis is the sulphate of iron or green vitriol, Safed tutiya is the sulphate of zinc.

TUTRI. HIND. Species of the Morus or mulberry tree, Morus indica, M. parvifolia, also the wild fruit.

TUTRUM. HIND. Berberis aristata.

TUTTAL.—Six pice.

TUTTHANJANA. SANS. Bluestone; Sulphate of copper.

TUTTI, also Tutturu benda, also Nugubenda. TEL. Abutilon indicum, *G. Don.*

TUTTURU BENDA. TAM. Abutilon indicum, *G. Don.*

TUVALLE-KAI. TAM. Solanum trilobatum.

TUVAR. HIND. Tuvara. CAN. Tour; Dhal; Dhol. Cajanus Indicus.

TUWA or Tawa. HIND. An iron girdle on which cakes are baked.

TUWAK. MALAY. JAV. Palm wine.

TUWAK. MALAY. Toddy from the Arenga saccharifera.

TWA. BURMESE. A span.

TWACHA. SANS. Bark of Cassia lignea.

TWARITA. SANS. From twara, quickly.

TWASHTRI, the Vulcan of Hindu mythology. See Hindu.

TWEEDIA CŒRULEA. This plant bears blue flowers, and succeeds well in a sandy peat; readily grown from seed.—*Riddell.*

TWENTY-FOUR PERGUNNAHS, a revenue district of Bengal, chief town Alipore, 4 miles from Calcutta, occupied by the Governor of Bengal.

TWINE. See Somal. Beer-us-somal.

TWIST. See Yarn.

TWO-COLORED PIGEON PEA. Cajanus Indicus, *Spreng.*

TWO-SPINED WATER CALTROPS. Trapa bispinosa.

TYAK. See Kelat.

TYAMMOON. AR. Purification with sand.

TY-CHOOK-CHOW, an island on the south coast of China, in lat. 21° 26′ N.

TYCUN, Zeogun, or Kobo, the great temporal ruler of Japan. See Japan.

TYE-TINCO, the refuse of opium, used by the poorest Chinese in Singapore.

TYE-YOO-THA, or Lan Thah. BURM. A bad brittle wood, which readily splits and warps, is of maximum girth 2 cubits and maximum length 22 feet, scarce in Tavoy and Mergui, and in less abundance in Amherst province. When seasoned it floats in water.—*Captain Dance.*

TYFOONG. See Typhoon.

TY-HAO, the largest lake in China, is never more than six or eight feet deep.—*Minturn's New York to Delhi, p.* 62.

TY-HO—? See Lantoa.

TYIK-YIP, in Central Asia, drawing omens from twisted thread.

TYLOPHORA, a genus of plants belonging to the natural order Asclepiadeæ. Dr. Wight gives figures of Tylophora asthmatica, carnosa, fasciculata, iphisia, mollissima, parviflora, and tenuissima. T. asthmatica is very common in the peninsula of India, and called in Telinga 'kaka-palla.' It is frequently employed as a substitute for ipecacuanha.—*Eng. Cyc. Voigt.*

TYLOPHORA ASTHMATICA. *W. & A*

Asclepias asthmatica, *Roxb.*	Cynanchum Ipecacuanha, *Willd.*
„ vomitoria, *Koen.*	„ vomitorium, *Sims.*
„ pubescens, *Wall.*	Hova planiflora, *Wall.*
Tylophora pubescens, *Wall.*	
„ vomitoria, *Voigt.*	

Untamol,	HIND.	Kaka pala,	TAM. TEL.
Kodigam,	TAM.	Kukka pala,	„
Kurinja,	„	Verri pala,	„

Grows abundantly in the south of India and in Bengal. Cynanchum ipecacuanha of Willdenow, by many writers, is supposed to be the same as this species. The root is of many, long, thick, whitish, fleshy fibres, issuing from a small woody head. The dried roots of this article afford an excellent substitute for ipecacuanha, if given in rather larger doses. It is said to be valuable in dysentery. This plant yields Koorinja fibre of Tanjore, which affords a good substitute for flax, is of fine quality, white, strong and silky. Untamol, bark of the root of Tylophora asthmatica, must not be confounded with Ununtamul, the root of Hemidesmus Indicus. —*Dr. O'Shaughnessy Beng. Phar. Dr. O'Shaughnessy, Bengal Dispensatory. p.* 445. *M. E. Jr. Rep.*

TYMAN-SHAN. See Ladrone Islands.

TYMPANA. See Laudakia melanura.

TYN-ABIAZ. AR. Chalk.

TYPHACEÆ, *DC.*, of plants, the bulrush tribe, including marsh or ditch plants, comprising the two genera Sparganium and Typha known in Sind as Pun and Booree. Of the former, one species occurs in Cashmere, and three species of Typha in India. At Trichinopoly figures and architectural models are carved in the pith of the Typha. The attitudes of the figures are stiff, but the draperies are characteristic. The figures introduced into the models of the Trichinopoly Fort are usually out of proportion, being far too large for the scale of the buildings. There are pith models of the pagodas of Trichinopoly and Salem, and pith work made from the rushes called "Nultee" in Tanjore, with a model of the pagoda. Cibotium billardieri, (the Dicksonia antarctica of Labillardiere), contains an edible pith or bread fruit eaten by the natives of Australia. Typha bread is prepared in Sind from the pollen of the flowers of the Typha elephantina, and in New Zealand from another species of bulrush, Typha utilis. *Powell Simmond's Com. Products, p.* 380. *Drs. Voigt. Roxb. and Stewart.*

TYPHA ANGUSTIFOLIA. LINN.

Bulrush, Cat's-tail,	ENG.	Lukh,	TRANS-INDUS
Reedmace,	„	Dipa,	PANJAB
Elephant grass	„	Dab	„
Pitz,	KASHMIR.	Kundar,	„
Yira,	„	Patira,	„
Boj,	BEAS.		

This species is common in marshes, &c., in most part of the Punjab plains, at about 4,000 feet in Kullu, and up to the Kashmir valley (5,000 feet); the roots are eaten in Kashmir, and on the Sutlej the lower succulent part of the stem is used for clearing the water of the swollen river, which it does speedily and effectually. In some places, also, they are made into boat ropes, which it is said will last a month, also woven into mats and baskets. In Peshawar, and probably elsewhere, the down of the ripe fruit (not the flower as mentioned by Vigne) is used to bind mortar for wall plaster.—*Dr. J. L. Stewart Panjab Plants. p.* 246. *Powell Hand Book, Vol.* i. *p.* 379.

TYPHA ELEPHANTINA. ROXB. Dib-grass

Bogla,	BENG.	Boor,	SIND.
Elephant grass,	ENG.	Booree,	„
Putera,	SIND.	Boree,	„
Reree	„	Dib,	„
Pun-	PUNJAB.	Jammu gaddi,	TEL.

This bulrush grows along the river banks and margins of tanks; its leaves called pun, are employed in making mats and baskets in North-west India. The pollen, like Lycopodium, is inflammable, and is collected in Sind, and there called Booree. The term Bori, is, however, also given to a sweatmeat of Dera Ghazi Khan, a curious substance in yellow lumps, consisting of the pollen of the dib grass of the Typha elephantina and of T. angustifolia collected and kneaded

together, perhaps with the aid of a little treacle or sugar.—*Powell Handbook vol.* i. *p.* 314.

TYPHON. See Iswara. Purana.

TYPHOON, from Typhon, the north-wind.

Tufau,	Arab. Hind.	τυφως	Gr.
Ti-fau,	Chin.	Bagui,	Philippine.
Zephon,	Heb.		

The original meaning of the storm wind, Zephon, is north-wind. Typhoon is the European name of the frightful equinoctial gales which vex sea and land about the tropics in the Eastern Archipelago and down as far as to 10° from the equator. The whole Malayan Archipelago is excluded from their sphere, while the whole of the Philippine is within it, the island of Mindano alone excepted. Typhoon is, however, also said to be a word of Chinese origin, from Ta, great, and Fung, tempest. It may, however, also be from the Arabic Tufan, a storm, and that from the Arabic root Taof, he did turn. Typhoons, cyclones and tornadoes, are great rotatory winds that move along a curved line in increasing circles, sometimes centripetal. In the northern hemisphere, the rotatory movement follows a direction contrary to that of the hands of a clock: while the opposite takes place in the southern hemisphere. In maritime language, Tyfoons are dangerous tempests which occur in the northern part of the China sea, along the southern and eastern coast of China near Formosa, the Bashee Islands, the north end of Luconia: also to the eastward of those islands, and betwixt Formosa and the Japan Archipelago. These tempests usually blow with the greatest fury near the land: as the distance is increased to the southward from the coast of China, their violence generally abates, and they seldom reach beyond lat. 14° N., although a severe gale has been experienced at times two or three degrees further to the southward. They occur in both monsoons. *Horsburgh.* See Hurricane. Winds.

TYPHONIUM ORIXENSE. Schott.

Arum orixense,	*Roxb.*	Arum trilobatum,	*Lour.*
Ghet-kuchoo,	Beng.	Suri-kanda,	Tel.
Ghekool,	Tel.		

Grows throughout the East Indies, common in the shady mango-groves near Samulcotta, and where the soil is dry and fertile. The other species are T. divaricatum, T. flagelliforme, T. sylvaticum, and T. trilobatum. T. orixense is exceedingly acrid. The root of T. flagelliforme (Ghas-kuchoo) is boiled in milk and the milk given in consumption. The roots of T. orixense are used in poultices as a counterirritant. The tubers are exceedingly acrid while fresh, and are used as an application in snake-bites. They are likewise given internally in doses of from 20 to 30 grains. Roxburgh describes this Arum as a most powerful stimulant in proper hands. A poultice of Orissa arum, Ghet-kuchoo, bruised to pulp with tepid water, is a stimulant rubefacient and counter-irritant, applied to indolent buboes and tumors by the native practitioners and with frequent advantage.—*Voigt. O'Shaughnessy Bengal Dispensatory. Beng. Phar. p.* 390. *Simmonds.*

TYPHONIUM SYLVATICUM. Schott.

Arum sylvaticum,	*Roxb.*	Amorphophallus sylvaticus.
Adavi chama,	Tel.	

TYRE. According to Justin, the ancient city of Tyre, the most celebrated of the cities of Phœnicia, and once the emporium of the world, was founded by a colony of Sidonians, who fled thither when the king of Askalon captured their city, and the date of its foundation was the year before the sack of Troy. The prophet Isaiah calls her "the daughter of Sidon." "Tradunt historiæ," says St. Jerome, "quod Tyrus colonia, Sidonis sit." But the first year of New Island Tyre was 1254 B. C. Its total destruction, which had been foretold by the prophets with extreme minuteness, was effected by the Assyrians under Nebuchadnezzar 573 B. C. after thirteen years' siege, one of the longest recorded in history. The fall of insular Tyre has been no less remarkable. Alexander the Great had already made himself master of the whole of Syria and a part of Phœnicia, whilst Tyre (the insular town) still offered an obstinate resistance to his victorious arms. Irritated by several unsuccessful attempts to storm it by sea, he conceived the bold design of filling up the channel which separated it from the continent. This was effected by sinking piles into the sea, and throwing into the intervening space immense blocks of stone. The ruins of the ancient city afforded ready materials for the purpose. The whole was covered with sand. It was only after seven months' close siege, that the inhabitants, attacked simultaneously by sea and by land, and the town being set on fire, surrendered to the Macedonian chief. When Tyre fell into the hands of Alexander (before Christ 332, and about 260 after the time of Ezekiel), that city was in full possession of the Indian commerce. It recovered its commercial importance, and was a flourishind city under the successors of Alexander. Nor did it cease with the Roman conquest: the emperor Hadrian repaired the fortifications, and made it the metropolis of a province, giving it all the advantages of a Roman colony. From the dominion of Rome it subsequently fell into the hands of the Saracens, about A. D. 639, who remained a long while in possession of it. It was taken by the crusaders in 1124, after five months' siege, but they were forced to surrender it in their

turn to the Mamelukes of Egypt in 1289. Frederick the First, surnamed Barbarossa, who died in the year 1190, was interred here. Tyre was the birthplace and residence of many persons celebrated in history. Hiram, one of its kings, was the friend of David and Solomon. He contributed to the construction of the great temple. The place is now known to the natives by its ancient Hebrew name of Tsur, corrupted by the Greeks into Tyrus, and by the Romans into Serra.—*Robinson's Travels, Palestine and Syria, vol.* i. *p.* 260.

TZAZEGA. The capital of Hamazen in Abyssinia, said by Heuglin to contain from 1,500 to 2,000 inhabitats. Abbiaddy is the capital of Tembeen in Abyssinia. Mr. Dufton says that the place is mahomedan, and has an occasional market, and that, when he entered it, about 2,000 people were assembled in the market place.

TZEREMISH are the original inhabitants of the provinces of Cazan and O-se-ta-ourhan. After the Russians had made themselves masters of all these places, this people still continued to occupy the country to the left of Cazan, and they have now been in subjection to the Russians for many years. They resemble the Tartars in their external appearance, and they also wear their hair short, but their language is totally distinct, and they spring from a different origin.—*Staunton's Narrative p.* 126.

TZERI. HEB. Balm. Melissa officinalis.

TZE-TU——? See Rose wood.

U is the 21st letter and fifth vowel of the English alphabet. Its primary sound in Anglo-Saxon was the sound it still retains in most of the languages of Europe, as in the letters oo in cool, tool. This sound was changed to that of u in the words use, tube, &c., but u has now two other sounds, as in the English words but and bull. The sounds of the letters u and v are confounded in many languages. Dr. Gilchrist proposed for the Urdu and other tongues, to use a short ŭ for the sound of the letter ă short. This has been followed by many writers on India and its products, but, though congenial to the practice in the English language, with many inconveniences, the greatest being that of employing the letter u to represent the a of other tongues. The English letter a, as representing this short vowel, constitutes a stumbling-block in the way of English articulation, which it is almost impossible to overcome. It is very difficult, almost impossible, to induce an English reader to pronounce Man as if written Mun; Pan as Pun, Sab as Sub, Thag as Thug; and the only mode of learning the correct pronunciation, is to hear the tongue spoken. The English letter u is, of all the letters of that alphabet, the most difficult to utilize in writing a foreign tongue, the sounds of ŭ being like ă, and of ū being like oo. A cyclopædia, therefore, being a book of reference, words will be found in this book given twice over, with the initials A and U, and words will also be seen repeated with the medial letters a and u.

UA. HIND. Hordeum cœleste.

UADI GAMPINA? TEL. Odina wodier, *Roxb.*

UADI ZEBID. AR. See Ficus religiosa.

UBAR——? See Dyes.

UBAS. SP. Grapes.

UBAT, also Ubat badil, SANDAWA; Masiyu, MALAY. Gunpowder.

UBBU KADA. TEL. Rothia trifoliata, *Pers*, also Trigonella Indica, *R.* iii. 389.

UBDI NARIKELAM. SANS. Sea cocoanut of Seychelles. See Laodicea.

UBI. MALAY. Dioscorea alata; Yam.

UBI BUNGALA. MALAY. Potatoes.

UBIR, or Abir. HIND. A perfumed powder.

UBIRA. TEL. Streptium asperum, *Roxb.*

UBJAD; Abjad ka hisab. HIND. A mode of reckoning.

UBKIR. ARAB. Saltpetre.

UBRAK, also Abrak. HIND. Mica.

UBRUN. DUK. Dæmia extensa, *R. Brown.*

UBRASSA. See Kutch.

UBUSHA. HIND. Artemisia Indica.

UBY CASTELA. MALAY. Convolvulus batatas.

UCH. HIND. Saccharum officinarum, *Linn*

UCH, styled Uch-i-sharif, or holy Uch, is near the junction of the united streams of the Hesudrus, the Hyphasis, and the Hydraotes, with the Acesines and the Hydaspes, and thus attracts the notice of geographers. It contains numerous sepulchres of mohammedan saints.—*Mohan Lal's Travels, p.* 453.

UCH. In Bahawulpoor, are two towns of this name near each other. One of them is named Pir ka Uch, and is in a very fertile district.

UCHCHINTA. TEL. Solanum trilobatum, *Linn.*

UCHCHI USIRIKA. TEL. Phyllanthus simplex, *Retz.*; *R.* iii. 654.

UCHI. HIND. Eriophorum comosum.

UCHISRAVA. See Indra.

UCHWANI, properly Ajwaini.

UCHYUTA. SANS. Morinda tinctoria.

UD. AR. HIND. PERS. Frankincense, from species of the Aquillaria genus of plants, also the fragrant wood yielded by them, known as Aloes wood, Eagle-wood.

Ud-i-farsi, Aquillaria agallocha, Persian Eagle wood.

Ud-i-Hindi, Eagle wood of India.

Ud-i-Kimari, Agallocha wood, Eagle wood of the hills.

Ud-i-Samudri, Eagle wood of the sea.

Ud-i-bukhoor, Eagle wood.

Ud-i-chini, Eagle wood of China.

UDAGADDI. TEL. Panicum flavidum, *Retz*, P. brizoides, *Roxb.*, and P. colonum, *Roxb.*

UDAI. The people known to the Binua of Johore as the Oran-Pago. See Kedah.

UDAKEA. A musical instrument of the Singhalese, the beating of which is prohibited, by a local ordinance, between the hours of 8 P. M. and 8 A. M.; the Indian tom-tom.—*Sirr's Ceylon.*

UDASI, a sect of the Sikhs.

UDAYABHADRA; UDAYA. See Bhattiya.

UDAYADITYA. See Inscriptions.

UDAYAGIRI, and Khandgiri, towns in Cuttack, celebrated for their budd'hist caves. See Inscriptions, Jain, Caves, Architecture.

UDAYAPUR RAJPOOTS. See Nepal; Mewar.

UD-BATTI. HIND. Pastilles made of eagle wood.

UDH. KANGRA. An otter.

UDHA-CHIRETTA. HIND. Exacum tetragonum, *Roxb.*

UDHA GODHUL. HIND. Hibiscus sericeus.

UDHAL TREE. See Abor.

UDI. Tel. Spathodea Rheedii, *Spreng.*

UDAN. Tam. Odina wodier, *Roxb.*

UDHER MARM. Maleal. Odina wodier, *Roxb.*

UD-I-HINDI. Pers. Agallocha wood, or Aloes, Eagle wood, Wood-aloes.

UD-I-KAMARI. Hind. Aquilaria agallocha, *Roxb.*

UDI-MITTI. Hind. A chocolate-colored earth.

UDI NAR. Maleal. Fibre of Acacia leucophlœa.

UDIPUR. See Kelat. Mira Bai.

UDIRAM PANUM. Sans. Cacalia sonchifolia.

UDLU, or Wadlu. Tel. Unhusked grain of Oryza sativa, *Linn.* Paddy.

UDRAK, or Adrak, Beng. Hind. Zingiber officinalis, *Linn.* Ginger, Dried ginger.

UD-SALAP. Hind. Pœonia corallina.

UDUGA, also Ankolamu. Tel. Alangium decapetalum, also A. hexapetalum, *L.*

UDUMBU, also Udumo —— ? The Iguana.

UDUMBAR. Sans. Ficus glomerata. Figs.

UDUMBARA, or Udumvara. Sans.

UDYAGIRI. See Karli. Khandagiri. Inscriptions.

UDYOTAKA. See Inscriptions.

UFAR? Ar. ? Andrographis paniculata, *Wall.*

UFIM. Arab. Guz. Hind. Opium.

UFI. Hind. —— ? Dioscorea; yam.

UFYUN. Arab. Opium.

U-GAH. Pusht. Garlic.

UGAI. Hind. Fraxinus floribunda.

UGAL or Ugla. Hind. Buckwheat; Fagopyrum polygonum, F. esculentum.

UGARU. Beng. Excœcaria agallocha, *Linn.*

UGGUR. Hind. Wood-aloes. Uggur-ki-batti. Hind. Pastille of wood-aloes.

UGHAI. Tam. Salvadora Persica, *Linn.*

UGHORA PANT'HI. A class of hindu mendicants.

UGHZ. Hind. Juglans regia.

UGIR-TURKI. Pers. Acorus calamus, *Linn.*

UGNI MUNDA. Sans. Premna integrifolia.

UGOLJ. Rus. Coal.

UGOOR or Ag'r. Beng. Aquilaria agallocha, *Roxb.* Eagle-wood, Aloes-wood.

UGRIAN. See Sanskrit. India.

UGRO-TARTARIAN. See India, Tartar.

UGURO. Sans. Aquilaria agallocha. Eagle wood.

UGURU. Beng. Excœcaria agallocha.

UGUS of the Kol. Haliætus fulviventer, *Viell.*

UHREN. Ger. Clocks. Taschen-uhren. Watches.

UIGUR. According to Prof. A. Vambery, the Uigur are the most ancient of the Turkish tribes, and formerly inhabited a part of Chinese Tartary, which is now occupied by a mixed population of Turk, Mongol, and Kalmuck. They were the first who reduced the Turkish language to writing, borrowing the characters from the Nestorian christians, who came to their country as early as the fourth century of our era. The manuscripts of this language, written in the characters mentioned are therefore, the most ancient and valuable data in investigating the history of Central Asia—nay of the whole Turkish race. But these monuments are of great scarcity; he believes he has collected all that has been discovered of the Uigur language, though the Uigur had a literature, and were very fond of books at a time when the Western world was involved in ignorance and barbarism. The most valuable manuscript he obtained bears date 1069, and was written in Kashgar; it treats of ethics and political subjects, and forms a kind of manual of advice to kings how to govern with justice and success. It reveals the social condition of this people, and forms the basis of the later regulations by which all Turks are governed. He believes that the Tartars of ancient time were not such barbarians as they now are.—*Vambery.*

UJA, third son of Seoji, a Rhatore rajput of Kanouj, in a foray on the Saurashtra peninsula, slew Bekumsi, the Chamara chieftain of Okamundla, and established himself there. From that act, his branch of the Rhatore became known as the Badhail.

UJAIN is an ancient town to the north of the Nerbudda, and south of the river Mahi. See Vikramaditya; Oojein; Malwa.

UJAJAYANIYA. See Pali.

UJAN. Hind. Hordeum cæleste.

UJANI, also Ujjayini. The name of an ancient city, under the same meridian as Lanka; supposed to lie near or to be the modern town of Oojein, in long. 75° 35' 16" E., lat. 33° 11' 30" N.

UJAYANTI, or Ujanti, one of the names of Girnar.

UJHAN. Hind. Tamarix orientalis; tamarisk.

UJAM, with the Arabs, every country in the world except Arabia. In this sense, it corresponds to the Barbaros of the Greeks, the Gentes of the Romans, the E of the Chinese, and the M'hlecha of the Hindoos. Ajami is therefore any foreigner, any one not an Arab.

UJLA, a river of Mirzapore.

UJON, also Ujow. Punjab; Ua of Sutlej. Hordeum cæleste; Barley.

UKHAN. HIND. Tamarix orientalis. Tamarisk.

UKHARA. Saiva mendicants, members of the Sukhara and Rukhara sects, who drink spirituous liquors and eat meat; they appear to be the refuse of the mendicant Gudara, Sukhara and Rukhara sects, who are said to be in general of mild and inoffensive manners.

UKKAH, or Oke, a weight about 2¾ lbs. English.

UKKILBAR-KE-MANKE. DUK. Bead-seeds of Canna Indica.

UKLU. HIND. Viburnum fœtens. Richuklu, HIND. Viburnum cotinifolium.

UKLIL-UL-JIBL. AR. HIND. Rosmarinus officinalis. Rosemary.

UKL-O-TAAM. PERS. Food.

UKROT. PERS. HIND. Walnuts; the walnut of Chittong is reckoned the best of any produced in the Nepaul territories; but those of Tibet are esteemed superior. The shell of the Chittong, and indeed of most of the Nepaul, walnuts, is remarkably hard. The wood is employed in the manufacture of gun-stocks.

UKRUS. RUS. Vinegar.

UKYO. BENG. HIND. Saccharum officinarum.

UL, an affluent of the Beas river.

ULA. See Oula.

ULANDU. TAM. properly Ulundu. Phaseolus mungo, *Linn.*

ULAN. HIND. Sterculia Wallichii.

ULAT CHANDAL. BENG. Gloriosa superba, *Linn.*

ULAVA, also Ulavalu. TEL. Dolichos uniflorus, *W. & A.*, D. biflorus, *Roxb.*

ULAVOO. SANS. Cucurbita lagenaria, *Linn.*

ULEAJOREE, near Chandura in Comillah.

ULD. DAN. Wool.

ULGO. HIND. Fagopyrum esculentum.

ULIMERA. TEL. Diospyros chloroxylon, *Roxb.*

ULIMIDI. TEL. also Tella ulimidi. Cratæva Roxburghii, *Roxb.*

ULINJA. MAL. Cardiospermum halicacabum, *Linn.*

ULISI, also Valasi or Valisaloo. TEL. Guizotia oleifera, *D. C.*, also Striga euphrasioides, *Benth.*

ULIVE. IT. also Olive. It. Olives.

ULLAH-BUND, or Allah-bund, literally the Embankment of God, a vast mound in Sind, thrown up by the earthquake of 1819. It is 70 miles in length, 16 in breadth, and 20 feet high.—*McMurdo, in Edin. Phil. Jl. vol.* iv. 106.

ULLAR-WELLANG. MALAY. A poisonous snake of Bawean.

ULLENA-TIGE. TEL. Cardiospermum halicacabum, *Linn.*

ULLINACHU. TEL. A species of Vallisneria found at Drákshàráwa.

ULLINDA. TEL. also Pedda ulimera. TEL. Diospyros chloroxylon.

ULLUM, also Allum. TEL. Zingiber officinalis, *Linn.*

ULLUM. ARAB. A standard, a flag, a flag used in the religious ceremonials of he mahomedans, standards or representations of the crests of Hosein's banners.

ULLUM SUWAREE, mounted ullums.

ULWEEDA, or Alweeda. p. v.

ULMACEÆ. MIRB. The Elm tribe of plants, comprising 3 gen. 6 species, viz.: 2 Ulmus; 2 Celtis; 2 Sponia.

ULMASTIGA. SP. Pistacia lentiscus.

ULMUS, a genus of plants of the natural order Ulmaceæ, nearly 20 species of elms have been enumerated, of which 5 occur in India.

ULMUS ALTERNIFOLIUS.

Elm,	ENG.	Tha-lai,	BURM.

One of the largest trees in the Pegu province. It is found about towns and villages in the Prome district: along with the rest of the class, this tree furnishes a valuable timber of a red colour, strong and adapted for house building.—*McClelland.*

ULMUS CAMPESTRIS, *L.*

U. Wallichiana. *Planch.*

Elm,	ENG.	Maral,	RAVI, BEAS.
Small leaved elm,	„	Murali,	KULU KANGRA.
Kain,	JHELAM.	Mehun,	„ „
Kai	KULU KANGRA.	Marun,	BEAS.
Brari, Breri,	KASHMIR.	Hembar,	„
Brankul,	„	Imbir,	SUTLEJ.
Brori,	CHENAB.	Marran,	„
Marazh,	„	Shko,	„
Marari,	„		

This tree is common, wild, in many parts of the Punjab Himalaya, up to the Indus from 3,500 to 9,500 feet. It grows to a large size, trees of 10 and 11 feet girth and 60 high, being occasionally seen. Dr. Stewart saw one more than 16 feet in girth, and Dr. Cleghorn says that there are many fine trees of the Murali or Mehun in the upper parts of Kaullu, 30 feet in girth, and that the wood is esteemed, but not that of U. erosa. Dr. Stewart says the wood is not valued by natives, but it is tough and is used in Kanawar for ark poles; the railing of the Abbotabad road is made of this timber, and in Hazara it is light, strong and useful for the panels of dog-carts, &c. The bark is very tough and is used for bed string, and sandals made from it will last for two days under hard work. The leaves are a favourite fodder,

and the trees are often very severely lopped on this account.—*Dr. J. L. Stewart, Panjab Plants, p.* 210. *Dr. H. Cleghorn's Punjab Report. Do. Report on Kulu and Kangra.*

ULMUS EROSA.

Large leaved elm,	ENG.	Mandu,	RAVI.
Mauu, Maunu,	JHELAM.	Mauyi,	BEAS.
Bren, Bran,	KASHMIR.	Mauru,	,,
Amrai,	,,	Maldung morun,	SUTLEJ.
Braunu,	CHENAB.	Yumbok,	LADAK.
Meru,	,,	Himburch,	KULU
Chipal,	,,		KANGRA.
Maral,	RAVI.		

This tree of the North-west Himalaya is not common in the wild state, but is more frequently seen planted near villages, &c. It reaches a larger size, up to 100 feet in height, and from 20 to 30 feet in girth on the Beas. It grows at from 2,500 feet, to 10,500 feet in Ladak; the wood has not any special use; short spines project from the wood of the trunk into the inner surface of the bark as in Populus Euphratica. In parts of the Jhelam basin, gun-fuse is made from the bark.—*Dr. J. L. Stewart Panjab Plants, p.* 211.

ULMUS INTEGRIFOLIA. ROXB; *Cor.; Pl.* Holopteloea integrifolia, *Planch.*; *Ann. des. Sci. Nat.*; *W. Ic.*

Khulen of	BEAS.	Pedda Nowlee,	TEL.
Rajain of	,,	Erugu Nowli,	,,
Kacham of	UMBALLA.	Navili,	,,
Papri of	DELHI.	Nali, Nalli, Navilli,	,,
Thalai,	BURM.	Namille,	,,
Indian elm,	ENG.	Navara	,,
Wowlee,	MAHR.	Nowlee,	,,
Aya maram,	TAM.	Nullee,	,,
Tambachi ,,	,,	Dada-hirilla,	SINGH.
Kanchy TAM. of CEYLON.			

This fine large elm grows in Ceylon, throughout the Peninsula of India in Hindustan, in the Punjab and N. W. Himalaya, and in Burmah to the latitude of Prome. Its wood is of a reddish colour, is strong, much used for building purposes requiring toughness and strength, for carts, door frames, spoons and roof planks. The wood yields a peculiar odour to boiling water, which when mixed with boiling arrack imparts to it the flavour of the more expensive palmyra arrack. The forks of the branches are used to protect straw from cattle.—*Drs. Roxburgh. Voigt. Stewart. Wight. Gibson and McClelland. Mr. Rohde. Thwaites. En. Pl. Zeyl., p.* 268. *Mr. Latham. Major Beddome, Fergusson's Ceylon Trees.*

ULMUS LANCIFOLIA. ROXB. A large timber tree of Chittagong.—*Roxb. v.* ii. *p.* 66.

ULNA. LAT. An ell; a cubit.

ULTRAMARINE.

Bleu d'outremer,	FR.	Ultramar,	SP.
Ultramarin, GER.	RUS.	Lajvurd,	GUZ. HIND.
Oltramarino,	IT.		

A very fine blue pigment made from the Lapis lazuli and highly prized by painters. It is now artificially imitated in various ways.—*Faulkner., McCulloch's Commercial Dic. p.* 1217.

ULU-WATTAN. MALAY. Aloe litoralis, *Kœnig.*

ULSI. Flax of Linum usitatissimum, *Linn.* Ulsi ka tel. HIND. Linseed oil. Ulsi ki binj. HIND. Linseed.

ULSUGMUNIA. ARAB. Convolvulus scammonia. Scammony.

ULTRA-INDIA, a term applied by geographers to the countries east of British India: the Hinter Indies of Carl Ritter.

ULU. HIND. An owl.

ULU, also Ulua. HIND. Saccharum cylindricum, *Willden.*

ULUS. TURK. A large family, a clan, a sect.

ULUT-CHANDAL. BENG. HIND. Gloriosa superba.

ULU-WATAN. MALAY. Aloes.

ULWUR, a state composed of petty chiefships which, till the middle of last century, owed allegiance to Jeypore and Bhurtpore. The southern portion was usurped during the minority of the maharajah of Jeypore by Pertab Sing, of the clan of Murookha Rajpoots, about 1780. Macherry was conquered from Bhurtpore. Pertab Sing was succeeded by his adopted son Buktawur Sing, with whom the first relations of the British Government were formed. Ahmed Bukhsh Khan, the Ulwur vakeel, joined Lord Lake at the commencement of the war with the Mahrattas, and received the grant of Loharoo from Ulwur, and of Ferozepore from Lord Lake as a reward for his services. As a reward for the assistance which Ulwur rendered in the campaign, the districts which had been granted to Bhurtpore, and afterwards resumed, were conferred on the maharao-rajah by a sunnud from Lord Lake. In 1805 an exchange of territories was effected with Ulwur for mutual convenience. The area of Ulwur is about 3,300 square miles, and the population about 1,000,000 souls. The revenue from all sources is about sixteen lakhs of rupees. The state pays no tribute or contribution to local corps or contingents; it maintains an army of 2,000 infantry and 1500 cavalry. The chief has received the right of adoption, and he is entitled to a salute of fifteen guns. Among the lands granted to Ulwur by Lord Lake in 1803, was the district of Neemrana. The chief of this district for many years urged a claim to independence of Ulwur, which was frequently rejected; the claim was brought forward again in 1860, but it was finally decided in 1862 that Neemrana is a fief of Ulwur.—*Treaties, Engagements, and Sunnuds, vol.* iv. *p.* 141.

UMA. A name of the hindu goddess Parvati, the female energy of Siva. Under this name the goddess was surprised by the rishis in the forest of Gauri, in the embraces of Siva; in consequence of which, that deity condemned every male who should, from that period, enter the forest, to a change of sex. This story has been also attributed to Rohini, the wife of Soma or Chandra, who surprised her in a similar situation with Siva, who accordingly transformed the unfortunate husband into a female. Hence, Soma or Chandra, the moon, which was before of the male, became of the female sex.—*Cole. Myth. Hind. p.* 398. See Tantra.

UMA ATASI. SANS. Linseed.

UMAM-PATCHE-ARISI. Euphorbia pilulifera?

UMANA. MALEAL. Thorn-apple, Datura species. Nella umata, MALEAL. Datura fastuosa, *Mill, Roxb.*

UMAR, the second khalif after Mahomed, Mahomed's successors having according to the sect of sunni mahomedans, been Abubakar, Umar and Ali. It is Umar of whom the statement is made that he ordered the Alexandrian library to be burned. He was assassinated at Jerusalem, where his tomb is still shown. See Khalif.

UMAR DAS. See Sikh.

UMBALLA, in L. 30° 21·4′ N.; L. 476° 48′ 8″ E. in the Panjab, a large military station 1,026 feet about the sea.—*Schl. Herm.*

UMBAR. TAM. Amber, properly Ambar.

UMBARI, in Bombay, fibres of Crotalaria juncea.

UMBARI-KI-BHAJI. DUK. Hibiscus cannabinus, used as greens.

UMBER. an ore of iron and manganese, employed as a brown pigment.

UMBER. HIND. DUK. Ambergris.

UMBELLIFERÆ. JUSS. the Apiaceæ of Lindley, the Celery tribe of plants, natives of the northern hemisphere, upwards of a hundred species of which occur in the mountains and plains of India, viz:—

Hydrocotyle	8	Trachydium	1	Pimpinella	3
Helosciadum	4	Athamanta	3	Bupleurum	11
Ptychotis	5	Selinum	5	Fœniculum	1
Prangos	1	Palimbia	1	Eriocyla	1
Sison	3	Pencedanum	3	Cnidium	1
Sicatia	1	Anethum	1	Hymenidium	2
Carum	2	Torilis	1	Ligusticum	3
...um	1	Chærophyllum	4	Archangelica	1
Œnanthe	2	Pycnocycla	1	Cortia	1
Dasyloma	3	Sanicula	1	Pastinaca	2
Pleurospermum	1	Laserpetium	2	Heracleum	8
Seseli	1	Falcaria	1	Tordyliopsis	1
Hymenolæna	9	Ammi	2	Osmorrhiza	1
				Ozodia	1

Some species abound in resins, containing large quantity of an essential aromatic oil, and act as aromatics and stimulants; others yield fetid gum resins.—*Voigt, p.* 19.

UMBRELLA, a genus of the mollusca.

UMBRELLA.

Payong,	BURM.	Songsong, Paying,	
Kettisol (paper umbrellas,)	CHIN.	Bawat,	JAV.
Parapluie,	FR.	Payung,	MALAY.
Chatri,	GUZ. HIND.	Kodayal,	TAM.
		Godugulu,	TEL.

Umbrellas are employed as a shade against the heat of the sun and rain; a smaller kind, the parasol, being used chiefly by ladies, either while walking, or riding in open conveyances. The kettisol, or paper summer head, is extensively manufactured in China, whence it is largely exported to various parts of the world. In India, palm leaves spread over bamboos are largely used. The umbrella of the Lepcha in Sikkim consists of a frame work of bamboo enclosing broad leaves of Phrynium. In many Eastern countries, the right to use an umbrella is bestowed by sovereigns; until recently, no native of India would have presumed to keep his umbrella spread, or his slippers on, while approaching a European, nor pass a European sentry with it. Those bestowed by sovereigns, are of various shapes and have various names. To use an umbrella at all, amongst Malays, or rather to have it carried over one, for no native carries an umbrella himself, is a mark of rank, and its quality implies the degree of that rank. The sovereign alone uses one which is gilt throughout. In Java, a small umbrella, called a "bawat," is the special badge of the higher nobility, called by the Sanscrit title of bopati. This is not made use of to from sun or rain, but carried by a retainer before the party.—*Hooker vol. I,* 131. *Crawfurd Dict. p.* 442. *Faulkner.*

UMBRELLA-TREE, a name applied to the Acacia planifrons, which grows straight and then spreads its branches horizontally: a few of these are growing in the cantonment of Bellary; the name is also applied to the Pandanus odoratissimus, which throws down aerial roots.

UMBRIAN. See India.

UMBRINA RUSSELLI, CUV. & VAL. Isinglass is obtained from this fish. See Fish. Isinglass.

UMBU. HIND. Myricaria elegans, and M. Germanica, also Carum carui.

UMBURATI NAR. MALEAL. Fibre of Terminalia belerica.

UMBUTI. DUK. HIND. Oxalis corniculata, *Linn.*

UMBUTI KI BHAJI. DUK. Oxalis corniculata; its greens.

UMBRIDÆ, a family of fishes.

UMHSEE. See Kush.

UMLI. ARAB. Tamarind; Tamarindus Indica, properly Amli.

UMMETTA. Tel. Datura alba, *Rumph.* Nalla-umetta, D. fastuosa.

UM'R. See Umar, Khajah, Khalif.

UMRER. A town in the Nagpur district, situated twenty-eight miles south-east of Nagpur. Here are the head-quarters of a tahsil or revenue sub-division, and a police circle. The population amounts to about 12,000 souls according to the census of 1866.

UMREYLI. See Kattyawar, India.

UMRITI. Sans. Emblica officinalis, *Gœrtn.*

UMRITSUR. A town in the Punjab, a holy city of the Sikh religionists.

UMR SINGH. See Kamaon.

UMTI. A river at Jubbulpore.

UM-UL BALAD. Arab, mother of cities, a title of Balkh.

UMUL KUCHI. Beng. Cæsalpinia digyna, *Rottler*; *W. & A.*

UMUR NATH. See Kashmir.

UNAB. Arab. Zizyphus jujuba; Jujube, the fruit of the jujube tree.

UNABI RANG. Hind. Color of the reddish fruit of the Zizyphus jujuba.

UNALI. Sing. Tabashir.

UNANGA. Sans. From a, and anga, the body.

UNANTA. Sans. From a, and anta, the end, eternal.

UNANYAJA. Sans. From a, anya, other, and jana, to be born.

UNANTAMUL. Beng. Hemidesmus Indicus, *R. Brown.* Country sarsaparilla.

UNACHTES PORZELLAN. Ger. Delft.

UNCARIA GAMBIR. Roxb.

Nauclea Gambir.		F. angustifolia, *Rumph.*	
Funis uncatus.			
Japan-Earth,	Eng.	Gambir.	Malay.
Terra Japonica,	„	Unkoodoo.	Tel.

One of a genus of plants belonging to the natural order Rubiaceæ, a native of Penang, Sumatra, Malacca, and Ceylon near Colombo, at an elevation of 3000 feet, and quite a common plant near Colombo, Galle, Deltotte and Doombera. The extract from the leaves is called Gambier, and is manufactured from the leaves in Siak, Malacca, and Bitang. After inspissating by decoction, it is strained, suffered to cool and harden, and then cut into cakes of sizes, or formed into balls. A gambier plantation has much the appearance of brushwood of three years' growth, with leaves of a dark green colour. The leaves are collected three or four times a year, and boiled in a cauldron, from which a strong decoction is poured into square boxes, which when cool, hardens, and is cut into small cubes of about $1\frac{1}{2}$ inches. As brought to the market, it resembles in appearance and consistency little square blocks of yellow mud, hence one of its names, Japan earth. The plant, which is small and bushy, seldom over seven or eight feet high, is much cultivated at Singapore, and is planted six feet asunder; the leaves are small, smooth, and of a dark green colour. The cropping of the leaves may commence when about eighteen months old, but the plant is at its full growth when two years old, and its leaves and young branches may then be cropped once in two months. The croppings are thrown into a large cauldron of hot water and boiled for six or seven hours, till all the extract be inspissated into a thick pasty fluid. This is now poured into shallow troughs a little more than an inch deep, and allowed to cool and dry, when it is cut up into little inch blocks, and is then ready for the market of Siam, Cochin-China, China and the Archipelago, where, along with betel-nut, in a leaf of the Piper betel (Siri), it is largely chewed as a masticatory, as natives of India use the betel-nut of the Areca catechu. The average size of the Singapore plantations are of thirty acres, and when in full bearing employ eight men. A plantation becomes exhausted and worn out in 15 years from its commencement. A composition of this extract is valuable as a preservative for timber. Dissolve three parts of gambier in twelve of dammer oil, over a slow fire. Then stir in one part of lime, sprinkling over the top, to prevent its coagulating and settling in a mass at the bottom. It must be well and quickly stirred. It should then be taken out of the cauldron and ground down like paint on a muller till it is smooth, and afterwards returned to the pot and heated. A little oil should be added to make it tractable, and the composition can then be laid over the material with a common brush. As a protection against the teredo, black varnish or tar are substituted for dammer oil, omitting the grinding down, which would not answer with tar. Gambier is largely imported into Britain, and it is used in tanning. From 1846 to 1850, the average quantity entered was 1,200 tons priced at £13 to £14 the ton. It is duty free. —*Thw. En. Pl. Zeyl. p.* 133. *Ainslie's Mat. Med. p.* 264. *O'Shaughnessy, Beng. Dispens. p.* 398. *Crawfurd's Dictionary p.* 142. *Journ. Indian Archipelago. Simmonds. Poole's Statistics of Commerce.*

UNDA. Hind. An egg.

UNDI. Duk. Mar. Calophyllum inophyllum.

UNDI-MARA. Can. Goolumb. Mahr. Samus. Two large and straight trees bear this name. They are abundant in the southern ghat jungles above the Canara and Sunda forests, but mostly in situations too remote from water for the wood merchant. Wood

good, as it abounds in an aromatic oil, which preserves it from insects.—*Dr. Gibson.*

UNDOPHERRES. One of the Bactrian Greek kings. See Abagasus. Kabul.

UNDRA. TEL. Mimosa rubicaulis, *Lam. W. & A.*, also M. octandra, *Roxb.*

UNDRA KAMPA. TEL. A bramble with hooked thorns.

UND SARWAYA. See Kattywar.

UNDUM. HIND. Pterocarpus santalinus.

UNDUN, also Sundul-ahmir, ARAB. Red Sanderswood.

UNDURUGU. TEL. Sapindus rubiginosus, *Roxb.*

UNG, a river near Pattree in Hazareebagh, also a river near Kopila in the Nagpoor territory.

UNG. BURM Cocos nucifera, *Linn.*

UNGAN. HIND. A court-yard.

UNGAPUTI———? Hylobates agilis.

UNGEN. HIND. Sulphuret of antimony.

UNGEROOT. ARAB. Sarcocolla.

UNGKA-ETAM. MALAY. Hylobates Rafflesii, *Geoffry.*

UNGKA-PUTI. MALAY. Hylobates agilis.

UNGKIAS. See Kyan.

UNGLI, also Ungul. HIND. A finger, also a measure of length.

UNGOOR. HIND. PERS. A grape.

UNGGOOSHTAN, also Huddeearoo.

UNGOTHEE, also Ch'hap, HIND, a ring, a signet ring.

UNGOOZEH. PERSIAN. Asafœtida.

UNGULATA, an order of Mammals, consisting of 1 Suborder; 3 Tribes; 9 Fam.; sub-fam, genera, species, viz.:

Tribe **Proboscoidea.**

Fam. ELEPHANTIDÆ. Elephants, 1 gen. 3 sp.
Gen. Elephas, 3 sp.

Tribe **Perissodactyla.**

Fam. RHINOCEROTIDÆ, 1 gen. 4 sp.
Gen. Rhinoceros, 4 sp.

Fam. HYRACIDÆ, 1 gen. 1 sp.
Gen. Hyrax.

Fam. TAPIRIDÆ, Tapirs. 1 gen. 1 sp.
Gen. Tapirus.

Fam. EQUIDÆ. Horses, 1 gen. 3 sp.
Gen. Equus, 3 sp.

Tribe **Artiodactyla.** *Owen.* Chærodia, *Blyth.* The Pig.

Fam. SUIDÆ. Pigs. 2 gen. 9 sp.
Gen. Sus. 8 sp.
Porculia. 1 sp.

Tribe **Ruminantia.**

Group. CAMELIDÆ.
Gen. Camelus, 2 sp.
Camelopardus, 1 sp.

Fam. CERVIDÆ. Deer tribe.
Sub-Fam. *Cervinæ.* True Stags.
Gen. Cervus, 8 sp.
Sub-Fam. *Rusinæ,* 5 gen. 10 sp.
Gen. Rucervus, 1. sp.; Panolia, 1 sp.; Rusa, 2 sp.; Axis, 3 sp.; Cervulus, 3 sp.

Fam. MOSCHIDÆ. Musk Deer.
Gen. Moschus, 1 sp.; Memimna, 1 sp.

Fam. BOVIDÆ. Antelopes; Goats; Cattle.
Sub-Fam. *Antilopinæ.* 7 gen. 10 sp.
Tragilophinæ or Bush Antelopes.
Gen. Portax, 1 sp.; Tetraceros, 1 sp.
Antelope, 1 sp.; Gazella, 3 sp.
Kemas, 1 sp.; Procapra, 2 sp.;
Saiga, 1 sp.
Sub Fam. *Caprinæ.* Goats. Sheep.
1st—Capricorns, or Antelope goats, or Mountain Antelopes.
Gen. Nemorhædus, 3 sp.
2nd—True Goats.
Gen. Hemitragus, 2 sp.; Capra, 3 sp.
Oves. 8 sp.
Sub-Fam. *Bovinæ.*
Gen. Gavæus, 2 sp.; Bubalus, 1 sp.

UNGUR, HIND. PERS. DUK. Vitis vinifera, Grapes, properly Angur.

UNGURKAH, a body coat, worn by mahomedans.

UNGUR KI-SHRAB. HIND. Wine.

UNGUZEH. PERS. Asafœtida.

UNHILWARA, a town in Kattyawar.

UNICORN. The unicorn of Tibet, an animal which has been described by Messrs. Huc and Gabet, who travelled in Eastern Tibet, It is one of the Ungulata. When Hermann Schlagentweit was in Nepal, he procured specimens of horns of a wild sheep (not an antelope) of a very curious appearance. At first sight it seemed to have but one horn placed on the centre of the head; but on closer examination, and after having made a horizontal section of the horn, it was found to consist of two distinct parts, which were included in a horny envelope, not unlike to two fingers put in one finger of a glove. The animal, when young, has two separate horns, which are however placed so close to each other, that the anterior borders begin very soon to touch: later, by a slight consequent irritation, the horny matter forms one uninterrupted mass, and the two horns are surrounded by this horny substance, so that they appear at first sight to be but one.—*Herm. Schlag.*

UNIWATTA. JAP. Sponge.

UNJUN. HIND. Lamp black: also the term for one of the sorceries of the mahomedans in India, in which the diviner applies lamp black to the palm of a child or adult, and bids him stare well at it, and the person then divines. The Urt'h-anjan is used to discover stolen property; the Bhoot-anjan for ascertaining the state of the sick; the

Dhanna-anjan, to discover hidden-treasure; the Sarwa-anjan, for all purposes; and the Alope-anjan, applied to the eyes or forehead of a person, renders him, wherever he be, invisible to others, while they remain visible to him.

UNJUN HIND. Antimony.

UNKOODOO. TEL. Uncaria gambir.

UNKOTHA. SANS. Alangium hexapetalum.

UNNAB. HIND. Zizyphus jujuba.

UNNUD-BUHSEEN. See Khutri.

UNONA. A genus of plants belonging to the natural order Anonaceæ, of which about 23 species are known to occur in south-eastern Asia. U. longifolia of Sylhet is an elegant tree, with smooth, pointed, and undulate leaves, which is much cultivated in some parts of India to form avenues and to afford shade. It is sometimes called 'Deodara', which is properly the name of the celebrated Himalayan pine, Cedrus deodara; it has large orange yellow flowers. U. tripetala, U. uncinata, are natives of the Indian islands. U. sylvatica is said to be valuable for its timber.—*Voigt. Eng. Cyc.*

UNONA DISCOLOR. VAHL.

Uvaria monolifera, *Gærtn.*

Ata-maram, TAM. | Chilka-duduga, TEL.

A tree of the Circars, Chittagong, Tavoy and Penang, with large yellow flowers. It is a pretty large tree, and a native of mountainous parts of the Northern Circars and of Chittagong. The wood is employed for various economical purposes, but chiefly for rafters.—*Roxb. Voigt. Rhode MSS.*

UNONA ESCULENTA. DC. syn. of Artabotrys odoratissimus, *R. Br.*

UNONA LONGIFOLIA. DON. Guatteria longifolia, *Wall.*; *W. & A.*

UNONA NARIUM. DC. syn. of Uvaria narum, *Wall.* An evergreen climber.

UNONA UNCINATA. DC. syn. of Artabotrys odoratissimus, *R. B.*

UNSANG. See Leegetan Island. Tawee Tawee islands.

UNSRI. In the HIND. of Upper Sutlej Rubus flavus, the blackberry; in the Sutlej valley it is Rubus fruticosa, and R. flavus, yellow raspberry.

UNSUL, also Iskil. ARAB. Squill.

UNTA. MALAY. A camel. Camelus. Unta Ruma. MALAY. Camel's hair.

UNTA-DHURA, a pass in the Himalaya. The elevations of a few places on the route from Bhuni to Ralain, and from Milam to the Unta-Dhura pass, are given in the barometric measurements by Manson in vol. xi. (Part ii. 1842, No. 132, Article iii.) Asiatic Society's Journal. Manson makes Unta-Dhura "about 17,500 feet," but, according to computation, it is not less than 18,200 feet.

UNTUKU. SANS. From anta, the end, and kree, to do.

UNTAMOL. HIND. Tylophora asthmatica.

UNT-KA-TARA. HIND. Solanum xanthocarpum.

UNTAMOOL. BENG. HIND. Tylophora asthmatica.

UNTER-GANGA. DUK. Pistia stratiotes, *Linn.*

UNT-KATRA, also Unt-ka-tara. HIND. SANS. Echinops echinata, *Roxb.*

UNU. MALEAL. Grewia rotundifolia.

UNUNTAMUL. BENG. HIND. Hemidesmus indicus, *R. Br.* Country sarsaparilla.

UNZIRUT——? ARAB. Sarcocolla.

UOSQUAMOS. GR. Hyosciamus niger, *Linn.*

UPA-AD. See Hindoo.

UPA-DARSANA. See Vedas.

UPANA. SANS. Asarabacca, Asarum Europæum, *Linn.*

UPANGA. BENG. Achyranthes aspera, *Linn.*

UPANGA. Of these holy books of the hindus, there are four:

Purana, or History, comprising the 18 Puranas.
Nyaya, Logic, and the principles of knowledge.
Mimansa, Religious Principles and duties.
Dharma Shastra, Law, human and divine.

See Vidaya.

UPANAYNA, is the investiture with the sacred cord. The cord is called upavita. When five years old, the father fixes on an auspicious day, and entrusts his son to a teacher. The instructor writes the alphabet, or rather engraves it with an iron style, sometimes set in silver or gold, on a leaf of the palmyra tree, which is then coloured with turmeric. The leaf is placed on unhusked rice spread over the floor, and the teacher, whatever the sect or caste of the pupil be, invokes the god "Vigneswara" to smooth the difficulties in the way of the child's studies. Then, holding the boy's fore-finger, he thrice traces with it the forms of the vowels in the rice, teaching the boy their sounds. The pedagogue is presented with a new cloth and some money, and dismissed, after which relatives and friends are entertained. On the seventh or ninth year, the "Upanayanam" is performed, on which occasion the family priest 'Upa-d'haya' Sanscrit, Upadhialu, Tel., causes the boy to offer a burnt-offering or "Homam" to the entire pantheon of gods, by pouring ghee (clarified butter) over the fire. He then invests the youth with the zandiyam, the zonar or sacred cord, letting it fall from over the left shoulder to the right side. He

subsequently teaches the Gayatri to the boy, if he be of the brahminical order, as also the morning, noontide, and evening prayers, the due attention to which is considered sufficient to remove all sins committed during the day and night. The Gayatri or Gayatri-mantrum of the brahminical or priestly order, is never pronounced aloud—and it is exceedingly rare that any brahman can be induced to divulge it. Its literal translation is "Om! earth, air, heaven, Om! Let us meditate on the supreme splendour of the divine sun; may he illuminate our minds." It is considered the most venerable text of the Vedas, and the common belief in and reverence for, it, is the bond of union amongst the entire priestly order. With this ceremony, the boy is considered to be born again, and he is of the Punar Janma or twice born. This is the spiritual birth of the hindu, or his regeneration, for until this time the uninitiated youth, though of the brahminical class, is only, so far as his right to perform religious ceremonies is concerned, regarded in the light of a sudra. If the youth who has now been initiated into the mysteries of the brahminical order, be set apart for the sacerdotal office of the priesthood, he is further marked on the muscular part of both arms by being branded with sanku, or chank, and chikram, or disc of Vishnu. This is called the "chakrankitam." From this time, however, he is ranked as a bramhachari, or of the order of bachelors, for he has now entered on his religious life, the whole of the days of a spiritual brahman being apportioned into four religious stages, viz., that of the Bramma-charyam or bachelor-hood; Grahastasramam or the married state; Vanaprastam, the living in solitude with his family; and Saunyasam, or the abandonment of all worldly matters. A bachelor's dress differs from that of a married man in so far as he does not wear the dhoti, but only a wrapper round the lower part of the body: he is prohibited from eating betel, and continence is enjoined. Among other hindu castes, the bram'hachari ceremony is performed at any time prior to the celebration of marriage, but their Gayatri, is from the Puranas, not the Vedas.—*Wilson.*

UPANISHAD. A class of sacred books belonging to the hindus, containing doctrines of the Vedas explained and enlarged according to the Vedanta. They are the best books after that school. Their theology is monotheistic, a pure theism, and Brahm, in the neuter gender, is used for the deity; the dogma of one Supreme Being, detached from matter, maya or sacred. The Upanishad, therefore, may be described as treatises on the unity of God and the identity of spirit. Some of the shortest have been translated into English by Ram Mohun Roy, Dr. Carey, and Sir W. Jones. They were also rendered into Persian by order of Dara Shekoh, the son of Shah Jehan, and were thence rendered into Latin by Anquetil du Perron, a summary of whose works in the French has been published by Mons. Lanjuinais. The whole number of Upanishad known at present is 138, of which only eleven have been published. According to the theory laid down in the Mahavakya Ratnavali, there are 1180 Upanishad, equal to the number of Vedaic schools, one Upanishad belonging to each school. This theory, however, is fanciful. According to the received definition, the Upanishad are such parts of the Vedas as embody their metaphysical and theological views, which may be compressed into the formula that the finite soul is essentially the same with the infinite spirit or Brahma, and though the various Upanishad widely differ from each other, all maintain this identity of the finite and infinite spirit. Dr. Weber arranges the Upanishad into—(1) those which belong to the three first Vedas, as forming the Vedanta system; (2) those comprising all the Atharva Upanishad, and referring to the Vedanta system in its entire development; (3) the Upanishad in which the meditation has become crystalised and is limited to the mystical word "Aum"; (4) those treating on the order of the "Sunyasi"; and (5) the last division, which includes the sectarian Upanishad, in which the Atman is worshipped as an independent deity.—*Thomas Prinsep's Antiquities. Taylor. Hind. Th. vol. 2. p.* 13. See Vidya, Veda, Arian.

UPARAJITA. BENG. HIND. also Uparajita Asphota. SANS. Clitoria ternatea, *Linn. Roxb.* From a, and parajita, to conquer.

UPARINTA. TEL. Cardiospermum halicacabum.

UPARA VARTANA. SANS. From apara, prep and avartana, to go in a circle.

UPARNA. SANS. From a and para, leaves.

UPASAMPADA, the rite of ordination into the buddhist priesthood.

UPAS, in Javanese, poison, or venom, is the term applied to the sap of some plants of the Malay and Philippine Islands yielding poisonous juices, which, by concentration, produce a poison of considerable activity, and is sometimes employed by the ruder natives to render their weapons deadly. The most potent of these plants in Java are the Auchar, the Antiaris toxicaria, a large forest tree, and the Chetek, Strychnos tiente, a climbing shrub. In all these cases, the poison, even when fresh, is far less active than that

of the cobra snake, for the most powerful will take an hour to kill a dog, which the venom of the hooded snake would certainly accomplish in half the time. To effect a fatal purpose, too, it is necessary that the poisoned weapon should be left in the wound, and not withdrawn, so that the probability is that few human beings have ever lost their lives by means of these poisons.—*Crawfurd Dictionary, page* 442. *O'Shaughnessy, page* 579.

UPAS ANTIAR. The Upas tree.

Antiaris toxicaria, *Lesch.*		Ipo toxicaria,	*Pers.*
Upas tree,	Eng.	Anchar,	Malay.

A native of Java, where it grows in the forests often over a hundred feet in height. It is the Upas tree of Java, anchar of the Malays, is the Ipo toxicaria of Persoon, the Antiaris toxicaria of Leschenault. It was first described by Mr. Foersch, a surgeon of the Dutch E. I. Co., in vol. iv. of Pennant's Outlines of the Globe, and was then reprinted in the London Magazine for September 1785. Dr. Darwin celebrated it in poetry, where he says,

> " Fierce in dread silence, on the blasted heath,
> Fell upas sits, the hydra-tree of death."

It is known in story as that tree under whose shadow none could exist, while its juice forms the well known upas antiar poison, the anchar of the Malays, with which the Javanese tip their little poisoned arrows. Dr. O'Shaughnessy mentions that the tree grows in Java in a valley filled with carbonic acid, into which it is therefore highly dangerous to descend, and he supposes that this probably originated the stories as to the deadly influence of the tree. The tree itself is often over 100 feet in height, its bark pale, smooth, its leaves oval, coriaceous, hairy. The poison is prepared by mixing the gummy resin (into which the bitter viscous juice concretes) with the seed of the Capsicum frutescens and various other aromatics. This poison at first acts as a purgative emetic, then as a narcotic, causing death by violent fits of tetanic convulsions. The Upas tiente poison of Java is different, being prepared from the juice of the Chetek, Strychnos tiente, a climbing shrub. Noxious as this poison is, it is, when fresh, far less active than that of the cobra snake, as the most powerful will take an hour to kill a dog, which the venom of the hooded snake would certainly accomplish in half the time. To effect a fatal purpose too, it is necessary that the poisoned weapon should be left in the wound and not withdrawn, so that probably but few human beings have lost their lives by means of this poison. The arrows are small and slight, and are discharged with accuracy from the sumpeton or blowpipe, by the mouth.—*Voigt. O'Shaughnessy, p.* 579. *Crawfurd Dictionary, p.* 442. *Eng. Cyclop. Wathen's Voyage, p.* 165.

UPARAVARA. Tel. Tam. A labouring race in the south of India, the men erect walls and make mortar with mud for building; the women bring wet mud, mortar, stones, and bricks, mix and grind mortar. Men's implements are the guddapara or crowbar, the mamotee, phaora, or hoe; women make baskets and tattoo figures on the arms of hindoo women. See Uperawandlu.

UPASHA. See Vidya.

UPASHRA. Schools or colleges of the Yati or Jain teachers.

UPATISSO. See Mahomedanism.

UPATRI KARANA. Sans. From a, and patra, a worthy person, and kree, to do.

UPA-VEDA. Of these religious books of the hindoos, there are four, the Ayush, Medicine; Gandharva, Music; the Dhanush, Warfare; and the Sthapatya, Mechanics. The third Upa-veda was composed by Viswamitra, and treats of the fabrication and use of arms and implements handled in war by the Chatriya tribe.—*Thomas' Prinsep.* See Veda, Vidya, Pritivi, Mahabharata.

UPA-VIT. Sans. The thread or cord worn by the three classes of hindus over the left shoulder and under the right arm, and worn also by the five Kansala or artizan races. It is called Zandiam in Telugoo and Punal in Tamil. See Hindoo; Jandiam; Dwaita; Upanainam; Zandyam.

UPAUN——? Tabernæmontana coronaria. See Tugar.

UPEI. Malay. The outer envelop of the stem of the pinang or Areca catechu palm below the bunches of fruit. It is used in the Archipelago for making sifters (timba), for packing goods, making torches, &c.

UPENDRA. See Inscriptions.

UPERA WANDLU. Tel. Dravidian people, who, along with the Wadra-wandlu, Waddar race, are employed in digging tanks, salt-making, and road-making. See Upara-va...

UPI, or Oodapi. See India.

UPLA, also Upli. Hind. Cakes of dried cow-dung used as fuel.

UPLAND GEORGIA, or Short staple cotton. See Cotton.

UPO'DAKI. Sans. Basella cordifolia, *Lam.* B. alba, *Linn.*; *Rheede*; *Roxb.*

UPOOR. A tree in Beluchistan, supposed to be the Zizyphus jujuba.

UPPARINTA. Tel. Cardiospermum halicacabum, *Linn.*

UPPER ASSAM. The upper part of the valley of the Brahmaputra river. See Assam, India.

UPPER INDIA, a name applied to modern Hindustan.

UPPER MOMUND. Afghanistan. See Kabul, Khyber, Momund.

UPPER NILE, the upper part of the river Nile. See Kush.

UPPER NOBLE, is the translation of the word Aryan. See Aryan. Hindu.

UPPER PITI. See India.

UPPER SELENGA. See Kalka.

UPPER SIND. See Kelat, Kurrachee.

UPPER TIBET. See Tibet.

UPPI-CHETTU. TEL. Capparis sepiara, *Linn.*

UPOORVATA. SANS. From a, priv. and poorva, unprecedented.

UP-PATI. SANS. From ap, water, and pati, a lord.

UPPU. TAM. Salt.

UPPU PONNA, also Adavi-ponna. TEL. Rhizophora mucronata, *Lam.*

UPPURAN. See Vidya.

UPPU SANAGA. TEL. Cressa Indica, *Retz.*, so called from frequenting salt lands near the sea, where it has much the look of young chenna, the Cicer arietinum, or Bengal gram.

UPPUTAH, the Malayala name of a Malabar wood, which is hard, strong and heavy. It grows to about twelve feet high, and ten inches in diameter. It is used by the native carpenters for the frames of boats, of coasting-vessels, and similar purposes, where strength is required.—*Edye, Forests of Malabar and Canara.*

UPRADHANA. SANS. From a, priv. and pradhana, chief.

UPSARA. SANS. From ap, water, and sree, to go.—*Ward.*

UPSALA. See Basant. Sacrifice.

UPSARASA. See Apsarasa. Sati.

UPUCUTI, a bush common in Malabar; it contains a very tenacious juice, which is used for sealing letters.—*Ans. Mat. Med. page* 204.

UPU-DALA. HORT. MAL. Ruellia ringens.

UPU-NAINAM. SANS. literally the added eye, the second birth of the hindus, on the assumption of the sacred string, the Zandiam in TEL, Punal, TAM. See Upa-vit.

UPUPA EPOPS. LINN. Upupa Indica, *Hodgs.*

Hoopoe,	ENG.	Hudhud,	HIND.
Εποψ; Epops,	GR. LAT.	Kat-kuto,	SIND.

The 'Hoopoe,' of Europe, Asia and Africa, is a common winter-visitant in Lower Bengal, but is generally replaced by a nearly affined race in upper Hindustan and south India. This bird was often alluded to by Greek and Latin authors, and Ovid makes Tereus be transformed into it. It belongs to the Upupidæ, a family of Insessorial or perching birds. Its long crest of parallel rows of white, yellowish, brown and black feathers, is frequently erected, and when seen flitting in a dense forest, it looks a very handsome bird. It is easily domesticated and flits about a room. Its long curved bill enables it to search for worms in the ground. It builds in holes in old walls. It is common in southern Asia during the cold season, and on the table-lands at all seasons, and is, to all appearance, a bird of fluttering and feeble flight; but it has repeatedly been observed, during its seasons of migration, at altitudes considerably above the limits of vegetation. On the western side of the Lanak pass, about 16,500 feet, I saw a hoopoe, writes Major Cunningham, and at Momay (14,000 to 15,000 feet elevation), under the lofty Donkia Pass in Northern Sikhim, in the month of September, Dr. J. D. Hooker observed, "birds flock to the grass about Momay; larks, finches, warblers, abundance of sparrows (feeding on the yak droppings), with occasionally the hoopoe: and waders, cormorants, and wild ducks, were sometimes seen in the streams, but most of them were migrating south."—*Dr. J. D. Hooker, Him. Journ. Cunningham's Ladak.*

UPUPA NIGRIPENNIS. GOULD.

U. Minor, *Sykes, Jerdon.*		U. Senegalensis,	*Blyth.*
Hudhud,	HIND.	Kondah pitta,	TEL.
Kukudeu guwa,	TEL.	Indian Hoopoe	

The Indian hoopoe is found throughout India: it builds in old walls and eats insects.

UPURAJITA. BENG. HIND., also Kowatiti. HIND. Clitoria ternatea. The word is Sans. from a, and parajita, to conquer.—*Ward.*

UPWA. HIND. Avena fatua.

UQEEQA. ARAB. A sacrificial rite amongst the Arab mahomedans, consisting of an offering to God on the chutthee or chillah, the fortieth day after delivery, of one, if a girl, or two he-goats, if a boy.—*Herk.*

UQIQ. HIND. Cornelian, written Akeek.

UQIQ UL-BAHAR. HIND. Mocha stone.

UQQALL-BAHAR. Canna Indica, *Linn.*

UR, of the Chaldees, lies between the eastern confluents of the Chaboras and Tigris. The tract of country first occupied by the Chaldeans was the mountainous district of the Chasdim, or Chalybes, in Central Armenia, a little way northward of Erz-Rum. We also find traces of this people in the names given to different places at intervals westward of the source of the Euphrates, as far as the banks of the Halys, and likewise in Babylonia, a part of which, together with the whole tract of country lying between the rivers, was designated Chaldea by some of the oldest writers, and more particularly by Berosus, who speaks of a great resort in Babylon of the people inhabiting Chaldea.

Strabo speaks of the Chalybes, Mosynœci, &c., and mentions that the former were then called Chaldeans. (*Strabo*, xi. pp. 528, 529.) This people, or rather the Sabean followers of Cush, are to be distinguished from those descendants of Shem who, at a later period, occupied part of the mountains of Assyria and the country westward of the river Tigris, and to whom, though perhaps erroneously, the Chaldean name has been more particularly applied. The earlier kings of Babylonia are designated Chaldeans—(See *Fragments from Apollodorus, Syncellus, and others*, pp. 30, 56, 67.) In Ptolemy's time, the name Chaldea was evidently applied to a tract of country touching the south-western extremity of old Babylonia, and extending from thence to the Persian Gulf along both sides of the Shatt-ul-Arab, and therefore including some of the territory lying eastward of Ur of the Chaldees. In this section of the country, Ptolemy places the towns and cities of Shunda, Rahacharta, Shalata, Atha, and Teredon, all on or near the river, whilst inwards from thence were situated Chumara, Bethara, Beramba, and Orchoe. Instead of these places we now find the modern city of Basrah and the towns of Diwaniyeh, Imam-Ali, Lamlum, Semavah, Kut, Suk-el-Shuyukh, Mujayah, Kurnah, Girdelan, Zabeid, Mohammarah. Waist, and Kut-el-Amarah. Having briefly noticed the changing limits of Chaldea, it will be seen that the Cushdim territory before mentioned (the Armeno-Chalybes of Pliny) formed but a small part. The Chaldeans, and their neighbours the Tibareni, were subject to Armenia. Abraham was born in Ur of the Chaldees B.C. 2927, and in 2900 went to the south-western part of Mesopotamia with his father, immigrating B.C. 2877 into Canaan.—*Bunsen, Strabo*, xii. *p.* 555, *quoted by Col. Chesney, p.* 92. See Abraham, Terah.

URA. Tel. belonging to a village.

URA CREPITANS. Its elastic capsule bursts, and disperses its seeds, with a sharp report.

URAD. Hind. Phaseolus radiatus, also P. Roxburghii.

URA KAKARA. Tel. Momordica charantia, *Linn.*

URA KANDA, also Pati kanda. Tel. Arum campanulatum, syn. of Amorphophallus campanulatus, *Roxb.*

URA KANUJU NALIKA, also Budu muru. Tel. Celtis (Sponia) orientalis, *Linn.*

URAL MOUNTAINS. See India.

URALA TAMARA. Tam. Maleal. Ionidium suffruticosum, *Ging.*

URALI, a branch of the Irular race on the Neilgherries. See Erular; Kurumbar; India.

URA NAKKERA, also Nakkera. Tel. Ximenia Americana, *Linn.* The fruit resembles in flavour the peach, as does the kernel of the nut. The leaves also smell like the common laurel, and probably contain prussic acid. In Masulipatam and Guntur the ryots distinguish two kinds, this and a small stunted variety which grows in their fields, and which they say never attains a larger size. They use the bark medicinally for their cattle.

URAN. Hind. Cæsalpinia sepiaria.

URANIA GUIANENSIS. One of the Musaceæ. See Dyes.

URANIA SPECIOSA. Tr.

Handsome Urania, Eng.	Traveller's tree, Eng.
Ravenala, Madagascar.	Plantain-leafed Palm, „

This elegant tree, a native of Madagascar, is cultivated in India for ornament, and is to be seen in the Dekhan, in Madras, in Singapore, in Penang and Tenasserim. Its short solid trunk resembles that of the palm tribe, but its leaves those of the plantain. It is well worthy of being cultivated, and in a border, or at the end of a walk, when growing, it forms a perfect screen. It bears a small fruit like the drupe of a plantain, which is of a bluish colour. The juice of this plant has the property of rendering water or milk, either hot or cold, mucilaginous, without altering the taste, colour, or smell of the liquid in its former state. Butter-milk and water is often thickened with the juice of this plant, and then sold as an unadulterated article of the richest and best description. It is propagated by seed and suckers, and fifteen feet space should be allowed between each tree. Its banana like leaves spring in a beautifully imbricated fashion, from the two opposite sides only of the stem, the whole tree spreading its leaves out and forming a semi-circular head representing a gigantic open fan.—*Roxburgh. Collingwood. Riddell. Mason.*

URANKI GADDA. Tel. Poa nutans, *Retz.*

URANUS. See Hindu.

URAON is alike the name and the language of the Urya people; it is an uncultivated idiom, and contains many roots and forms belonging to the Kol dialects, and so many Dravidian roots of primary importance, that it is considered by Dr. Caldwell as having originally been a member of the Dravidian family of languages. The Uraons, according to their own traditions, were driven across the Sone by the intrusion into their native land of Gangetic hindus, and ultimately settled in Chota Nagpur, the country of the Kol tribe of Munda or Ho. At a later period, hindus spread into

this territory, reduced the more civilized Uraon to slavery, drove the wilder Kol into revolt, and eventually forced them to migrate to the southward and eastward into the land of the Bhuian. The more northerly of the eastern emigrants passed out into the low country, and mixing with the Bhumij and Bhuian natives, formed the class of Tamaria. The more southerly moved into Singbhum and Kolehan, living at peace with the Bhuian pre-occupants, until the intrusion of hindus from Marwar, who first leagued with the Bhuian against the Kol and then with the Kol against the Bhuian, and finally appropriated Singbhum, leaving Kolehan or Ho-desham to the Kol or Ho, as the southern tribe call themselves. Remnants of the Kol are still found to the northward in Chota Nagpur, and they appear to be also spread to the northwards towards Rajmahal. The nomadic Sonthal tribe appear to be very widely spread. It is found in Chota Nagpur and in the skirts and valleys of the Rajmahal hills; it is enumerated by Mr. Stirling in his list of the tribes of Cuttack, and according to Captain Sherwell, its range is from Cuttack through Chota Nagpur to Rewa, thus embracing the territory of both divisions of the eastern Vindyan races.

The Uraon and the Male or Rajmahali dialects are still closer to the Gond and south Dravidian than the proper Kol. The Male and Uraon languages are mainly Dravidian, and it is remarkable that although the Male are now confined to the N. E. extremity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the south Dravidian nations by the Kol, their language is more Dravidian than the Kol itself. The explanation is probably to be found in the circumstance of the Uraon and Male having originally formed an uninterrupted extension of the Gond tribes and dialects that extended from the Godavery to the north extremity of the Vindhya. Physically the Kol and Male-Uraon are Ultra-Indian more than Dravidian, and the occupation of the Eastern Vindhya and hills on the opposite side of the Gangetic valley, by Ultra-Indians, implies that the valley itself was at one time possessed by the same race,—the simplest conclusion is that the Kol were an extension of the ancient Ultra-Indo-Dravidian population of the lower Ganges, and of the highlands on its eastern margin. The Ho language differs so little in phonology and glossary from the Munda, Bhumij and Sonthal, that Captain Tickell's account of its grammar may be taken as that of the Kol language generally.

The Khond language of Gumsur appears to be merely a dialect of the Gond.—*Col. Dalton. Mr. Logan in Jl In. Arch.* See India, Kol.

URATMANIS. MAL. Liquorice root.

URAVADA CHETTU. TEL. Bruguiera parviflora, *W. & A.*, also Rhizophora parviflora, *Roxb.*

UR-BHUI. TEL. also called Ur-bhuiwanlu, are mercenary soldiers who serve native sovereigns. They are never found in the ranks of the British army. There are a few of them in every large town in the peninsula of India. Their name is of Telugu origin, and means town-bhui.

URBUL. HIND. Ficus Roxburghii.

URCEOLA ELASTICA. ROXB.

Vahea gummifera, *Roxb.*	Tabernæmontana elastica, *Sp.*
India-rubber tree, ENG.	Caout-chouc Vine, ENG.

In Sumatra and Pulo Penang, this large woody climber yields caoutchouc of the finest quality in great abundance. Dr. Hooker mentions that a plant which grows in the forests east of Chittagong, the milk of which flows in a continuous stream resembling caoutchouc, is probably the Urceola elastica, which yields India-rubber. The milky juice of the plant oozes out from wounds made in the bark; on exposure an elastic coagulum separates from a watery liquid; the coagulum is caoutchouc or India-rubber.—*Roxb. As. Res. p.* 116. *Voigt. O'Shaughnessy, p.* 449. *Hooker. Him. Jour. vol.* II. *p.* 350. See Jintawan.

UR DESA. See India.

UR'DH. HIND. Phaseolus radiatus, *Mash.*

URD'HA-BAHU. SANS. From urdha, above, and bahu, the arm, a sect of ascetic hindus, solitary mendicants, who extend one or both arms above their heads till they remain of themselves thus elevated. In some of the creeds of the hindus personal privation and torture is of great efficacy, and the Urd'ha-bahu are individuals who, urged by credulity or knavery, have adopted this mode of distorting their limbs. They also close the fist until the nails grow through the hand. They subsist on alms: many go naked, but some wear a wrapper stained with ochre.—*Wilson.*

URDHA-NARISHWARA. SANS. From ardha, half; naree, woman; and ishwara, a god.

URDHA-RAT'HI. SANS. From ardha, half, and rat'hi, a charioteer.

URDHA-SHLOKA. SANS. From ardha, half, and shloka, a verse.

URDU. TART. HIND. literally a camp, the term given to the new tongue generally styled Hindustani, which originated in the moghul camp at Delhi.

URD-ES-SHEBA. The Saba district in Arabia. See Saba.

URELA-TAMARA. MALEAL. Ionidium suffruticosum, *Ging.*

UREN. MALEAL. Urena sinuata, *Rheede.*

URENA LOBATA. ROXB. iii. 182.

Ban-ochra, BENG. HIND.	Kat-sai-nai, BURM.
Kangya; Kanguya, BEN.	Uren, MALEAL.
Wet-khyæ-pai-nai, BURM.	Piliya, TEL
	Talia mankena, ,,

This malvaceous plant, as also U. sinuata, are common in most parts of India, and along the coasts of Amherst and Tenasserim; the bark of U. lobata yields a strong and tolerably fine substitute for flax. It is an annual, flowering in December, but though in other respects resembling Triumfetta, the flower is of a light pinkish colour, and the capsules are a little larger than those of Triumfetta lobata, and differ still more in their presenting from three to five grooves, marking the detriscence, or the number of valves or parts of which the capsule is composed; but in other respects the two plants appear alike to ordinary observation, and alike also as to the value of their fibre. They are both generally found growing together, and are two of the most plentiful weeds which are to be found in Pegu. They take possession of all ground recently cleared of tree jungle about Rangoon, and extend without interruption to the Pegu and Tounghoo districts, but become scarce, or only occasionally met with in the Prome and Tharawaddy districts. This plant is the pest of Rangoon and its neighbourhood, springing up spontaneously wherever the jungle is cleared, and rapidly forming a dense mass of luxuriant vegetation. The fibre is manufactured by simple maceration, and afterwards beating the stalks. Very good 'gunny' has been made from it, and it is believed that the fibre might, if treated with due care and skill, prove valuable. Any quantity of the plant may be had for the mere trouble of gathering it.—*McClelland. Royle. Fb. Pl. Roxb. Fl. Ind. Mason, Tenasserim.*

URFALAYURI. DUK. Cicca disticha, *Linn*, properly Harfaleuri, or Harphareuri.

URGHANDAB, a river 250 miles long, rising in the Hazareh mountains, about lat. 33°, lon. 67°, and runs south-westerly to 25 miles past Kandahar; then westerly in the remainder of its course, and falls into the Helmund river, where it is crossed 12 miles from Kandahar. It is ordinarily about 40 yards wide, from two to three feet deep, and fordable; but in inundations becomes much increased. The greater part of its water is drawn off to fertilize the country.

INDICA. WIGHT. syn. of *Roxb.*, the jungly-piaz of the

URGUJJA. HIND. A yellowish colou perfumed powder, made of several scented in gredients, sandal wood, wood aloes, rose wat attar of roses, civet cat perfume, and oil of j samine.—*Herklots.*

URGUNJ, the old capital of Kharasm, i the Urvan of the Vendidad.

URHAR. HIND. Cytisus cajan.

URI KULURU KRADU. TAM. Sir J. Tennent (vol. 2, p. 468) gives this as t Tamil name of a musical mollusc of Ceylo and which he surmises to be Littorina lae or Cerithium palustre. The Tamil for cry shell, however, is Kuchil-podu-kira-kilinji.

URI. TEL. Oryza sativa, *Linn.*, unhusk rice.

URI. HIND. Cæsalpinia sepiaria.

URIAM. ASSAM. Andrachne trifoli *Roxb.*

URIMEDA. SANS. Vachellia Farnes

URIMIDI or Uru mitti, or Ulimidi. T Cratæva Roxburghii.

URINARIA INDICA. BURM. the Ph lanthus niruri, *Linn.* There are two v ties of this, U. erecta and U. spinosa, *Bu*

URINJI. MALEAL. Sapindus laurifol *Vahl.*

URISHA. See Indra.

URIT-MANIS. MALAY. Glycyr glabra, *Linn.*

URJOON, a small river of Hamee

URJUN. Urjuna or Urjun-sadra. I Terminalia alata, Pentaptera arjuna. U na Bark is the astringent bark of Termi alata.—*Beng. Ph. p.* 220.

URKA. BENG. and HIND. Asc gigantea.

URKAN. ARAB. Lawsonia ine Henna.

URK-I-SHORA. PERS. Nitric acid.

URK-I-GANDAK. Sulphuric acid.

URK-I-NAMAK. Hydrochloric acid.

URKUR. HIND. Rhus vernicifera.

URLU. TEL. unhusked rice, the gr Oryza sativa, *Linn.*

URMENA. ARAB. Sal ammoniac.

URMUK, a product of the Kashmir l resembling strong nankin.

URMUL. HIND. Ficus Roxburghii.

URN, also Urni, HIND. Cæsalpinia sep

URN, also Urni of Kaghan. Corylus l the hazel.

URN KANIJ NALIKA. TEL. C orientalis, *Linn.*

UROMYCES—? See Fungi.

UROONA. SANS. the dawn. See Ar

UROONA. BENG. and HIND. Rubia c folia.

UROOS or Utarosha. SANS. Adh vasica.

URORA, a mahomedan tribe on t

side of the Indus, south of Kalabagh and around Multan.

URRANKI GADDI. TEL. Poa nutans, *Retz. R.* i. 335.

URS or Ooroos. ARAB. oblations, offerings to a saint, the anniversary of whose death is called his Ooroos, as Kadir Wuli ki Ooroos, the festival day of Kadir the saint.

UROSTIGMA ÆGEIROPHYLLUM. MIG. syn. of Ficus infectoria, *Willde.*

UROSTIGMA ARNOTTIANUM. MIG.

Kappootoo-bo-gass, SINGH.

Grows in the hot drier parts of Ceylon. It is not Ficus lucida.—*Thw. En. Pl. Zeyl. p.* 264.

UROSTIGMA BENGHALENSE. MIG.

Ficus Bengalensis, *Linn.* | F. Indica, *Linn.*

Maha-nooga-gass, SINGH.

Grows all over India, and in the hotter parts of Ceylon, probably not indigenous.—*Thw. En. Pl. Zeyl. p.* 265. See Ficus Indica.

UROSTIGMA ELASTICUM. MIG.

Kusneer, BENG. | Elastic-gum tree, ENG.

UROSTIGMA CEYLONENSE. MIG.

Ficus infectoria,	*Willd.*	U. Tjakela,	*Mig.*
U. ægeirophyllum,	*Mig.*	U. Ceylonense,	„

Kirri-palla-gass, SINGH.

Common in Ceylon up to an elevation of 2000 feet. The Singhalese sometimes use the bark of the tree instead of the areca nut, to chew with their betel leaf.—*Thw. En. Pl. Zeyl. p.* 265.

UROSTIGMA LACCIFERUM. MIG. syn. of Ficus laccifera, *Roxb.*

UROSTIGMA MYSORENSE. MIG.

Ficus Mysorensis, *Roth.* | Ficus citrifolia, *Willd.*

Booncoga-gass. SINGH.

A tree of the peninsula of India, not uncommon in Ceylon up to an elevation of 2000 feet.—*Thw. En. Pl. Zeyl. p.* 265.

UROSTIGMA NITIDUM. MIG. Ficus nitida, *Thunb.* ; *W. Ic.* ; *Rh.*

UROSTIGMA PISIFERUM. MIG. Ficus nitida.—*Thunb.* ; *W. Ic.* ; *Rh.*

UROSTIGMA RELIGIOSUM. MIG.

Ficus religiosa, *Linn.*

Bo-Tree,	ANGLO-SINGH.	Pippula,	SANSC.
Pipal Tree,	ANGLO-HIND.	Bo, Bo-gaha ;	
Ashwertha,	BENG.	Bo-gass,	SINGH.
Ani-pipal,	BOMBAY.	Arasam maram,	TAM.
Holy-fig tree,	ENG.	Raya-manu,	TEL.
Pipal,	HIND.	Raghi,	„
Arealu,	MALEAL.		

The holy fig tree or pipul tree is to be seen in all parts of India. It is much admired by Europeans for its elegant form and the constant movement of its leaves. It is the bo-tree of the Singhalese budd'hists, and is to be met with in that island wherever there is or has been a buddhist temple, but the most famous bo-tree is at the temple at Anarajapura. It was grown from a cutting sent from Hindustan, and in A. D. 1800 it will be 2200 years old. It is held in great estimation by Singhalese buddhists. The Bo-tree is to be seen throughout India, but the frequency of F. religiosa and F. Indica depends very much on the proportion of hindus among the population. In some parts, where the latter is almost entirely mahomedan, these trees are very rare, even allowing for differences of climate.—*Thwaites. Roxb. Powell. Flor. Andh. Stewart.*

UROSTIGMA RETUSUM. MIG.

U. nitidum,	*Mig.*	F. nitida,	*Thunb.*
U. ovoideum,	„	F. benjaminea,	*Roxb.*
U. pisiferum,	„	F. pallida,	*Wall.*
Ficus retusa,	*Linn.*		

A frequent tree in India and common in the Central Province of Ceylon up to an elevation of 5000 feet.—*Thw. En. Pl. Zeyl. p.* 265.

UROSTIGMA TJAKELA. MIG. syn. of Ficus infectoria, *Willde.*

UROSTIGMA TOMENTOSUM. MIG.

Ficus tomentosa, *Roxb.*, *Walp.*, *I. c.*

A tree of India and Ceylon.—*Thw. En. Pl. Zeyl. p.* 265.

UROSTIGMA TJIELA. MIG.

Ficus tjiela,	*Roxb.*	F. amplissima,	*Linn.*
F. Indica,	*Linn. Syst. Veg.* 922.		
Datira,	MAHR.	Ichi maram,	TAM.
Eichie maram,	TAM.		

A tree of India, common on the Bombay side, in ravines of the ghats, but not on open forest land. There is a noble specimen of this tree in the Royal Botanic Garden, Ceylon, whose branches spread over an area of ground 120 yards in diameter.—*Roxb. W. Ic. Wight. Thw. En. Pl. Zeyl. p.* 265.

UROSTIGMA WIGHTIANUM. MIG.

U. perseæfolium, *Mig.*

Common in the Central Province of Ceylon up to an elevation of 5000 feet.—*Thw. En. Pl. Zeyl. p.* 265.

URRNI. HIND. also Urrvi. PANJ. Corylus colurna, *Linn.*

URSANIKUN. ARAB. Arsenic.

URSH. PERS. The 9th heaven of the mahomedans.

URSUS. The bear, a genus of the carnivorous mammalia, the following species of which occur in America and Asia :—

U. americanus. Black Bear of America.
U. arctos. Brown Bear of Europe.
U. ferox. Grisly Bear of the Rocky Mountains.
U. isabellinus. Brown Bear of India.
U. labiatus. Black Bear of India.
U. malayanus, of Assam to Borneo.
U. maritimus, or Polar Bear.
U. syriacus of Syria.
U. tibetanus. Black Bear of Himalayas.

The following are synonyms of the bear.

Bear,	Eng.	Ursus,	Latin.
Dub,	Ar.	Riksha,	Sans.
Dob,	Ethiop. Heb.	Deep,	Pers.
Arktos,	Greek.	Karadi,	Tam.
Rich,	Hind.	Gudelgu,	Tel.

The genus Ursus, of the mammalia, is a plantigrade animal, of which four Indian species are known, viz., U. Isabellinus of Horsfield; U. labiatus of Blainville; U. Malayensis of Raffles; and U. Tibetanus of Cuvier. U. Isabellinus is, according to Gray, the U. Syriacus of Hemprich and Ehrenberg, and is that known to Himalayan sportsmen as the Brown, Red, Yellow, White, Gray, Silver or Snow bear, or Tibetan Snow bear, and the Harput of Kashmir, for it inhabits Tibet and the snowy regions of the Himalaya, and high Central Asia generally.

Ursus labiatus of Blainville is found all over India, Ceylon and Assam, and is the Ballu or Reech. It has received several scientific synonyms, attaching it to the genera Bradypus and Melurus, and its names in English, Five-fingered Sloth, Sloth Bear, and Ursine Sloth, have corresponded. It is readily domesticated. When wild it lives on roots and honey.

Ursus Malayanus occurs in Arakan, Malay peninsula, Sumatra, Java, Borneo, and in Indo-Chinese countries generally.

U. Tibetanus, the Black Bear of Himalayan sportsmen, inhabits the forest region of the Himalaya, and is very rare in Tibet, though met with in its eastern forests. It seems identical with U. Isabellinus.—*Blyth. Cat.* See Mammalia; Prochilus; Ursus.

URSUS ISABELLINUS. Horsf.; *Blyth.*

U. Syriacus, *Hempr.*

Snow Bear,	Eng.	Silver Bear,	Eng.
Brown Bear,	,,	Barf-ka reetch,	Hind.
Red Bear,	,,	Bhalu,	,,
Yellow Bear,	,,	Har-put,	Kashm.
Gray Bear,	,,	Drin-mor,	Ladak.

The brown bear inhabits the Himalaya mountains, but Dr. Adams says its distribution is not so general as that of the black species, Helarctos Tibetanus, which is spread over the whole extent of the lower ranges of the Indian Himalaya, whereas the brown bear is confined to districts, and prefers high and rugged mountains near the confines of perpetual snow, and nowhere is its fancy better gratified than among the noble chains which surround Cashmere, especially the secluded glens, such as the Wurdwun valley and its offshoots. Bears were at one time very abundant there, but every year shows marked diminution in their numbers, so that, before long, we may expect to hear of the almost complete extermination of the species in the Cashmere ranges. Dr. Adams says that if not a variety, it is certainly very closely allied to that of Europe, Northern Asia, and Arctic America. In Asia the bear of Siberia and the Altai, U. arctos, is called the brown bear; but this species is said to frequent the Himalayas only. Dr. Horsfield named it Ursus isabellinus from a single skin brought from Nepal, but in colour two specimens are seldom exactly alike.—*Drs. Adams, Jerdon.*

URSUS LABIATUS. Blain.; *Blyth. Ell.*

Bradypus ursinus, *Shaw.*	Melursus lybicus, *Meyer.*

Kaddi, Karaddi,	Can.	Bhalu,	Hind.
Reech,	Duk.	Banna,	Kol.
Sloth Bear,	Eng.	Aswail,	Mahr.
Indian Black Bear,	,,	Riksha,	Sans.
Horse-shoe Bear,	,,	Karadi,	Tam.
Yerid,	Gondi.	Elugu,	Tel.

This bear has a white V-shape mark on its breast; it inhabits Ceylon and all British India and Kashmir. It lives on fruits, seeds, honey and ants. It is easily tamed, taught to show antics, and is led about to be exhibited. —*Jerdon, p.* 77.

URSUS MALAYANUS.

U. eurysplius,	Malayan Bear.

This is perfectly identical in Borneo, Java, Assam, Arakan, Tenasserim, &c.—*Wallace.*

URSUS SEWALENSIS. A fossil bear, discovered by Sir P. T. Cautley in the Sewalik Hills.

URSUS TIBETANUS. F. Cuv.

U. torquatus, *Schinz*	U. ferox, *Robinson*
Helarctos tibetanus, *Adams.*	

Bhalu; Bhalak,	Beng.	Himalayan Black bear.	
Thom,	Bhot.	Sona,	Lepcha.

The black bear's favourite haunts are in the woods and jungles of the lesser ranges of the Himalayas, where it lies all day, to issue forth at night-fall and feed in fields and gardens. The black bear is not uncommon along the foot of the barrier-chains of Cashmere, and during the fruit season may be found in the valley, where its depredations among the apple, walnut, and mulberry trees are well known, and whole crops of Indian corn are sometimes completely destroyed by these unwelcome intruders. Although said to attack sheep at times, this species is eminently a vegetable feeder, and so expert in climbing trees, that it may frequently be seen on the topmost branches, standing erect and seizing the branches with its fore-paws.—*Adams.*

URTENYSA. Arab. Cyclamen Europæum, *W.*

URT'HABHEDA. Sans. From artha, and bheda, separation.

URTH ANJAN, a form of divination amongst Indian mahomedans.

URTICA. A genus of plants belonging to the natural order known as Nettle plants or Nettle worts. It is a genus of the order Urticaceæ, some of the species are gigantic and with intense stinging powers. They yield valuable fibres from their stems, which are employed in the manufacture of fine linen. Fortune tells us that on the island of Chusan, there is a species of Urtica, both wild and cultivated, which grows about three or four feet in ıeight, and produces a strong fibre in the ›ark, which is prepared by the natives and ıold for the purpose of making ropes and :ables. Hemp is cultivated in the provinces ıorth of the Meiling, but the plant also grows n Fuhkien; the grass-cloth made from it is not o much used for common dresses as cotton nd silk. There are three Chinese plants which produce a fibre made into cloth known s grass cloth, viz., the Cannabis sativa, or emp, at Canton, the Urtica nivea, a species f nettle grown about Sucham, and the Sida liæfolia, near Tien-tsin-fu.

URTICACEÆ. The nettle tribe of plants ·e trees, shrubs or herbs, about 300 species ' which are known to occur in the East ıdies in the following 16 genera, viz.:—

i9 Urtica.	2 Trophis,	21 Procris
1 Parietaria,	11 Bœhmeria,	1 Antiaris,
2 Conocephalus,	1 Cannabis,	1 Broussonetia,
7 Ficus,	13 Morus,	1 Dostenia,
4 Artocarpus,	1 Lepuraudra,	1 Epicarpurus.
	2 Batis,	

Many of these plants are lactescent. The nera Urtica, Bœhmeria, and Cannabis, all rnish useful fibres; the genus Morus, the ible mulberry, and its leaves are the favour- fruit of species of silkworm; the bark the Broussonetia is manufactured into a ong paper material; the genera Ficus and tocarpus, the fig-trees and jack-trees, yield ble fruits. The cow-tree belongs to this ıural order, and apparently to the genus Breıum. When wounded, a milky nutritious :e is discharged in such abundance as to renit an important object to the poor natives whose country it grows. It is described by mboldt as being peculiar to the Cordil-s of the coast of Caracas, particularly n Barbula to the lake of Maracaybo, r the village of San Mateo, and in the nity of Caucagua, three days' journey of Caracas. In these places it bears name of Palo do Vaca, or Arbol de Leche, forms a fine tree resembling the Star-ıle of the West Indies. Species of Urtica Girardinia abounds on the Neilgher- and other localities, and yield a and silky fibre like the true Rheea or ıa grass. The two plants of the Urticaceæ that grow on the Neilgherries are the Urtica heterophylla or common Neilgherry nettle, and the Girardinia Leschenaultiana of Dr. Wight's Icones, a superior kind of nettle yielding a very fine strong fibre. The latter plant grows in abundance on the Anamallay range, and in great quantities at the foot of the Coonoor ghaut, at a level of only 1000 feet above the sea. In the Sikkim Himalaya the fibres of some of the various nettles are twisted for bowstrings, others as thread for sewing and weaving; while many nettles are eaten raw and in soups, especially the numerous little succulent species. When preparing for the Great Exhibition of 1859, Dr. James Taylor named several plants in Bengal adapted for the manufacture of textile fabrics. A species of Urtica, of whose fibres the much admired grass-cloth of China is made, is cultivated in Rungpore; and either it, or an allied species, the Rheea, is grown in Assam and Cachar, and the Bet-ya and Nway-bet-ya of Burmah, are species of British Burmah—*Roxb. Hooker Him. Jour. vol.* I. *p.* 293. *Voigt. Jur. Rep. Exh.* 1851. *Royle Fib. Plants. Fortune. William's Middle Kingdom. Hog, Veget. Kingd.* See Cow-tree. Maclura tinctoria. Urtica interrupta. China-grass. Decaschistia crotonifolia. Bœhmeria. Girardinia.

URTICA ARGENTEA is a nettle of the Society Islands, the fibres of which are converted into cord.

URTICA CRENULATA. ROXB. iii. 591.

Chor-patta,	BENG.	Mialim-ma	SIKKIM.
		Daoun-shaitan	TIMOR ? !

A gigantic stinging nettle, a native of the hills and valleys on the east of Bengal, at Luckipore, Pundua Hills, and Assam. Dr. Hooker mentions that where the ground is swampy, dwarf bandanas abound, with this gigantic nettle. It has an erect shrubby stem, with oblong acute leaves, having the margins crenulate or slightly dentate, both sides alike, the bark armed with acute burning hairs. The sting produces great pain, extending to the arm-pit; abates after two or three days, but does not disappear entirely for nine days. Major Hannay says of this and another gigantic stinging nettle, that they afford a quantity of fine white fibre, but apparently of no great strength, and, by report, not very lasting. Some of the hill tribes use the fibre for fabricating coarse cloths. According to Dr. O'Shaughnessy it stings so terribly that it has sometimes occasioned very formidable symptoms. Another urtica, the Daoun-shaitan, or demon nettle of Timor, is still more dangerous in its effects.—*O'Shaughnessy, p.* 578. *Royle Fib. Pl. p.* 66. *Hooker Him. Journ. vol.* ii. *p.* 339. *Roxb.* iii. 591. *Voigt.* 280.

URTICA HETEROPHYLLA. Roxb.

Urtica palmata,	*Forsk.*	Girardinia Leschenaultiana,	*Wall.*
Neilgherry nettle,	Eng.	Bichu (scorpion,)	Hind.
Hooroo	Assam.	Keri, of	Jhelum.
An, Jan, Kal, of	Beas.	Ani Shorinigam,	Maleal.
Henpa, Serpa,	Bhot.	Ein, Sanoli, of	Ravi.
Bet ya,	Burm.	Karla, Bhabar of	Sutlej.
Kingi of	Chenab.		
Theng mah,	Chin.		

This is a fine tall nettle, with immense leaves and a vigorous sting. It is the most widely diffused of the large Indian nettles, being found in Burmah, in Assam, in south Concan, along the Malabar coast, in Mysore, the Neilgherries, in the valleys of the Himalayas, along the foot of the hills to the Dehra Doon, the northern valleys of the Himalaya, and in many places of the Punjab Himalaya as between Rampur and Sungnam, at 2500 to 7000 feet, where stems are often employed for making twine and ropes by the dry process; but in the N. W. Himalaya, these are not prized, as they perish quickly from wet. It is an annual, with erect angular stems, marked with small white specks, in which are inserted stiff, most acute bristles, which produce intense pain. The bark abounds in fine, white, glossy silk-like fibres, but these probably differ with the locality in which the plant is grown. Dr. Wight describes that of the Neilgherries as a fine, soft, flax-like fibre, and fitted to compete with flax for the manufacture of even very fine textile fabrics. The Todawar race extract it by boiling the plant, and use it as a material for making thread. Samples have been shown at all the exhibitions. To that of 1851, specimens were sent by Dr. Wight, prepared in a rude way, by boiling, by the Todawar of the Neilgherry mountains. Dr. Wight said of it, that it produces a beautifully fine and soft flax-like fibre, which the Todawar race use as a thread material, and, if well prepared, fitted to compete with flax for the manufacture of very fine textile fabrics. Mr. Dickson by passing it through his machine and liquid, rendered it like a beautiful, soft, silky kind of flax, of which the tow would be useful for mixing with wool, as has been done with the China grass, and the fibre used for the finest purposes. Major Hannay says the Assamese use the fibre extensively in the manufacture of cloth. The Chinese prize it for the softness of its fibre, as well as for its strength. Mr. McIvor forwarded to the Madras Exhibition excellent specimens, remarking that the plant grows wild all over the Nilgiris, and as it is well known to the natives, its cultivation might be readily extended. The value put on the fibre was £ 70 to £ 80 the ton. Its cultivation on the Hills would pay well so soon as the rail is finished to Coimbatore; as the seeds are quick of vegetation, the cultivation of this plant can be carried to any extent, and the supply might be largely increased as the plant is abundant and widely distributed over the Indian peninsula. The fibre from the bark of old wood was steeped in cold water for about six days. The bark of young wood was steeped in hot water for about twenty-four hours, when the fibre was found to separate readily from the pulp. Neither of the specimens were exposed more than three weeks to bleach, and consequently, the colour was not so good as would have been obtained had more time been occupied in the bleaching process.—*Great Exhib. of* 1851. *M. E. Juries' Reports, Royle's Fib. Plants*, p. 67. *Dr. J. L. Stewart. Panjab Plants*, p. 215 *Cleghorn. Punjab Reports*, p. 68. *Mr. McIvor in M. E. J. Reports.*

URTICA HYPERBOREA. Jacq.

Zatud,	Ladak.	Stokpo,	Ladak.
Dzatsult,	„	Tsodma,	„

A small species common in parts of Ladak from 11,500 to 17,000, and occasionally to nearly 18,500 feet. Its young leaves are eaten as a pot-herb.—*Dr. L. J. Stewart, P. Plants, p.* 215.

URTICA INTERRUPTA. This large annual grows wild during the rains. The whole plant is covered with stinging hairs like the common nettle.—*Riddell.*

URTICA JAPONICA, in Japan, its bark is made into lines, cordage, and cloth.

URTICA NIVEA. Linn. China-grass.

U. tenacissima,	*Roxb.*	Bœhmeria nivea,	*Gaud.*
Kunkamis.	Assam.	Kaloee,	Maleal.
Gwon, also Goun,	Burm.	Rami,	„

A plant of the Mauritius, Sylhet, Assam, Rungpore, Burmah, Tenasserim, Cochin-China, Sumatra, Moluccas, Japan. Its bark abounds in fibres of great strength and fineness, from which the grass cloth, or China grass cloth, is fabricated. Though this beautiful fabric has long been known, and it is met with bleached and unbleached, it is only in comparatively recent times that it has been ascertained to be manufactured from the fibres of this plant. It is extensively used by the Chinese, being woven into narrow pieces and into handkerchiefs, the export being chiefly to India and the United States, many handkerchiefs being sent to the latter country. Cloths are sent from the Chinese market to South America, made from grass-cloth and nankeen. To obtain the fibre, the plant is cut down and dried, and the bark then stripped. It was cultivated for several years by Major Macfarquhar at Tavoy, who endeavoured to induce the natives to foster it, but it has not yet been brought into general culture. China

grass-cloth is made in the Canton province, and largely exported to Europe and America. The plant is also abundantly grown in the adjoining province of Kiang-se. Fabrics of various degrees of fineness are made from this fibre and sold in these provinces, but none so fine as that made about Canton ; it is also spun into thread for sewing purposes, and is found to be very strong and durable. There are two very distinct varieties of this plant common in Che-kiang—the one cultivated, the other wild. The cultivated variety has larger leaves than the other ; on the upper side they are of a lighter green, and on the under they are much more downy. The stems also are lighter in colour, and the whole plant has a silky feel about it which the wild one wants. The wild variety grows plentifully on sloping banks, on city walls, and on old, ruinous buildings. It is not prized by the natives, who say its fibre is not so fine, and more broken and confused in its structure than the other kind. The cultivatted kind yields three crops a year. Mr Fortune states that hemp is cultivated in the provinces north of Meiling, but the plant also grows in Fuhkien ; the grass-cloth made from it is not so much used for common dresses as cotton and silk. There are three plants which produce a fibre made into cloth known under this name, viz., the Cannabis sativa, or hemp at Canton, the Urtica nivea, a species of nettle grown about Suchan, and the Sida tiliæfolia near Tien-tsin-fu.—*William's Middle Kingdom*, *page* 106. *Roxb.* ii, 590. *Fortune. Voigt. p.* 280. *Hon'ble Mr. Morrison's Compendious Description. Dr Mason.*

URTICA PULCHERRIMA. Chenjul. HIND. A plant of Kaghan.

URTICA PALMATA. FORSK. syn. of Urtica heterophylla, *Roxb.*

URTICA PULCHERRIMA. The hill nettle affords very fair samples of fibre, long in staple and of considerable strength. On the Neilgherry Hills it is known and appreciated both by the Todawar and Burgher.—*M. E. J. R.*

URTICA TUBEROSA. ROXB.

Chundur Muli, BENG.

A nettle of Bengal and the Moluccas, with very small greenish flowers. Its roots are eaten raw, boiled or roasted, and are nutritious.—*Roxb.* iii. 583. *Voigt.* 280.

URU, a race on the Kaladyn river in Arracan. numbering about 2800 souls.

URU, also Joba, or Juva. BENG. Hibiscus rosa-sinensis, *Linn.*

URUK-US-SAFR. AR. Curcuma longa, *Roxb.* ; *Rheede.*

URUKZYE, herdsmen who pass the winter in the lower levels of the Kohat and Tiri hills, and in summer drive their flocks and herds to the mountain tops. See Afghan.

URUMEAH. The very ancient city of Urumeah, Thebarma of Strabo, and supposed birth-place of Zoroaster, is situated in a noble plain fertilized by the River Shar, and on the south-west of the lake to which it gives its name. This town is thirty-two fursung from Tabreez. and contains a population of twelve thousand souls.—*Malcolm's History of Persia, vol.* ii. *p.* 138. See Urumiyeh.

URU MITTL TEL. Cratæva Roxburghii, *R. B.*

URUMIYEH. A salt lake in the north of Persia, about 60 miles long, 20 broad, and 24 feet deep. See Urumeah.

URUN KHARUBZA. HIND. Carica papaya.

URANDHANA. SANS. From a, privative ; and randhana, to cook.

URUR. BENG. HIND. Cajanus Indicus.

URUS, also Warosha. SANS. Adhatoda vasica, *Nees.* ; *Roxb.*

URUSA. BENG. Solanum verbascifolium, *Linn.*

URUSAH-DAR PARDA. PERS. lit. "the bride in a veil," the Indian gooseberry, Physalis peruviana.

URUSI. See Japan.

URUTTA CHANDANAM. MAL. syn. of Pterocarpus santalinus, *Linn.*

URUZ, also Urz. AR. Rice.

URVA. The Aryans, in their migration, made their seventh settlement in Urva, the modern Cabul. The Record (in viii. verse 11) alludes to Urva, proved by Haug to be Cabul, the identity of which was previously unknown.

URVA CANCRIVORA. HODGS. ; *Blyth.*

Gulo urva, *Hodgson.* | Viverra fusca, *Gray. Hardw.*

The Crab mungoos; it belongs to a genus of carnivorous mammals, of the family Viverridæ and sub-family Viverrinæ. It inhabits Nepaul, the S. E. Himalaya, Assam, and Arakan, and according to Mr. Hodgson, it dwells in burrows and is carnivorous.—*Jerdon, p.* 138. *Journ. As. Soc. Beng. vol.* vi. *p.* 56, *Tennent's Sketches of the Natural History of Ceylon*, p. 40-41.

URVI HIND. Caladium esculentum. Urvigadda. DUK. TEL. the root, and Urvi-ki bhaji. DUK., the greens.

URVASI, the most famous among the courtesans of Deva-lokum, the heaven of the hindu gods.

URYA, the language of Orissa. The original site of the Or or Odru tribe appears to have had very narrow limits, viz., along the coast line from the Rasikulia river near Gan-

jam, northwards to the Kans river near Soro, in lat. 21° 10′; but in the process of migration and conquest, under the Ganga-vansa line, the limits of Orissa (Or-des) were extended to Midnapore and Hoogly on the north, and to Rajahmundry on the Godavery to the south. It is a tolerably pure dialect of Bengali. In the direction of Bengal, it follows the coast-line as far as the Hijilli and Tumlook divisions on the Hoogly. On the western side of the Midnapore district, it intermingles with Bengali near the river Subaurekha. To the westward, the Gond and Uria languages pass into each other, and at Sonapur half the people speak the one and half the other language. About Ganjam the first traces of Telugu or Teling occur, though the Urya still prevails forty-five miles south of Ganjam on the lowlands of the sea-shore, beyond which Telugu begins to predominate. At Chicacole the latter is the prevailing dialect; and in Vizagapatam, Telugu only is spoken in the open country, though Urya, in the mountains, runs further down to the south. The Urya people are a tall, fair, somewhat slender race. Their country, Orissa or Ur-desa, is bounded on the north by Bengal, on the south by the Northern Circars, on the west by Gondwana, and on the east by the Bay of Bengal. See India.

URZIZ. Pers. Tin.

URZUN. Pers. Panicum miliaceum.

USAN. Beng. Terminalia tomentosa, *W. & A.*

USAN, also Usi. Hind. Brassica eruca.

USAR. Hind. Cymbopogon aromaticus.

USARA REWAND. Hind. Gamboge. Cambogia Cochinensis, *Kœnig.* Garcinia mangostana, Gambogia gutta, *L*, and Hypericum pomiferum, *Roxb.*, are sources of gamboge.—*Powell Hand-Book, v.* 1, *p.* 407.

USEER. Hind. Cuscus, the root of Andropogon muricatum.

USERIKI. Tel. Emblica officinalis.

USFAR. Arab. Carthamus tinctorius. Safflower.

USGUND, also Kaknuj. Hind. Physalis somnifera.

USHA See Hindu.

USHABA. Hind. Sarsaparilla.

USHAK. Hind. also Feshuk, Ar. Dorema ammoniacum, also its gum, Simagh-ba-us-shirin, is Gum ammoniacum.

USHAS, in hindoo mythology, the dawn, by the ancient hindus regarded and worshipped as a goddess. See Saraswati.

USHAS. A hymn from the Rig Veda.

USHER. Arab. A term used in exorcism.

USHKUNG. See Cush.

USHNA. Hind. A lichen, a species of Borrera.

USHNAZ DAOUD. Ar. Hyssopus officinalis, *W.*

USHOKA. Sans. From a, privative, and shook, sorrow.

USHTA. Sans. Eight.

USHTA-VAKRA. Sans. From ashta, eight, and vakra, crooked.

USHTA-VASOO. Sans. From ashta, eight, and vasoo, a sort of gods.

USHWAGANDHA. Beng. Hind. Physalis somnifera.

USHWINIA KOOMARA. Sans. From ashwini, a mare, and koomara, a child.

USHWA MEDHA. Sans. From ushwa or ashwa, a horse, and medha, flesh, the sacrifice of the horse. See Aswa medha.

USHWA-SENA. Sans. From ashwa, a horse, and sena, a soldier.

USIDDHI. Sans. From a, priv, and siddhi, completion.

USFAR. Ar. Carthamus tinctorius, *Linn.*

USIKMANU. Tel. Cratæva Roxburghii, *R. B.*

USI-PUTRA-VANA. Sans. From asi, a scymetar, patra, leaves, and vana, forest.

USIR. Hind. Sans. Andropogon muricatum, *Retz.* or Anatherum muricatum. Cuscus.

USIRIKA. Tel. also Amala kamu, Sans. Emblica officinalis, *Gœrtn.* Phyllanthus emblica, *Roxb.*

USIRIKE MANU. Tel. Cratæva Roxburghii, *R. Br.*, also Usiki manu, or Ulimidi.

USITA, the father of Sagara, on being expelled by hostile kings of the Haihya, the Talajungha, and the Susoovindha races, fled to the Himvat mountains, where he died leaving his wives pregnant, and from one of these Sagara was born. It was to preserve the solar race from the destruction which threatened it from the prolific lunar race, that the brahmin Parswa-Rama armed, evidently proving that the brahminical faith was held by the solar race, while the religion of Budd'ha, the great progenitor of the lunar, still governed his descendants. This strengthened the opposition of the sages of the solar line to Vishwamitra or Budd'ha of the lunar line obtaining brahminhood.—*Tod's Rajasthan, vol.* 1, *p.* 36.

USMA-I-AZAM, properly Isma-i Azam, the greatest attributes of the deity.

USMA-I-HOOSNA, properly Isma-i-hoosna, the glorious attributes of Mahomed.

USMADUGA. Sans. Bauhinia tomentosa, *Linn.*

USMAN. See Khajah. Khalif. Osman.

USOORA. Sans. From a, priv, and soora, a name applied to the hindoo gods.

USOOLA. Beng. Vitex alata.

US-SALAM-OON-ALAIKOOM. Arabic. eace be unto you; the mahomedan salutation.

USSEL-KE-ABI. Arab. Vitex triloba.

USSIR. Hind. Pers.? Anatherum muricaım.

USSL-US-SUDDIR. Arab? Rhamnus juıba.

USSUL-UN-NAHL, also Anjubin. Arab [oney.

USSUL-UR-RASUN. Arab. Elecampane ɔot.

USSUL-US-SUS. Arab. Liquorice root.

USSUL-US-SOSUN, also Ul Manjuni, lso Isra. Arab. Orris root.

USSUL-UL-URTEMYSA. Cyclamen Euroœum, *W.*

USSUR. Ar. Afternoon. Assar ka-namaz, ıe noon-tide prayer.

USTAGHFAR. Ar. Deprecation. Ustaghfar .llah, God forbid.

USTUKHUDUS. Hind. An odoriferous laiate which plant has generally been attributed ɔ the Lavendula stœchas, but it is a species f Prunella.—*Powell Handbook, v. I. p.* 320.

USTANGA. Sans. From ashta, eight, and nga, the body.

USTE. Tel. Solanum trilobatum, *Linn.* 'he leaves are eaten as a vegetable, Brown pplies this name to Calotropis gigantea.

USTERAK, also Salajet, also Meah. Arab. ;torax.

USTRANG. Hind. Atropa acuminata, ⱡtropa mandragora.

USTURALAB. Arab. Hind. Pers. Astroabe.

USUL-UL-LUFAH, also Astrang, Arab ⱡtropa mandragora. A. acuminata. Mandrake.

USUL-US-SUS. Arab. Glicyrrhiza glabra. ,iquorice.

USUMPRUGNATA. Sans. From a, priv, nd sampragnata, completely informed.

USUT. Sans. From a, priv, and sat, entity.

USWUKUNIDA. Sans. Shorea robusta; he saul tree.

UTAMANI. Tam. Dæmia extensa, *R. Brown.*

UTANGAN. Hind. A plant, often erronezısly referred to the genus Urtica.

UTANZYE. See Kelat.

UTARENI, also Antisa. Tel. Achyranhes aspera, *Linn.*

UTAR. Hind. High land, a slope, a descent.

UTAS. Malay. Cordage.

UTCHOLA. Sans. Psidium pyriferum.

UTHARABEE. See Kunawar.

UTHIN VENGA. Malbal. Pterocarpus ıarsupium.

UTI-CHETTU. Tel. Clerodendron inerme, *Gærtn.*

UTI PATAKA. Sans. From ati, excessive, nd pataka, sin.

UTIRATRA. Sans. From ati, beyond, and ratri, night.

UTI RAT'HI. Sans. From ati, very great, and rat'hi, a charioteer.

UTIKAYA. Sans. From ati, great, and kaya, the body.

UTIS. Hind. Asparagus sarmentosus.

UTISHAYOKTI. Sans. From atishaya, exceeding, and ukti, a word.

UTIT'HI. Sans. From at, to move perpetually; a guest, a stranger.

UTMAN-KHEL. Pusht. An Afghan tribe.

UTRAM. Tam. Utran. Duk. Dæmia extensa.

UTTR. Ar. Any essential oil, written atr, or otto, as of roses, as jasmine.

UTPALA. The blue lotus, Nelumbium speciosum.

UTRASUM. Tam. Utrasum beads. Seeds of Elæocarpus ganitrus, and of Elæocarpus lanceolatus.

UTREJ. Arab. Citrus medica.

UTRICULARIA, a genus of plants of the natural order Pinguiculaceæ of Lindley. They are watery or marshy herbs, and about 22 species are known to occur in the E. Indies. According to Walton, one species grows in the Philippine Islands, from the joints of which issues a tendril like that of a vine, at the extremity of which is placed a small receiver resembling a cruet with a neck, and on the top is placed a valve, which serves the place of a stopper. The receiver always stands erect, and is filled with a sweet and pleasant water, except at certain hours, when the valve naturally rises to give room for evaporation; otherwise the repletion could not take place. The contents of four or six of these little vessels are sufficient to quench the thirst of one person. This plant is found in the province of Bisaya in the island of Luzon, and is evidently one of the pitcher plants.—*Walton's State p.* 121.

UTRICULARIA STELLARIS. Linn.

Buro Jhanji, Beng.

A water-plant of the still lakes of Egypt, Ceylon, and of most parts of India. Its roots become distended with air, and these raise the plant to the surface till its flowering is over, when it settles down to deposit its seed in the ground.

UTRI DAMA. See Junagurh. Inscriptions.

UTRUM. Duk. Cynanchum extensum, *Jacq.*

UTSKA'H. Pusht. Raisins, grapes.

UTTAMA. See Brahmadica.

UTTAR. Sans. North. Uttaru-kuru. Sans. the northern region.

UTTAR, also Otto, any fragrant essential oil as otto of roses.

UTTAR-DAN. HIND. PERS. a perfume box.

UTTARA RAMACHERITRA. See Kshetriya.

UTTARENI, also Antisa. TEL. Achyranthes aspera.

UTTAR-I GUL. PERS. Otto of roses.

UTTARUKURU. The northern regions: according to hindoo geographers, the continent north of Maha Meru. See Arians.

UTTI CHETTU, also Pisinika. TEL. Maba buxifolia, *Pers.*

UTTOMA. See Menu.

UTTOOBEE, an Arab tribe, who conquered Bahrein in 1799 and still retain it.

UTTRAJ MULLAY. See Rain. Sykes.

UTTUCK. MAHR. Flacourtia montana, *Graham.*

UUREN. DUT. A clock. Uurwerken. DUT. Clock-work.

UVÆ. LAT. Grapes.

UVA CHETTU, properly Ava chettu. TEL. Dillenia speciosa, *Thunb.*

UVADHUTA. SANS. From ava, prep, and dhu, to renounce.

UVA MARAM. TAM. Dillenia speciosa, *Thunb.*

UVARIA, a genus of plants belonging to the order Anonaceæ, or custard apple tribe. About 42 species belong to the E. Indies, those growing in Burmah, the "pad-da-guan," the "ta-mot," the "tau-ka-dat-guan," and "tha-myo-pra-tha," have not, as yet been specifically determined. U. bicolor, *Roxb.*, and U. bracteata, *Roxb.*, are trees of Sylhet. U. heteroclita is a plant of the Garrow Hills, U. elongata, *Roxb.*, is a plant of Chittagong, U. ventricosa, *Roxb.*, is found in Tipperah, and U. macrophylla in Sylhet and Chittagong. A species of Uvaria, Karee, HIND? is a tree of Jubbulpore, wood used by natives for making toys. Another Uvaria, Beta-goonda, CAN., grows in the Canara and Sunda forests, and on the jungles inland of Nilcoond, with wood of rather superior quality, being straight and tough. A third species of Uvaria, Thub-bor. BURM., a large tree of Tavoy, has a wood used for boat-building; and a fourth species of Uvaria. Hoom. MAHR. occurs in the Canara and Sunda forests, in jungles east of Kursulee or Black river; It runs tall and straight, wood strong and useful, but is not much known.—*Dr. Gibson. Voigt, pp.* 14, 15. *Cal. Cat. Ex.* 1862. *Mr. Blundell.*

UVARIA CERASOIDES. ROXB. syn. of Guatteria cerasoides, *Duval.*

UVARIA GRANDIFLORA. ROXB.

U. purpurea, *Bl.* | Unona grandiflora, *Lesch.*

A shrub of Burmah, Tenasserim and Sumatra, with large crimson flowers, changing to dark purple; its fruit has the taste and appearance of the North American pawpaw, and they are members of the same natural family. It is the produce of a scandent shrub abounding in the Tenasserim jungles.—*Mason. Voigt.*

UVARIA LONGIFOLIA. ROXB.

Guatteria longifolia, *Wall.; W. & A.*

An elegant tree, with smooth, pointed, and undulate leaves. It is much cultivated in some parts of India to form avenues and to afford shade. In the peninsula of India it is called deodara.—*Eng. Cyc.*

UVARIA NARUM. WALL.

Uvaria Zeylanica, *Lam.* | Unona narium, *DC.*
Narum Panel, MALEAL.

A native of Malabar; a greenish sweet smelling oil, which is used medicinally as a stimulant, obtained by distillation from the roots.—*Simmonds. Eng. Cyc.*

UVARIA ODORATA. LAM.

Unona odorata, *Dun.*

A small tree of Burmah, Martaban, the Tenasserim provinces, Sunda, the Moluccas, and China.—*Voigt, Dr. Mason.*

UVARIA ODORATISSIMA. ROXB.

Artabotrys odoratissimus, *R. Br.*

Its large, yellowish-green, and fragrant flowers appear nearly throughout the year.—*Voigt. Mason.*

UVARIA TOMENTOSA.

Pedda chilka dudugu. TEL.

This has a very strong yellow wood, much similar, but superior, to Nauclea cordifolia. The carrying shoulder sticks, or cowar, are made from it, also used in house building; it does not warp.—*Captain Beddome.*

UVARIA TRIPETALA. ROXB.

Unona tripetala, *DC.*

A tree of the Moluccas. Its largish, greenish-yellow, inodorous flowers appear in March, April, and May.—*Voigt.*

UVARIA UNCATA. LOUR. Artabotrys odoratissimus, *R. Br.*

UVAS. PORT. Grapes.

UVATARA. SANS. From ava, to descend, and tri, to save.

UVATA-NIRODHANA. SANS. From avata, a hole in the ground, and niroodh, to close.

UVE-PASSE-DE-CORINTO. IT. Currants.

UYODHYA. SANS. From a, and yoodh, war, the province of Oudh.

UYANA. SANS. From aya, to move.

UZBEK. A Tartar race found on the Oxus, in Balkh, Kunduz, Khost, Inderab, Talikhan, Huzrut Imam, Andkhu, Shibbergam and Bokhara. In all these districts the Uzbek are mixed with Tajik, the lat-

ter being the older inhabitants. The Uzbek are the resident civilized inhabitants of Central Asia, but in their physical form have become considerably changed from being intermixed with ancient Iranians, and with many slaves from Persian Iran. The typical Uzbek in Khiva has a broad full face, low flat forehead, large mouth, while those of Bokhara are less marked. In the neighbourhood of Kashgar and Aksu the colour is from yellowish brown to blackish; in Khokand brown, and in Khiva white. Timur was an Uzbek Tartar, but Uzbek power rose on the ruin of the Timur dynasty. They have 32 chief divisions, all known by names, many of them similar to those amongst the Kazak, and from this Vambery supposes the Uzbek to be a colonizing tribe. The Uzbek are pious mahomedans. In Khiva and some parts of Chinese Tartary they are brave and warlike, and in this respect they are distinguished from all the other Central Asiatics. Although settled, they retain nomade customs, building houses for stables and granaries, but preferring the raised tent to dwell in. Uzbek men have pretty thick, but never long, beards. The women long retain their white complexion, and with their large eyes, full face, and black hair they are not displeasing. In Central Asia, they are highly renowned for their beauty. The Uzbek of Balkh are simple, honest and humane. Uzbek Tartars are fond of racing at festivals. The bride retires to a screened part of the tent and is followed by the groom. The Uzbek horse and the horses in Bokhara and Maymene possess more strength than speed.

Mouraviev supposes Uzbek to be derived from Uz, his or himself, and 'bek,' master; thus meaning master of himself, or independent. Klaproth derives it from the people called 'Ouz,' or 'Gouz.' By the Arab historians, these were the same as the Ouigour, a Turkish tribe which formerly inhabited the countries to the south of the 'Celestial mountain,' that is, Little Bokharia. At the commencement of the 16th century, the Uzbek passed the Jihon or Jaxartes, proceeding westward. Everywhere they spread terror and desolation. They are at present masters of Balkh, Kharism or Khiva, Bokhara, Ferganah, and some countries in the neighbourhood of Mt. Belut Tagh. The Uzbek tribes who inhabit Khiva are the Ouigour Naiman, Kangli-Kipchak, Kiat-Konkrad, and Noikious-mangood.

When Uzbek Khan was lord of Dasht-i-Kapchak, he introduced the religion of Mahommed into his dominions. On the death of Uzbek Khan in 1342, his son, and afterwards his grandson, followed him, but in 1360 Urus Khan, descended from a younger son of Jojy, became sovereign of Kapchak. The seventh in succession from Jojy was much revered by his subjects, and from that time according to Abul Ghazi Khan, who is partly supported by Khondemir, they called themselves Uzbek, and eventually the Uzbek expelled the descendants of Timur from Mawur-ul-naher, and they still retain possession of Khiva, Bokhara, and Kokand. Uzbekistan is filled with beautifully watered and cultivated valleys. Here we find the Great Bokhara in contradistinction to Little Bokhara; from 34° to 42° north latitude, and from 80° to 92° east longitude. It extends in different directions. It borders towards the south-west from the desert Khawar towards Iran; from the river Amoo to the territory of Balkh; towards southern Afghanistan, through the high galleries of mountains to the Hindoo-Kush, it borders on the southern provinces of China. Since the expulsion of the Turk or Tartar, the Uzbek are the dominant people. They were brought to the country of the river Amur in the year 1498, when they had the centre of their empire at Organtsh, in Khiva. They spread death and destruction over the whole of Turkistan as far as Iran. The celebrated Murad or Beggi Jan raised the nation of the Uzbek. Incessant wars with Persia and Cabul have sometimes extended the empire as far as Merv, Herat, and Balkh; and sometimes it has been reduced to its former limits. The Uzbek are mahomedans, rough and uncultivated, but the Tajik, the original inhabitants, are more civilized. The Uzbek live mostly on cattle, whilst the Tajik are merchants and brokers; their language is the Persian. The Tajik are exceedingly deceitful. The people of Khokand are poor and effeminate, but friends of Europeans, fond of music and of hunting, and of cheerful temper, the women fair but given to vice. The inhabitants of Marghilan are a quiet, inoffensive, and agreeable people. —*Dr. Wolff's Bokhara, vol.* 1, *p.* 312. *Klaproth. Note. Mouraviev Bokhara, p.* 395. *Ferrier's Journey, p.* 89-90. *Markham Embassy, p.* 35. See Khiva. Jews. Kabul. Kaffir. Kalmuk. Kara-kul. Khulm. Tajik.

V. In the English language this letter has only one sound, as in gave, give, love, dove; but in the oriental tongues, the initial v is often changed into a b or a w, and the final v into a u. In Sanskrit, v has the same sound as in English; but in Bengali and Uriya, the Sanscrit v is always changed into b, as bari for vari, barsha for varsha; and the same change often occurs in Hindi, as baras for varsha, sambat for samvat; in Bengali, also, u is a usual substitute for v; in Guzerati this is reversed, and v is written for b, as vighu for bigha, vimo for bima. Also, in all dialects, particularly amongst the illiterate, there is a tendency to approximate the sound of v to that of w, or to substitute w for v. In Tamil, the change is not uncommon even in the written language, and varam is frequently written waram. The letter wau of the Persian is often pronounced vau, and in the Urdu or Hindustani the pronunciation of the wau is as often that of w as of v, as wakil, vakil; wazir, vizir; darwesh, darvesh; and hindus frequently change the wau into a b, as walaiti, balati; nawab, nabab, the nabob of the English. In Marathi, there are both sounds for the same letter, the one exactly like w, the other more like v.—*Wilson.*

VAAG-MARAM. Dalosanthes Indica.

VACCINATION, the process of inoculating with the virus from the pox of the cow, in Latin vaccus. The natives of India usually designate it as "tika dalna," to affix the tika, or sitla nikalna to remove the small pox. The British Indian Government keep up great establishments to carry out vaccination, but it has not yet generally found favour amongst the natives,

VACCINIACEÆ, the Bilberry tribe of plants, are small trees or shrubs, of which about thirteen species are known to occur in the south and east of Asia, in the Neilgherry and Khassya mountains, Tavoy and Java, in the genera Vaccinium, Gaylussaccia, and Thibaudia. Dr. Wight, in Icones, and Voigt give of the genus Vaccinium,

affine,	Malacca,	venosum,
arboreum,	Neilgherrense,	verticillatum,
Donnianum,	obovatum,	Wallichianum,
Duvalianum,	odontocerum,	Schmidianum,
Griffithianum,	serpens,	secundum,
hirsutum,	serratum,	Sprengelii.
Leschenaultii,	setigera,	

· Thibaudia acuminata, setigera, vaccinium, and variegata, occur in the Khassya Hills, and T. loranthiflora in Tavoy, and Gaylussaccia serrata, also in the Khassya.—*W. Ic. Voigt.*

VACH. SANS. Sweet flag. Acorus calamus. It is also called in Sanscrit. Vacha, Godavuz, Venkund, Haimavati, and Golomi.

VACHELLIA FARNESIANA. *W. & A.*

Mimosa farnesiana, *Roxb*	Acacia farnesiana, *Willd.*
„ Indica, *Poir.*	„ Indica, *Desv. DC.*

Guya babula, BENG. HIN.	Vaday valli maram, TAM.
Jali mara, CAN.	Peetumma, TEL.
Sponge tree, ENG.	Kampu tumma, „
Iri babool, MAHR.	Kasturi, „
Urimeda, SANS.	Arimedamu, „
Sami, „	Naga tumma, „
Veda vully maram, TAM.	

This armed shrub grows throughout south-eastern Asia, from Sind and the Himalaya to Malacca, is very common in the Dekhan, Mysore and Coimbatore. It furnishes a good, hard, tough, wood, greatly resembling that of the babool or Acacia arabica, but the size is very small. It makes excellent ship knees and tent pegs, and it exudes a useful gum arabic freely and in considerable quantity, from five to twelve pounds annually. The small, deep yellow, powerfully smelling, globular headed, flowers, under the name of wattle flowers, are much employed in perfumery for their delicious fragrance.—*Drs. Wight and Cleghorn in M. E. C. and M. E. J. R. Voigt. Mason. Rohde. Cat. Ex.* 1862. *O'Shaughnessy, p.* 303. See Keekur gum.

VACHES A DIEU. One of the Coleoptera of Hong Kong.

VACHY WOOD.

Mimosa flexuosa, *Rottl.*	Vaghay-maram, TAM.

A large tree, the brown, wood of which is used for making bullock bandies, &c. &c.—*Ains. Mat. Med. p.* 208.

VACOA, of Bourbon and Mauritius, Pandanus odoratissimus; the tough longitudinal fibres of the leaves are made into sacking. The leaves are cut every second year, and each plant yields enough for two large bags.—*Simmonds' Dict.*

VADA, also, Wara, MAHR. GUZ. a ward or quarter of a town, as Bahmanwara, the brahman quarter, dher-wara, the dher quarter.

VADA. TAM. North.

VADAGALAI. lit. the northern branch; a sect among the Tamil vaishnava. See Right Hand Caste, Left Hand Caste, Vaishnava.

VADA GANNERU. TEL. Plumiera acuminata, *Ait.*

VADAJA. TEL. Acorus calamus, *Linn.*

VADA KODI. MALEAL. Gendarussa vulgaris, *Nees.*

VADAMBRAM. TEL. Eranthemum nervosum, *R. Br.* E. pulchellum, *Roxb.*

VADAM-KOTTE YENNAI. TAM. Almond oil.

VADAM-KOTTE PISINI. TAM. Gum tragacanth. See Tragacanth.

VADAM VITTILU. TEL. Seeds of Terminalia catappa.

VADANAK. HIND. A kind of large grained wheat.

VADANIKE, also Badanike, TEL. Loranthus longifolius, *Linn.* also Vanda Roxburghii, *R. Br.*

VADARI. SANS. Rhamnus jujuba. The jujube-tree, Zizyphus jujuba.

VADATALA MARAM. TAM. Dichrostachys cinerea.

VADA TEDDU AKU. TEL. Microrhynchus sarmentosus, *Wight's Ill.*

VADA VALASA, also China valasa. TEL. Walsura ternata, *Roxb.*

VADAY-VALLI-MARAM. TAM. Acacia farnesiana.

VADDI CHETTU. TEL. The name is only found with Sans. syns. referring to Ajasringi, probably an Asclepiod.

VADENKURNAI MARAM? TAM. Bignonia xylocarpa, *Roxb.*

VADI NAROININ. TAM. See Soonkasoola wood.

VADISA CHETTU. TEL. Cluytia montana, *Willd.*

VADIVATTA. See Hindoo.

VADOOTHALA MARAM. Dicrostachys cinerea.

VADLA YARALA, also Madhavi tige. TEL. Hiptage madablota, *Gœrtn.*

VAEMBU, also Væsamboo, SINGH. Acorus calamus aromaticus.

VAGARA-BONU. SINGH. Sal ammoniac.

VAGE. MALEAL. Acacia speciosa.

VAGE MARAM. TAM. Mimosa flexuosa.

VAGESWARI, in hindu mythology is consort of Iswara, and the goddess of speech. Iswara, in this character, is called Vagiswara or Vagisa, the lord of speech. He is also called Siro deva.—*Moore. Coleman.*

VAGGHIL. TAM. Thatch grass.

VAGHAY——? Acacia speciosa.

VAGHEY. TAM. A Ceylon tree which grows to about twelve inches in diameter: it yields a strong wood, and is used by the natives for wheels of carts, &c.—*Edye, on the Timber of Ceylon.*

VAGISWARA. See Vageswari.

VAG YATE. See Inscriptions.

VAH, the name of the Oxus in Bendehesh.

VAHAN. SAN. A vehicle: an animal is appropriated as the vahan or vehicle to each of the mythological personages of modern hinduism. The swan, eagle and bull, appertain respectively to Brahma, Vishnu and Siva, and are severally denominated Hanasa, Garuda and Nandi. Ganesa, eldest son of Siva and Parvati, the elephant-headed god of prudence and policy, rides a rat supposed to be a very sagacious animal. Kartika, their second son, the generalissimo of the celestial armies, mounts on a peacock. Indra, the powerful regent of the firmament, the Jupiter Pluvius of the hindus, rides the elephant Iravatam, symbolical of might. Varuna, genius of the waters, bestrides a fish; as doth also Ganga, the prime goddess of rivers. Kama Deva, the god of love, is carried by a lory, or parrot. Agni, god of fire, by an ardent ram. The Hanasa of Brahma is a goose or swan, Vishnu's Garuda, is half man, half bird, and now, in southern India, identified with the Haliætus Pondicherianus, or Brahmany kite; Pavana has an antelope; Yama, a buffalo; Mungula or Mars, a sheep; Budh, a lion; Shuni or Sani, Saturn, a vulture; Rama, a monkey; Durga or Parvati, a lion and bull; and the other goddesses, the vahans of their respective lords. The vahan of Brahma, Hanasa, or Hahns, sometimes Hahnsi, Major Moor tells us, is precisely the name that in Suffolk, is commonly given to the heron, on which Saraswati rides. The swan or goose, the eagle, and the bull, are the vehicles respectively allotted to the three great powers. The terrestrial sluggish nature of the first, is an apt type of matter personified in the creative power, and a contrast to Vishnu, or spirit, the preserving power, appropriately mounted on the buoyant eagle, the celestial Garuda. Siva, as the destructive energy, is time or justice; and the hindus deem the bull also its type, and give it to Siva as his vahan, or mode of conveyance. These vehicles are supposed by Mr. Paterson (*As. Res.* vol. vii. p. 48) to have allusion to Purity, Truth, and Justice: the first, he says, typified by the swan, which, clothed with unspotted whiteness, swims, amidst the waters, as it were, distinct from, and unsullied by, them; as the truly pure mind remains untainted amidst the surrounding temptations of the world. Garuda, brother to Aruna, is remarkable for strength and swiftness; and the latter is described as imperfect, and, on account of his defects, destined to act as charioteer to the sun, he being the dawn, the twilight preceding the sun. Garuda is perfect light; the dazzling full blaze of day; the type of Truth; the celestial vahan of Vishnu. Perhaps the hindus may, like western observers, have noticed the strong optic nerves of the eagle tribe; and have heard of the fable of the parents destroying such of their brood as are unable to look steadily on the sun: the eagle in western poetry is called bird of the sun, as well as bird of Jove; in both of which characters Vishnu particularly appears. Justice, typified in the sacred bull, is the vahan of Siva: the bull, whose body is Parameswara, and whose every joint is a virtue; whose three horns are the three Veda; whose tail ends where ad'herma, or injustice, begins.—

Coleman. Moor. Paterson. As. Res. v. vii. *p.* 48. See Vishnu, Hindoo, Vrishala, Avatars, Brahma, Hiranyagharbha, Nandi, Sacti, Serpent.

VAHEA GUMMIFERA, of Madagascar, yields caoutchouc.—*O'Shaughnessy, p.* 449.

VAHILA. See Inscriptions.

VAIDALA VISHU. See Inscriptions.

VAIDIKAM. See Hindoo.

VAIDYA RAJA. See Bengal.

VAIDYA. See Vedas.

VAIJAYANTA. See Indra.

VAIKHANASA. See Vaishnava.

VAIKANTHA, the heaven of Vishnu, in hindu mythology is the paradise or celestial abode of Vishnu, where he enjoys beatitude in the elysium of Lakshmi's lap. Vaikantha has been located in the frozen ocean, and sometimes in a subterranean sea of milk.

The heaven of Vishnu is described as entirely of gold, and 80,000 miles in circumference. Its edifices, pillars, and ornaments are composed of precious stones. The crystal waters of the Ganges form a river in Vaikantha, where are lakes filled with blue, red, and white water-lilies, each of a hundred and even a thousand petals. On a throne, glorious as the meridian sun, resting on water-lilies, is Vishnu, with Lakshmi or Sri, the goddess of abundance, the Ceres of the Egyptians and Greeks, on his right hand, surrounded by spirits who constantly celebrate the praise of Vishnu and Lakshmi, who are served by his votaries, and to whom the eagle garuda is door-keeper.—*The Mahabaharat. Ward on the History and Religion of the Hindus, vol.* ii. *p.* 14. *Moor's Pantheon, p.* 23. See Balaji. Sampradaya. Tripati.

VAIMBOO. Tam. A Travancore wood of a flesh colour, specific gravity 0·483, two to four feet in circumference, and used for tables &c.—*Colonel Frith.*

VAIMGAY or Vengay. Tam. Pterocarpus marsupium.

VAIPALLE YENNAI. Tam. See Oil.

VAIRAGI, ascetic religious mendicants, properly vaishnava sectarians, especially in the form of Rama, and in relation to him of Sita and Hanuman. Some of these ascetics live in maths, though others of them find employment in conveying, for purposes of worship, the holy water of the Ganges to many of the most distant parts of India, in pitchers slung on bamboos. The term is from the Sanscrit Vi, privative, and Raga, passion, implying a person devoid of passion, and is, therefore, correctly applicable to every religious mendicant who affects to have estranged himself from the interests and emotions of mankind. Virakta, the dispassionate, and Avadhuta, the liberated, have a similar import, and are therefore equally susceptible of a general application. They are, indeed, so employed in many cases, but it is more usual to attach a more precise sense to the terms, and to designate by them the mendicant vaishnava of the Ramanandi class, or its ramifications, as the disciples of Kabir, Dadu, and others. The ascetic order of the Ramanandi vaishnava is considered to have been instituted especially by the twelfth disciple of Ramanand, Sri Anand. They profess perpetual poverty and continence, and subsist upon alms. The greater number of them are erratic, and observe no form of worship; but they are also resident in the mat'h of their respective orders, and are the spiritual guides of the worldly votaries. It is almost impossible to give any general character of these Vairagi, as, though united generally by the watchword of Vishnu or his incarnations, there are endless varieties amongst them, both of doctrine and practice. Those who are collected in the mat'h are of more fixed principles than their vagrant brethren, amongst whom individuals are constantly appearing in some new form with regard to the deity they worship or the practices they follow.—*Professor Wilson, Hindoo Sects. Cole. Myth. Hind. p.* 376. See Sanyasi.

VAIRI SINHA. See Inscriptions.

VAIRRENEGALU. Tel. Arachis hypogæa.

VAISALI. See Surya-vansa.

VAISESHKA. See Veda.

VAISHNAVA are followers of Vishnu. All vaishnava sects identify Vishnu with Brahma. The subdivisions of the sect are the Bhakta, Bhagavata, Vaishnava, Chakrina or Pancha Ratrava, Vaikhanasa and Karmahina, each of these again being divided into a practical Karma, and a speculative Inyana or G'niana portion. In Bengal, one-fifth of the population are worshippers of Vishnu in the form of Krishna. The followers of Ramanand and Kabir are the principal subdivisions of this sect. In Southern India, they arrange themselves into two great sects, the Tengale, southern sect, and Vadagale (northern sect); the latter follow a larger ritual and adhere generally to the Sanscrit vedas, but the southern sect use a Tamil translation.

The Charan-dasi are a sect of vaishnava hindus who worship Krishna and Radha. It was founded by Charan Das, who lived in the reign of the second Alimgir, and was a merchant of the Dhusar tribe, a resident of Delhi. His followers are both clerical and secular. At Delhi is the Samadh or monument of the founder.

The vaishnava never worship Siva, though the polytheist saiva hindus worship Vishnu, and go to his temples. Some zealous vaishnava or

followers of Vishnu give themselves up to his adoration in some incarnation, Krishna or Rama for instance, but reject with indignation, commensurate with their zeal or bigotry, all farther application of divine terms. Hence, in part, the liability under which inquirers labour, of being misled by sectaries into receiving schism as orthodoxy, and of forming general conclusions from individual or partial information.

The vaishnava sect, who worship Vishnu, is variously divided and subdivided. First, the division of Gocalast'ha, or worshippers of Gocal, or Krishna, is subdivided into three :

1. Exclusively worship Krishna and Vishnu himself ; this is generally deemed the true and orthodox vaishnava.

2. Exclusively worship Radha as the sacti of Krishna or Vishnu ; this sect is called Radha Vallabhi.

3. Worship Krishna and Radha conjointly.

6. As the saiva has a fourth undivided sect in the Ganapatya, so the vaishnava has a fourth undivided sect in the Bhagavata, who recognise all divinities equally.

Most of these comprise a number of subdivisions, and besides these acknowledged classifications many individual mendicants are to be found all over India, who can scarcely be included within the limits of any of them, exercising a sort of independence both in thought and act, and attached very loosely, if at all, to any of the popular schismatical sects.

As a rule, the dead of the vaishnava hindus are burned. As death draws near, a lamp is lit at the bed head, and a " homa " sacrifice performed, with camphor and a cocoanut ; and as life dies away, the five elements are dropped into the mouth of the moribund from a tulsee leaf. Within two or three hours, the body is lifted, and this is done early, as none of the household nor any of the neighbours can partake of food until the remains be disposed of. The pile of wood or cow-dung cakes used is about two feet high, and on it are placed some tulsee leaves, a little sandal-wood, and the deceased is laid with his feet to the north. When laid on the pile, a cloth is placed over the face, and raw rice is placed on it over the mouth. The heir of the deceased places a charred bit of sandalwood or a tulsee branch at each corner of the pile, and a Vityan sets fire to the mat, using fire taken from the sacred fire lit at the bedside of the dying man. On the following day the heir and friends visit the pile, remove the skull and the bones, on which he and all with him pour water and wash them,—wash them with the sikai, anoint them with oil and honey, and clean them with milk, and place them all on plantain leaves anointed with butter. A young cocoanut shoot is then placed on the skull, and the whole put into an unburned earthen pot and taken or sent to a river or to the sea—the person who conveyed it returning to the temple, where he pronounces aloud the deceased's name and adds " pray for him." Often they are sent to a holy river, even the Ganges and Benares. The adult male relatives shave. The hair of the brahman widow's head is shaved. The body is not always carried through the doorway of the house. If it be an unauspicious day, or if the house door be so placed that the court yard has to be crossed, then the remains are carried through an opening broken in the wall. The remains are unclothed for the last rites. Children under eight years of age, and unmarried girls are buried, as also are all who die of small-pox, as the belief is that this ailment is a manifestation of the presence of the goddess Ammun, Mariatha, or Kali, and the anger of the goddess would revert to the family if the body were burned.

In the mode of disposing of the dead, the wish expressed by the deceased is attended to. Vedantists all bury, also all the Gosai, all the Lingait, or Vira Saiva, the five artizan castes, the " Kansala," goldsmith, carpenter, ironsmith, brazier, and stone cutter, all the Byragi and Sanyasi, and the gurus of the sects ; likewise all the non-Arian races, and tribes not admitted into hinduism. The Vedantists' dead, and those of the Lingaet artizans, are all placed seated in a grave five feet square with a ledge on the south. As life becomes extinct, the body is made to assume the attitude to be preserved in the procession and in the grave. It is placed against a wall, the legs are crossed underneath in the usual sitting attitude, and the head is fastened to a nail driven into the wall, and so retained till rigidity ensue. They are borne to the grave in a car, on the shoulders of relatives or friends. On reaching the burial-place, the Oodwan reads prayers, and the body is seated on the side ledge with its face looking northwards ; salt and ashes of cowdung are placed on the head.

Amongst the Aryan hindu, the great bulk believe in spirits and worship them : their worship of ancestors, " pitri," is continuous ; they also believe in demons and evil spirits : transmigration through clean and unclean animals is a point of faith, and a great majority regard the soul as an emanation from the deity, and look to re-absorption and annihilation as the point of attainment for the good.

There are many temples in the south of India, belonging both to the saiva and to the

vaishnava sect, considered by the hindoos to be sacred for pilgrimage, as follows, viz :—

Vaishnava temples.	*Saiva temples.*
Dwaraka	Kasee or Benares
Jagunnathum	Tiruamul
Tiruputhy	Jamboo Kaiswarum
Naroyanavunum	Kalastri
Tirvulloor	Conjeveram
Triplicane	Chilamburum
Kovulum	Vydyanathum
Mahabalipoorum	Moyavurum
Conjeverum	Woordba Chellum
Tirupoogondy	Madura
Pully conda	Tiunevelly
Thyvanoyakum	Combaconum
Strimoostum	Pynee
Thotadry	Chikundamari
Sree Rungum	Trichundoor
Moyavurum	Ramaiswarum
Tirvundoor	Srisailum
Combaconum	Vulloor
Salachaitrum	Soobrahmunien
Naunchargoody	Trivalungaud
Munnargoody	Tiruttunee
Vudoor	Senkaramoroyongoory

The vaishnava temple is led up to by a "munduf," the vestibule or pro-naos, of many pillars, and covered with flat slabs of stone. This ends at the gopuram, an ornamental structure with a multitude of draped and nude figures; but the most prominent and oftenest repeated is that of Vishnu holding in his left hand a chank shell, and in the other a disc or chakra. In the centre is the "mindra" or "cella," in which is the idol. Its interior is the "sanctum" or holy of holies, See Maha devi, Math, Lakshmi, Narayana, Vamana, Radha Vallabhi, Sanyasi, Ravana-Prasada, Inscriptions, Vishnu, Sacti, Ramanandi, Ramawat, Rama, Naga ; Sri Sampradaya, Hindu, Krishna, Sanakadi, Sampradayi. Vairagi, Senapanthi, Mira Bai, Khaki ; Yavana, Surya, Mantra, Charan Dasi, Sikh, Rai Dasi.

VAISHNAVACHARI. Sans. From vaishnava and acharin.

VAISISHICA. See Veda.

VAISSELLE DE L'ILE PRASTEN. Fr. Double cocoa-nut. Laodicea, Cocos de mer.

VAISSELLE DE TERRE, also Poterie. Fr. Earthenware.

VAISWADEVA. See Saraswati.

VAISYA, also Vais, or Bais, or Vesia. Hind. The third of the four grand divisions of hindus : their industry and economy is striking. They are commonly merchants, traders, cultivators, but individuals of the three others are found practising the duties supposed to be exclusively allotted to the Vaisya. The natural duty of the Vaisya is to cultivate the land, tend cattle, and buy and sell. Amongst the earliest dissenters from Indra, were the Yadu race under Krishna's influence. The reasons leading him to this are not known, but the Maha-Bharata makes him say to Nareda his father, "Why worship Indra as the supreme god? O father, we are Vaisya, and our cattle live upon the pastures, let us therefore cease to worship Indra, and pay our devotions to the mountain Govardhana." Up to that time it is to the heaven of Indra that the good who die proceed. The two gods Indra and Agni, Rain and Fire, were the chief deities worshipped by the vedic Aryans. Indra, the sovereign of the gods, was the most powerful of the vedic deities. He is the god of the firmament, the hurler of the thunderbolt, who smote the rain cloud and brought down waters, who delighted in the soma juice, in eating, drinking wine, and war. Indra is now never invoked, but has been succeeded by Vishnu and Siva. Agni, another vedic deity, is the personification of fire, and was worshipped as the destroyer of forests, as useful in the sacrifice, and in the household.

"When generated from the rubbing of sticks, the radiant Agni bursts forth from the wood like a fleet courser."

"When excited by the wind, he rushes amongst trees like a bull, and consumes the forest as a rajah destroys his enemies."

"Such as thou art, Agni, men preserve thee constantly kindled in their dwellings, and offer upon thee abundant food."—(*Rig. Veda* I. 73)

Varuna was the vedic god of the waters and god of the ocean, but the name was sometimes applied to the sun and sometimes used as a personification of day. As with other gods, when addressed he was regarded as supreme and capable of forgiving sin :—

"Let me not yet, oh ! Varuna, enter the house of clay ; have mercy, Almighty, have mercy !

"If I go along trembling, like a cloud driven by the wind ; have mercy, Almighty, have mercy !

* * * *

"Thirst came upon the worshipper, though he stood in the midst of waters ; have mercy, Almighty, have mercy."

See Hindoo, Sudra, Zonar.

VAITARINI. See Saraswati.

VAIVARTTA PURANA. See Sakta.

VAIVASWATA, Yama or Dharmarajah, also Vaivaswata Manu. 'The man, son of the sun.' If the sons of Vaivaswata migrated to modern Rajast'han, and settled there soon after the flood, whence come the aborigines! For they did not own the institutions of the hindus, who are supposed to be descendants of Vishnu or Noah.—*Tod's Rajasthan*, vol. I. *p.* 24. See Surya-vansa.

VAISYA KATYAYANA. See Sakya muni.

VAJ. Pers. Acorus calamus, *Linn.*

VAJIRA VALLI. SANS. Cissus quadrangularis.

VAJO. IT. Calabar skins.

VAJRAKSHIRA, also Vajrakantaka, SANS. Euphorbium.

VAJ'RAM. TAM. Vaj'ramu, TEL. Glue.

VAJRATA. See Inscriptions.

VAJRA PANI. See Indra.

VAJRATUNDA. SANS. Euphorbia tortilis.

VAJRA VALLI. SANS. Cissus quadrangularis, *Wall.*

VAJRAYADHA, the thunderbolt, Indra's weapon.

VAKA CHETTU, also Oka chettu. TEL. Carissa carandas, *Linn.*

VAKAMBA. HIND. Careya arborea.

VAKANATTY. TAM. A Tinnevelly wood of a white brown colour, used for building in general.—*Colonel Frith.*

VAKIL, an attorney, an ambassador or agent. It is pronounced Wakil, and in Beluchistan, is a person who transacts every kind of business for another. In Persia, the Vakil is still an officer in the courts of justice, called Vakil-ul-Raya, or "the advocate of the people."—*Malcolm's History of Persia, vol.* II. *p.* 453. *Pottinger's Travels in Beloochistan and Scinde.*

VAKHUMBA. HIND. Careya arborea.

VAKILA, a weight used in Arabia for spices, &c., consisting of 10 coffola and nearly 1¼ oz. English; in Bussora the heavy vakla is 4,833 pounds, and the light weight for spices, &c., 1,166 pounds.—*Simmonds' Dict.*

VAKILA also Avuru. TEL. Andropogon muricatus, *Retz.*

VAKKA, also Vakudu. TEL. Carissa carandas, *Linn.*

VAKA. TEL. Areca catechu, *Linn.*

VAKM. HIND. Cæsalpinia sappan. See Bakm. Vakmi rang, lilac, pink; Kulfi rang, purple colour.

VAKUDU. TEL. also Nela mulaka. TEL. Solanum Jacquini, *Willd.*

VAL. MAHR. Dolichos spicatus.

VALABHA NARENDRA. See Inscriptions.

VALABHI. See Balabbi, Balhara.

VALAD AMBU. TAM. Calonyction grandiflorum, *Choisy.*

VALAIT, any foreign country, Europe, &c.

VALAITI-MUNG, DUK. Arachis hypogea, *Linn.*

VALAITI AMLI. DUK. Garcinia cambogia.

VALAITI CHUNA. HIND. Chalk: Calcis carbonas.

VALAITI SUNN, of Muttra, is the Ambari of the Dekhan and Mahratta country.

VALAKA DUDA. TEL. Pterolobium lacerans, *R. Br.*

VALALUVI. TAM. Celastrus paniculata.

VALA MARAM. TAM. Feronia elephantum.

VALAMBIRI-KAI. TAM. Valambiri kaya. MALEAL. TEL. Isora corylifolia. *Schott and Endl.*

VALANKAI. In the south of India, the right hand caste of hindus, of which there are 18 sections, viz.

1 Banijaga, or trader
2 Okkalaga, cultivator
3 Jotiphana, oil maker
4 Rangijiva, dyer
5 Ladaru, mahomedan traders and artificers
6 Gujerati, Gujerat merchants, bankers.
7 Komati, shopkeeper, trader
8 Jaina, or Jain
9 Kuruba, shepherd and wool worker
10 Kurumbara, potter
11 Agasa, washerman
12 Besta, fisherman, palankeen bearer
13 Padma sholaysa, a kind of weaver
14 Naindu
15 Upparadu, or tank digger
16 Chittragaru, or painter
17 Golla, or cowherd
18 Waliya, Pareya, Pariah, one who is the fighter of the others.

These vary.—*Wilson's Glossary.*

VALARASI. TEL. Walsura piscidia, *Roxb.*

VALASALA. TEL. Guizotia oleifera. Gingelly. Sesamum.

VALATIPOLAM. TAM. also Palendrabolam, also Villebolam, Myrrh. Balsamodendron myrrha, *Nees ab Esen.*

VALEI.—? Musa sapientum.

VALE KIRE. TAM. Cleome pentaphylla.

VALENTIA, LORD, a traveller in Arabia and the East Indies in the beginning of the 19th century (1805), author (London 1811) of Voyages and Travels to India, Ceylon, the Red Sea, Abyssinia and Egypt, in 1802—1806.

VALENTYN, FRANCIS, the author of an Account of Netherland India, from the Cape of Good Hope to Japan. He was a Lutheran clergyman, born in 1660 at Dordrecht, arrived in 1686 at Batavia as a minister, resided at Japara near Samarang, and then at Amboyna for 12 years, and returned to Holland. He remained in Europe for 11 years, and sailed again for Java in 1705, stayed there two years, then in the Spice Island seven years, and in 1714 he finally returned to Holland. From that time he was engaged arranging his notes, and his first volume Oud en Nieuw Oost-Indien appeared in 1724. This was followed by seven others, all fully illustrat-

ed, the last appearing in 1726. The date of his death is not known.—*Bikmore* 147.

VALE-PALAM. TAM. Plantains, vale-elle, Plantain leaves. Vale palam tole. TAM. Plantain skins. Vale-pu, flowers of Musa paradisiaca.

VALERIAN, a Roman emperor who was conquered by Shapoor at Odessa in A. D. 260. Being taken prisoner, he is said to have been treated by Shapoor with great severity, and eventually flayed alive.

VALERIANACEÆ. LIND. The Valerian tribe of plants, of which, in the East Indies, are 3 gen. 16 sp., viz. 2 Nardostachys; 13 Valeriana; 1 Triptostegia. Nardostachys jatamansi, D. C., is the true spikenard of the ancients. It is highly esteemed in India for its perfume and for its medicinal properties as a remedy in hysteria and epilepsy. The Jatamansi or Indian Valerian, the balchur, HIND., of the Himalaya, is an efficient substitute for the European article, and is a very useful stimulant and antispasmodic remedy, chiefly employed in hysteric cases. Dose, one to two ounces three times daily. The true valerian, Valeriana officinalis, is a remarkable feline stimulant. All the species have some medicinal properties. V. Celtica is largely employed by eastern nations as a substitute for the spikenard, Nardostachys jatamansi. Wight gives Valeriana, Arnottiana, Brunoniana, Hookeriana, and Leschenaultii, and a kind of valerian takes the place of Asarabacca. The Valeriana Wallichiana is called dala, wala, bala, charbala mushk, char godar, also probably tagir or takar.—*Powell Hand Book v. p.* 354. *Beng. Phar. p.* 305. See Spikenard also Nardostachys.—*Simmonds' Dict.*

VALERIANA HARDWICKII. WALL.

Nah'ani of	RAVI.	Char of rans,	INDUS.

Root.

Asarun,	HIND.	Taggar,	HIND.
Bala,	,,		

This valerian grows in various parts of the Punjab Himalaya and beyond the Indus, at from 6,000 to 12,000 feet; the root is put among clothes to keep off insects.—*Dr. J. L. Stewart.*

VALERIANA WALLICHII. *DC.*

Mushkw'ali,	HIND.	Bala.	HIND. JHELUM.

Grows in the N. W. Himalaya, at 5,000 to 11,000 feet, up to the Indus. Its roots are exported to the plains to be used medicinally.—*Dr. J. L. Stewart.*

VALERI-KAI. TAM. Cucurbita pepo. Valeri-kai yennai, TAM. Cucumber seed oil.

VALE SHARI-YENNAI. TAM. Trianthema decandra, *Linn.*

VALI. A monkey prince, killed by Rama.

VALISALU NUNA. TEL. Oil of Guizotia oleifera, *DC., W. Ill.*

VALISE CHETTU. TEL. Verbesina sativa, *Roxb.*

VALKYNE. The fatal sisters of the Suevi or Siebi, are the analogue of the twin sisters of the Apsara, who summon the Rajpoot warrior from the field of battle, and bear him to the mansion of the sun, equally the object of attainment with the children of Odin in Scandinavia, and of Boodha and Soorya in the plains of Scythia and on the Ganges, like the Elysium of the Heliadæ of Greece.—*Tod's Rajasthan, vol.* I. *p.* 67.

VALLABHA ACHARYA, the founder of a vaishnava sect. He was the author of the Bhagavat, also of a Bhashya, of one part of Vyasa's sutras and of other Sanscrit works. See Rudra Sampradayi. Math. Hindu.

VALLAI PANDU. TAM. Allium sativum, *Linn.*

VALLAITI-ERA and the Bengal era were established by Akbar. That of Bengal began on the 1st of the month Baisakh, 963+593 =1556. The Valaiti-san was used in Orissa, where it was called the Auel-san, and began on the 1st of the month Aswin 963+592, A. D. 1555.

VALLAK YENNAI. TAM. Lamp oil.

VALLAM PALLAM. TAM. Fruit of Feronia elephantum, *Roxb.*

VALLAM PISIN; also Karavelam pisin. TAM. Acacia Arabica, *Willd.*

VALLARI, TAM. also Nela-guli. TEL. Sutvogtia verticillata, *G. Don.*

VALLARIS DICHOTOMA. WALL; *W. Ic.*

Echites dichotoma. *Roxb.*

Hapurmalee,	BENG.	Putta podara yarala TEL.
Pala malle tivva,	TEL.	

A plant of most parts of India and of Burmah, with white fragrant flowers.—*W. Ic.*

VALLARIS PERGULANUS. BURM.

Pergularia glabra.	*L.*	Flos pergulanus. *Rumph.*
Echites hircosa.	*Roxb.*	Emericia pergularia. *Ad.*

A plant of India and the archipelago, flowers with the smell of a goat.—*Roxb.* ii. 14. *Voigt.*

VALLA RUGU. TAM. Cicendia hyssopifolia, *Adams.*

VALLEKHAE. See Inscriptions.

VALLE KIRE. TAM. Gynandropsis pentaphylla, *DC.*; *W. and A.*

VALLEYS of the great rivers and the enclosing seas of India have been the routes followed by the various immigrants into India, Ultra-India, and the Archipelago. The Tibetan district is central ethnically as well as geographically to all the S. E. of Asia and to Asianesia.

The ethnic region of the Indian Oceanic basin is the Bay of Bengal or Indo-Malayan sea, which unites the western margin of the China Malayan basin with the eastern sea-bord of India. The rivers of the Indian

Peninsula connect it closely with the western marginal districts, the watershed being near the Indo-African sea, and the basin of the Ganges, has its head nearly in the same longitude. From all historic times, uninterruptedly to the present day, the sea basins whose ethnic influence has been in operation, are the China, Molucca, Java, Mangkasar, Solo, Mindoro, Molucca, Banda, Papua, Jilolo, Papuan, Papua Australian and Papua Micronesian seas, and the Archipelagian seas of Johore, the Trans-Javan or Timorean chain, the Bissyan group, Eastern Milanesia, and the different Polynesian and Micronesian groups. All of these are broad highways throughout the Archipelago, permit foreign navigators and natives of the islands to traverse them freely, and admit of constant intercourse with the rivers on the continent, thereby bringing the whole under the operation of foreign civilization.

VALLI. Tam. An article of jewellery worn by women in the ear.

VALLIA CAPO MOLAGU. Tam. Capsicum frutescens.

VALLIAMMA. One of the two wives of Subramanya.

VALLIA-PIRA PITICA. Tam. Urtis latifolia.

VALLI-KANIRAM. Tam. Cocculus acuminatus.

VALLI-GADDA. Tel. Allium cepa, *Linn.*

VALLI-KALANGU. Tel. Batatas edulis, *Choisy.*

VALLISNERIA SPIRALIS. Linn.

V. spiraloides, *Roxb.*	V. Jacquiniana.
Serpicula verticellata. *L.*	Udora verticellata *Spreng.*
Vallisneria verticellata. *L.*	Huttonia serrata, *Will.*
Saivala, Hind.	Pu-nat-su, Tel.

A plant of America, Europe, and India, of the family Hydrocharaceæ. It grows in most parts of India in clear, standing, sweet water, flowers during the cold season, and consists of simple, filiform roots, and a number of fine filiform jointed shoots or stems, some creeping, some floating below the surface of the water; branches solitary, axillary. The Berhampore sugar refiners (indeed, throughout India) use this herb while moist to cover the surface of their sugar, as clay is used in the West India islands; and in two or three days the operation is finished exceedingly well.

The Vallisneria is supposed to possess cooling powers. Thus Madhava says,

The gentle pressure of her heaving bosom
Has spread delightful coolness through my frame,
As if combined upon my skin were strewed
Sandal and camphor—Saivala and pearls,
The lotus fibre on the moonstone's dew.

Both Vallisneria spiralis and Hydrilla verticellata are employed by sugar refiners to clarify sugar.—*Powell Handbook vol.* i. *p.* 306. *Roxburgh's Flora Indica, vol.* iii. *p.* 751. *Wilson's Hindu Theatre, p.* 71.

VALLI-TERAGAM. Maleal. Syn. of Ficus rubescens, *Vahl.* Ficus heterophylla.

VALL-ULAVI. Tam. Celastrus paniculata, *Willde.*

VALLUM, in the Carnatic, a measure of capacity, 3½ quarts.—*Simmond's Dict.*

VALLUR. Hind. Cocculus leæba.

VALLUR of Beas. Cissus carnosa, *Lam.*

VALLY CANJARAM. Tam. ? A Travancore wood of a brown colour; specific gravity 0·703, used for building common houses.—*Colonel Frith.*

VALMIKI, a famous Rishi and poet, the reputed author of the Sanscrit poem the Ramayana. Valmiki lived in the era of the revival of the brahminical religion. The framework of the story relates to an exile from Hindustan named Rama, combined with a hero who fought in the south of India, aided by the people, who were delineated as monkeys and bears. It is a current belief in many parts of India that Valmiki was a thug or strangler. This notion was probably derived from a strain put upon some verses, which make out Valmiki to have been originally, on his own confession, simply a robber. This extract also embraces the received account of the origin of the poet's name. But it is a very curious circumstance that hindu legend gives two of their most celebrated authors, whom they have invested with a sacred character, a descent from the aboriginal and impure tribes of India, Vyasa from a fisherman, and Valmiki from the bad'hak or robber tribe, who associate with the Bhil tribe at Aboo. The conversion of Valmiki, said to have been miraculous, when in the act of robbing the shrine of the deity, is worked into a story of considerable effect in the works of Chand, from olden authority. Valmiki is said to have settled at Chitrakuta at the time of the exile of Rama, but at one time at Bithul.—*Hind. Th. vol.* 1, *p.* 313. *Tod's Rajasthan, vol.* I. *p.* 29.

VAL-MULLAGHU. Tam. Tailed pepper. Cubebs.

VALONIA, the acorn-cups of Quercus ægilops, or prickly-cupped oak, growing in the Morea. About 2 lbs. of valonia are required for the production of 1 lb. of leather, which is said to be less permeable to water than that made with oak-bark, and so heavy as to make valonia the cheapest of all tanning materials except catechu or terra japonica. A mixture of valonia and oak-bark may be used with good effect.

VALULUVY TAIKAM, also Valuluvy yennai. Tam. Oil of Celastrus paniculata, *Willde.*

VALUMBIRIKAI. TAM. TEL. Valumpiri, MALEAL. Isora corylifolia, *Schott and End.*

VALUR. HIND. Solanum gracilipes.

VAL also Wall, a gold and silver weight in Bombay=4·475 grains ; in Ahmedabad, 6·045 grs. ; in Anjir, 5·6 grs. ; in Delhi, 5·63 grs. ; in Poonah, 3·99 grs. ; and in Surat, 5·859 grains.—*Simmond's Dict.*

VAMACHAREE. SANS. From vam, the left hand, and acharin, practice. See Right Hand Caste ; Left Hand Caste.

VAMAM CHETTU, also Omamu. TEL. Ptychotis ajowan, *DC.*

VAMAN. HIND. Withania coagulans.

VAMANA. The fifth incarnation of Vishnu in the form of a brahmin dwarf. The four first avatara are said to have occurred in the earliest, or Satya, age of the hindus, corresponding in character with the golden or virtuous age of the fabulists of other regions. The fifth happened in the second, or Tirtyog. Maha Beli, though a virtuous monarch, was still so elated by his grandeur, that he omitted essential ceremonies and offerings to the deities ; and Vishnu, finding it necessary to check the influence of such an example, resolved to mortify and punish the arrogant raja. He therefore condescended to become the son of Kasyapa and Aditi, and the younger brother of Indra, and assumed the form of a wretched brahmin dwarf. Appearing before the king, he asked a boon, which being promised, he demanded as much land as he could pace in three steps : nor would he desire farther, although urged by Beli to demand something more worthy of a king to give. Vishnu, on obtaining the king's promise, required a ratification of it, which is performed by pouring water on the hand of the applicant. As soon as the holy stream had reached his hand, the form of the dwarf began to expand itself, and at length became so enormous that it appeared to extend itself up to heaven : then, with one stride he compassed the earth, with another heaven, and with the third was about to obtain patala, when Maha Beli, convinced that the pretended dwarf was no other than the god himself, fell prostrate in adoration before him and yielded it up. From this incident of Vamana, Vishnu is also called Trivikrama or the three-stepper. It is maintained by other vaishnava that the ratifying stream poured on the hand of Vishnu in this avatara, was the river Ganga ; which, falling from the hand of the miraculous dwarf, descended thence upon his, now Vishnu's, foot, whence, gushing as a mighty river, it was received on the head of Siva. In M. le Gentil's Voyage aux Indies, a rough map or plan is given, from a native original, of the course of the Ganges, in which it issues from the foot of Vishnu, and falling on the head of Siva, flows in the style commonly seen through the cow's mouth. Except in this instance, Major Moor did not recollect having seen the source of the river delineated as proceeding directly from Vishnu.—*Moor.* See Aditi. Avatara. Salagrama.

VAMBOO. TAM. A Tinnevelly wood of a light straw colour, specific gravity 0·795, used for building in general.—*Col. Frith.*

VAMI or Vamachari. See Right and Left Hand Caste.

VAMINTA. TEL. Gynandropsis pentaphylla, *DC.* syn. of Cleome pentaphylla, *Roxb.*

VAMPIRE. The common Vampire bat, belonging to the Cheiroptera.

VAMPYRIDÆ. A family of mammals, comprising the bats, in the following sections:-

Sub-Fam. MEGADERMATINÆ.

Megaderma lyra, *Jerdon.*

M. Carnatica, *Ell.* | M. schistacea, *Hodgs. Blyth. Horsf.*

Large-eared Vampire bat, over all India.

Megaderma spectrum, *Jerdon.* Cashmir Vampire bat.

Megaderma Horsfieldii, *Blyth,* of Tenasserim.

Megaderma spasma, *Linn.* Ceylon and Malayana.

Sub-fam. RHINOLOPHINÆ. Leafy-nosed bats.

Rhinolophus perniger, *Jerdon, Hodg. Blyth.*

R. luctus, *Temm.* | Large leaf bat, Eng.

Nepal ? Malabar ? Java ? Darjeeling.

Rhinolophus mitratus, *Blyth.*

Mitred leaf bat. ENG.

Chybassa, Mussoorie ? Central India.

Rhinolophus luctus, *Horsf.* Java.

Rhinolophus tragatus, *Hodg. Blyth.*

Dark brown leaf bat. ENG.

Nepal, Mussoorie.

Rhinolophus Pearsoni, *Horsf. Blyth.*

Pearson's leaf bat. ENG.

Darjeeling, Mussoorie.

Rhinolophus affinis, *Horsf. Blyth.*

R. rubidus, *Kelaart.* | R. cinerasceus, *Kelaart.*

Allied leaf bat. ENG.

Malabar ? Ceylon, Burmah, Malayana.

Rhinolophus rouxi, *Tem. Blyth.*

R. lepidus, *Bly.* | Rufous leaf bat, Eng.

Malabar, Calcutta, Colgong, Mussoorie.

Rhinolophus macrotis, *Hod. Bly.*

Large-eared leaf bat. ENG.

Himalaya, Nepal, Mussoorie.

Rhinolophus subbadius, *Hodg. Blyth.*

Bay leaf bat. ENG.

Nepal ; Himalaya

Rhinolophus brevitarsus, *Bly.* Darjeeling.

Several other species of Rhinolophus occur in the Malayan islands, China and Japan.

Hipposideros armiger, *Ham. Bn.*

H. nobilis, var, *Blyth.*	Large Horse-shoebat, Eng.

Nepal, Mussoorie, Darjeeling.

Hipposideros lankadeva, *Kel.* Ceylon.

Hipposideros nobilis, *Cantor.* Burmah, Ceylon and Malay peninsula.

Hipposideros speoris, *Bl. El.*

H. apiculatus, *Gray.*	H. Dukhunensis, *Sykes.*
H. penicillatus, ,,	Indian Horse-shoebat. Eng.

India generally, Ceylon, Archipelago.

Hipposideros cenerascens, *Bly.*

Ashy horse-shoe-bat. Eng.

Punjab, Salt Range.

Hipposideros murinus, *Jerdon.*

Rhinolophus fulgens, *Ell. Blyth.*	Little Horse-shoe bat.

S, India, Ceylon, Nicobars, Burmah, Malayana.

Hipposideros larvatus, *Horsf.* Burmah, Malayana, Sylhet.

Hipposideros nobilis, *Cantor.* Malay peninsula.

Hipposideros diadema, *Cantor.* Malay peninsula.

Hipposideros galeritus, *Cantor.* Malay peninsula.

Cœlops Frithii, *Bly.* Tailless bat of Sunderbuns.

Rhinopoma Hardwickii, *Gray, Blyth.* The long-tailed leaf bat of all India, Burmah, Malayana.

Nycteris Javanica, *Geoff.* Java, Malacca.

VAN, a lake about forty miles long, and twenty to thirty broad. Its waters are salt. It is surrounded by a beautiful outline of mountains, whose tops are covered with perpetual snow. The old ruined stone-built town of Ardische is situated on a narrow strip of land running into the lake. There are a few soldiers quartered in it. The borders of the lake about it are low and swampy, and abound in wild fowl and various other kinds of game. On the more northerly and western mountainous tracts, towards Lake Van, and also to the east of that body of water, dwell the Rewandoozi tribe, a most formidable people, who have never yet submitted even nominally to the Ottoman or Persian name. They amount to upwards of a hundred thousand families. In the winter they live amongst their embattled rocks, but in the milder months, roam about, pitching their tents from valley to valley. The Amadi and Bitlisi tribes are their near neighbours, and though reckoned amongst the fiercest, have yet suffered. The oaks of the Van, as well as those of the Daroo, yield abundance of gall-nuts, which the inhabitants turn to considerable profit. The wild Amadi and Bitlisi, and the entirely lawless Rewandoozi, may be regarded as the most legitimate representatives of the ancient Carduchians, and probably, neither in manners nor language are much changed since Xenophon traversed their country in his way to Armenia.—*Porter's Travels, vol.* ii. *p.* 471. See Iran. Kurdistan.

VAN. Hind. Salvadora oleoides.

VANA. Sansc. a grove, a forest, hence Van, Wan and Ban, *Wild.*

VANAMALA. See Inscriptions.

VANA CHANDRA. Tel. Flagellaria Indica.

VANANGU. Tam. A Ceylon tree which grows to about eighteen inches in diameter and twelve feet in height, produces a fruit which the natives eat. Its wood is used by the native carpenters in house work, &c —*Edye on the Timber of Ceylon.*

VANAPRASTHA, in hinduism, a man who has gone through his scholar and householder life and has entered the 3rd Asrama or hermit life, has gone "prastha" to the woods ("vana"). It is the Hyllobios of the Greeks. —*Wilson.*

VANARA. See India.

VANDA, a genus of plants, the type of the tribe Vandeæ, of the natural order Orchidaceæ. Wight gives Vanda pulchella, Roxburghii, spathulata, and Wightiana? The continent of India has sent many Vanda for the ornament of the gardens of Europe; several are found in Borneo inferior to none of those from India. One gigantic species introduced into England, Dr. Lindley named V. Lowii.—*Low's Sarawak, p.* 64. *W. Ic. Mason's Tenasserim.*

VANDA CŒRULEA. Near the village of Lernai on the Jyntea hills are oak woods, on which Vanda cœrulea grows in profusion, waving its panicles of azure flowers in the wind. This is the rarest and most beautiful of all the beautiful orchids. The dry grassy hills which it inhabits are elevated 3000 to 4000 feet: the trees are small, gnarled, and very sparingly leafy, so that the Vanda which grows on their limbs is fully exposed to sun, rain, and wind. There is no moss or lichen on the branches with the Vanda, whose roots sprawl over the dry rough bark. The atmosphere is on the whole humid, and extremely so during the rains; but there is no heat, or stagnation of the air, and, at the flowering season, the temperature ranges between 60° and 80°; there is much

sunshine, and both air and bark are dry during the day. In July and August, during the rains, the temperature is a little higher than above, but in winter it falls much lower, and hoar-frost forms on the ground. But, this winter's cold, summer's heat, and autumn's drought, and above all, this constant free exposure to fresh air and the winds of heaven, are what of all things we avoid exposing our orchids to in England. It is under these conditions, however, that all the finer Indian Orchideæ grow, of which were found Dendrobium, Farmeri, Dalhousianum, Devonianum, &c., with Vanda cœrulea; whilst the most beautiful species of Cœlogyne, Cymbidium, Bolbophyllum, and Cypripedium, inhabit cool climates at elevations above 4000 feet in Khassia, and as high as 6000 to 7000 in Sikkim. Dr. Hooker collected seven men's loads of the superb Vanda cœrulea for the Royal Gardens at Kew; but owing to unavoidable accidents and difficulties, few specimens reached England alive, the individual plant fetching a price varying from 3*l.* to 10*l.* An active collector might easily clear from 2000*l.* to 3000*l.* in one season, by the sale of Khassia orchids.—*Hooker Him. Jour. p.* 319, 321.

VANDELLIA DIFFUSA is a native of Brazil, but is thought to be found also in the peninsula of India. It is the Cætaica of Pison, and is described by Dr. Hancock as emetic, and its decoction as of great value as an emetic and febrifuge, and in the treatment of dysentery. V. crustacea is given in Wight's Icones.—*O'Sh. p.* 477. *Eng. Cyc. W. Ic.*

VANDEN BRŒCK. See Shamal.

VANDERWORM. See Johore.

VANDHUKA. See Inscriptions.

VANELLUS CRISTATUS. The Lapwing of Europe, N. and middle Asia, N. Africa: common in N. India, Sindh, &c., but not seen in Lower Bengal. See Charadriadæ.

VANGA. TAM. syn. of Colosanthes Indica *Blume.*

VANGA. See Laniadæ.

VANGA CHETTU. TEL. Sesuvium melongena, *Linn.*

VANGALA PATCHI. TAM. Acetate of copper.

VANGAREDDI KURA. TEL. Sesuvium repens, *Rottler.* S. portulacastrum, *Roxb.*

VANGA CHETTU. TEL. Solanum melongena, *L. R.* i. 566. The praise of this vegetable is recited in verse, "Is there a vegetable equal to the Vankaya; a king like the enemy of the lord of Lanka (Rama); a god equal to Sankara (Siva), a woman comparable to the lotus-faced Sita?"

VANGAY, a small tree of Palghat, wood of a light brown colour, specific gravity 0·788. used for beams and carts.—*Colonel Frith.*

VANGAY MARAM. TAM. Pterocarpus marsupium.

VANGSUJA. See Brahman.

VANGUERIA, a genus of plants belonging to the natural order Cinchoniaceæ, small trees or shrubs, having ovate or oblong petiolate leaves with lanceolate stipules, solitary on both sides. The fruit of V. edulis is eaten by the natives of Madagascar and of Mauritius, where, as well as into the peninsula of India and into China, it has been introduced. V. spinosa, Mayna, Bengal, which is found in many parts of the plains of India and China, is a distinct species, though united to the above by Sprengel in his 'Syst. Vegetabilium.' The fruit is eaten. V. macrophylla occurs in Chittagong.—*Eng. Cyc.* Roxb. 1,536. *Voigt, p.* 386.

VANGUERIA EDULIS. VAHL.

V. cymosa, *Gærtn.*	Vavanga edulis, *Vahl.*
V. Comersoni, *Desf.*	,, Chinensis, *Rohr.*
V. Madagascariensis *Gmel*	

A native of Madagascar, but introduced into Mauritius, India, and China.—*Voigt, p.* 386.

VANGUERIA SPINOSA. ROXB.

Meynia spinosa, *Lamark.*

Mayna, BENG. HIND.	Voa Vanguier MADAG.
Muduna, ,,	Pindi luka, SAN.
Mainphul, ,,	Pedda munga, TAM.
Alu of Bombay, BURM.	Vadanike, Badanike
Prickly Vangueria, ENG.	Chega gadda, TEL.
Bangari ki lakri, HIND.	Mohonca, ,,

A tree of Bengal, Ganjam, and Guntur, height 25 feet, circumference 1⅛ feet. The bark is employed medicinally in fever. Fruit edible.—*Captain Macdonald. Voigt, p.* 786.

VANI, also Wanara, a pronunciation of Bania.

VANILLA, a genus of plants of the natural order Orchiaceæ, of which V. aphylla, V. aromatica, V. planifolia, V. Walkeriæ, V. Wightii, grow in the East Indies. Dr. Falconer discovered a species while on his visit to the Tennasserim Provinces in 1849.—*Wight's Icones, Voigt, p.* 633.

VANILLA plants have been introduced into India, Bourbon and Mauritius, during the nineteenth century. It adapts itself readily to the climate, it can be easily propagated and cultivated; it occupies very little space, and the fruit is valuable. The amount of vanilla exported from Mexico to Spain in 1803 was valued at £27,000 sterling. The Mexican sort is not used so largely in England as in Spain and on the Continent of Europe, where it is chiefly employed for perfuming and mixing with chocolate, snuff, liqueurs, and various articles of confectionary. M. Geneve of the Mauritius found the plants grow better when supported by the Moringa pterygosperma,

the roots of which are frequently used by Europeans as a substitute for horse radish, the Avocado or Alligator Pear, Persea gratissima, and the Bixa orellana, found in every village.

The vanilla of Brazil sells for £4 per pound, but cannot be compared in any way, either as regards smell or size of fruit, with the vanilla of Mauritius. One pod gathered by M. Geneve weighed 2⅜ drams; it would take then about 96 pods for one pound.

In 1835, Messrs. Loddiges of Hackney sent out a few plants to the Calcutta Botanic Garden; they flowered about four years after their reception, but failed to perfect their fruit, and died shortly after. The experiment was repeated a second time through the liberality of Lord Auckland, who presented, with a number of other useful and ornamental plants which he brought out with him in 1836, two plants of Vanilla; these grew readily, but we believe never blossomed. Plants subsequently obtained have, however, blossomed and fruited abundantly.

In 1853, Dr. Mouat, on his return from Mauritius, presented the Agricultural and Horticultural Society of India with a few plants of Vanilla aromatica and planifolia, which he had obtained from the late M. Bojer. These have been cultivated most successfully, and freely propagated from. A good crop of fruit was gathered from the older plants in 1855, which was favorably reported on by local confectioners. To make it of commercial value, the pods should be long and of a very dark-brown color, almost approaching to black: they should also be moist, and if properly ripened before being packed, they become after a time covered with a circular crystal, which adds to their appearance and marketable value. The blossoming commences in February, and the pod ripens in December. The only enemy to dread is the cold wind in that month, which sometimes nips the pod and causes it to fall before it is properly ripened: a mild December is consequently beneficial to the Vanilla fruit. The pods should be carefully dried, by exposing them on cloth to the sun's rays; and that while warm, they should be wrapped in woollen, which promotes evaporation, and at the same time absorbs the moisture. When thus treated, the pods blacken and put on a silvery lustre. On this appearing, they must be again exposed to the sun, and thoroughly dried. He adds that a fully developed and properly ripened pod should be from 6 to 7 inches long, and about three-eighths of an inch in diameter. In its native country the plant continues to bear from thirty to forty years, and yields, in ordinary seasons, from forty to fifty pods annually, or say half a pound weight; so that each plant may be considered equivalent in value to twenty rupees per annum, requiring very little care and expense in its culture, and only an ordinary amount of care in preparing its produce for exportation.—*Indian Field.*

VANILLA AROMATICA. Swz. Epidendron vanila, *Linn,* var. flore viridi albo. *Plum.*

Menaes Geraes of BRAZIL.

Vanilla aromatica is said by Martius to yield the true vanilla, but the best Mexican vanilla is the produce of V. planifolia, of which Pereira mentions V. sativa and V. sylvestris as two varieties.

The plants should be grown in a shaded situation, the material necessary to ensure a healthy growth ought to be open and free to allow the water at certain seasons to pass off freely from the roots, and admit a certain portion of air, and it should, from its creeping habit, have the rough bark of a tree, jaffery work, or wall, to which to attach its long roots. The situation should be well shaded from the sun, and the material in which the whole of this variety of plant thrives best is a mixture of lime rubbish and brick bats, or other such material, with one-fourth half-decayed leaf mould: the whole should be well mixed together before placing it round the trunk of the tree or other situation chosen to cultivate the plant. The bed should be made three feet wide on the surface of the ground at the north-east side of the butt of the tree, and it should be raised two feet high. A quantity of the largest lumps of the material should be placed at the bottom to ensure a good drainage, and the plants should be watered immediately after planting to settle their roots in the new situation. The stem of the plant should also be fastened up to the tree, so as to encourage the roots to take hold and cling to the substance against which it is intended to grow: after this the plant will merely require a good drenching with water once a week only during the hot weather, to ensure a healthy growth. Hot winds are fatal to the plant, and cold winds, when accompanied by rain, are said to cause the flowers to fall without being followed by pods. The American method of growth is under forest trees, and artificial impregnation (owing to the presence of the Vanilla-fly) is not resorted to, owing mainly to the small price realized at Vera Cruz.—*Indian Field. Mr. H. D. Rae.*

VANJULA. See Krishna.

VAN-KAYA. TEL. Solanum melongena, Brinjal. Egg plant.

VANKAY. TAM. A Tinnevelly wood of a light brown colour, specific gravity 0·888, used for building in general.—*Colonel Frith.*

VANKEY— Lace bordered cloths.

VANKUDA KAIA. TEL. ? Solanum Jacquini.

VANNAN, a caste of washermen in Malabar who can only wash the clothes of inferior castes.

VANNA PARTI. TAM. Wild cotton of Gossypium Indicum, *Lam.*

VANNA-RAJA. SANS. Bauhinia racemosa, *Lam.*

VANNI MARAM PALLAM. TAM. Prosopis spicigera.

VANNIO, a race in Guzerat, seemingly identical with the Banya or Banyan; they are of the jain religion. It is the Vani or Waui of the Mahrattas, and is doubtless from the Sanscrit Vani.

VAN PARATI, also Parati Patti. TAM. Gossypium Indicum, *Lam.* The cotton plant.

VANPONGAM. MALEAL. See Tambogum.

VANPUGGALAH. A Travancore wood of a light yellow colour, specific gravity 0·604, used for light work.—*Colonel Frith.*

VANR. PUNJABI. Salvadora oleoides.

VANSA. SANS. Bambusa tulda, *Roxb.*

VANSAVALI. See Orissa.

VANSLOCHUN. GUZ. Tabashir.

VANTSWARA. See Bhakti.

VANU. SANS. Seed of Bambusa arundinacea.

VANUTHI of SUTLEJ. Fluggea virosa, *Roxb.*

VANYA RAJA DEVA. See Inscriptions.

VAOR, also Vajo. IT. Calabar skins.

VAR. HIND. Gossypium herbaceum.

VAR. Vara, War, Bar, in composition, a day.

VA'RA, or Va'sara. SANS. A week of seven natural days, named after the planets and arranged in the same order as they are in the European week. The name of each day (beginning with Sunday, and adding vara to each) are, 1° Ravi. 2° Soma. 3° Mangala. 4° Budha. 5° Gura. 6° Sucra. 7° Sani. The tabular notation of the feriæ, or days of the week, is 0 for Sunday, 1 for Monday, and so forth to 6 for Saturday; 7 being accounted zero.—*Warren's Kala Sankalita.*

VARADA-RAJAH. Vishnu's name at Conjeveram.

VARAGA, also Varagalu, TEL. Panicum miliaceum, *Willd.*

VARAGOKI, also Mirapa kandra. TEL. Toddalia aculeata, PERS.

VARAGU. TAM. Panicum miliaceum.

VARAGUNA also Ranaguvva. TEL. Cycas circinalis, *Linn.*

VARAHA, or the Boar. In this, the third avatara of Vishnu, he is generally represented four-handed, armed as usual, and with the head of a boar, on whose tusks rests a crescent, containing in its concavity an epitome of the earth, which had been immerged in the ocean as a punishment for its iniquities. So that this, as well as the first and second avatara, seems to be a repetition of the story of the deluge: the second combines with it a portion of astronomical allegory; and none of the other of the ten avatara have any apparent reference to the universal catastrophe, so pointedly indicated by the three first, which are understood to have occurred in the earliest ages of hindu legend, if such a chaotic mass as their fabulous records may be dignified by such a term. There are many fables accounting for the shape thus assumed by Vishnu on this occasion; and the boar is in hindu legends, as well as in the mythological romances of Greece and Egypt, an animal very frequently introduced. In an ancient legend, relating to the destruction of the city of Mahabalipoorum, and the seven pagodas, on the coast of Coromandel, by an earthquake and inundation during an early period of hindu history, it is stated that Hirancheren, a gigantic prince or demon, rolled up the earth into a shapeless mass and carried it down to the abyss: whither Vishnu followed him in the shape of a hog, killed him with his tusks, and replaced the earth in its original position.

In the mythology of the ancients, the wild boar was sacred to Typhon. In India, the Rajputs, on the first day of spring, worship Vasanthi or "spring, basant'h" personified, and on that day the prince and vassals chase, slay and eat the wild boar. Personal danger is disregarded on that occasion, as want of success is deemed an omen that Oomia, the great mother, may refuse petitions during the year. The boar hunt at spring time was a Scythic custom amongst the Scandinavian Asi; the grand festival to Freya was in spring, when boars were offered to her by the Scandinavians, and boars made of paste were eaten by the people. The festival in Rajputana is called Ahairea, and has a religious origin. The boar is the enemy of Gouri of the Rajpoot: it was so held of Isis by the Egyptians, of Ceres by the Greeks, and of Freya by the North-men, whose favourite food was the hog: and of such importance was it deemed by the Francks, that the second chapter of the Salic law is entirely penal with regard to the stealers of swine. The heroes of the Edda, even in Valhalla, feed on the fat of the wild boar Serimner, while the illustrious father of armies fattens his wolves, Geri and Freki, and takes no other nourishment himself than the uninterrupted quaffing of wine: quite the picture of Hur, the Rajpoot god of war,

and of his sons the Bhyru, Gora and Kala, metaphorically called the "sons of slaughter." The cup of the Scandinavian god of war, like that of the Rajpoots, is the human skull (cupra).—*Tod's Rajasthan, vol.* i. *p.* 566. *Coleman, Moor.*

VARAHA, the reputed author of a system of astronomy referred to in the Surya Vasis-t'ha, and Soma Sid'hanta, and therefore supposed by modern sastri to be anterior to them all. But European commentators entertain a belief that the work which goes by Varaha's name in present times, is not the real one; and that the treatise which has reached us, is a compilation of no older date than the ninth century.

VARAHA MIHIRA, another astronomer, thought by many to have been contemporary with the emperor Akbar; but whom others are apt to confound with Varaha Acharya, and others of the same name. The Telugu astronomers consider that Varaha Mihira flourished in the 3600th year of the Caliyug (A. D. 499), *i. e.*, at the close of the 2nd Padah of the Ayanansa, when the sun, moon, and equinoctial points (according to the doctrines of the Surya Siddhanta) were in the first point of the hindu sidereal zodiac; or, in other words, when the Rishi were in the 1st point of the solar sign Mesha *r*, and in the same of the lunar mansion Aswini.—*Warren.*

VARAHA PURANA. See Mahadevi, Kala-Priyanath.

VARA-HUN, a name in the Madras presidency for the commercial pagoda, the 10th of the pollam and the 8th of the seer, weighing 54·68 grains; and for the native pagoda, which is 52¾ grains.—*Simmonds' Dict.*

VARAHI. See Lakshmi. Sacti.

VARAHI NARASIMHI. See Sacti.

VARANA. HIND. SANSC. Garlic pear, Cratæva tapia. Cratæva Roxburghii, *R. B. W.*

VARANES, also Varanus, the Roman designation of the name of Bahram, which was borne by five of the Sassanian kings.

Varanes	I	A. D.	274, 271	the 4th king.
„	II	„	277, 274	5th „ styled Segan Shah.
„	III	„	294, 291	the 6th king.
„	IV	„	390, 389	styled Kerman Shah.
„	V	„	420, 420	styled Bahram Gour.

See Bahram. Sassanian kings.

VARANGAL. The kings of Andra, whose capital was Varangul, about 80 miles north-east of Hydrabad, are alleged to have been connected with the Andra race in Magada, but it must have been by country only, for Andra is not the name of a family, but of all the inland part of Telingana.—*Elphinstone, History of India, p.* 417.

VARANIDÆ, the Varanians or Water lizard family of reptiles of the order Sauria, comprising the two genera, Varanus and Hydro saurus, of which the following species are known to occur in the East Indies;

Varanus flavescens, *Merr.* Ganges, Indus, Penang,
„ dracæna, *L.* Bengal to Ceylon.
„ lunatus, *Gray.*
„ nebulosus. Bengal, Siam.
Hydrosaurus salvator, *Lour*, Ceylon, Siam, China.
—*Gunther, Reptiles.* See Reptiles.

VARA-POOLA. Fluggea leucopyrus.

VARA-RUCHI. See Pali.

VARARUCH KATYAYANA. See Pali.

VARAVADA. TEL. Bruguiera parviflora, *W. & A.*

VARAVARAHA. SANS. An outcast, a man with curly hair, a barbarian and supposed the source of the Greek Barbaros, the Roman Barbarus, and the Barbarian of the British.

VARDAGOUR, the Malabar name of a tree which is remarkably hard and strong. It is used by the natives for spears, weapons of defence, and such purposes as require the hardest kinds of wood. This tree is known as a jungle wood only.—*Edye, M. & C.*

VARDANZAI. HIND. a kind of silk of Bokhara.

VARENA. Ghilan is a district known to the ancient Arians as Varena. It was their thirteenth settlement, and the curse of Ahriman there was irregular menstruation. Ghilan formed the nucleus of the ancient possessions of the Aryans in Media. "Varena with the four corners," Haug has shown to be Ghilan. See Aryan, Kizzel-Ozan.

VARI. HIND. Quercus incana.

VARI. HIND. a turn, a man's turn to work; a joint-owned well.

VARIARI. GUZ. See Perin-siragum.

VARIATTU KALANGU. TAM.? Rhubarb.

VARIKUMATI. TAM. Citrullus colocynthis, *Shrœd.*

VARKKARUNI. See Hindoo.

VARMA, also Varma Deva. See India-Inscriptions.

VARNA. SANS. a tribe, a class. Varna-Saukara, a mixed tribe, or of mixed race.

VARNISH. The art of the varnish-maker is an important one, and it requires, for its successful prosecution, a considerable amount of chemical knowledge, and the greatest care. Copal, mastic, and amber varnishes are much employed by the artist and by the photographer for the preservation of their works. The last is perhaps superior to any of the other. Far less attention is paid to the peculiar properties of varnishes than could be desired.

VARNISHED WARE.

The artist employs a varnish for the purpose of securing his labours from the combined influences of light and air; but it must never be forgotten that he is employing a material which is itself constantly passing, by the absorption of oxygen, into a state of disintegration. Artists know that many varnishes rapidly change colour, and that some are more liable to crack than others are. A few preliminary experiments may be made of great value. For example, if portions of various samples of varnish are spread upon a plate of glass and dried, we have the means of determining many important points. Cover one half of the varnished glass with an opaque screen, and expose the other half to sunshine day by day; by placing the glass upon a sheet of colourless paper, it will be seen whether any colour has been imparted by the action on the sunshine. After a few days if the whole arrangement be placed in spirits of turpentine, the varying degrees of solubility may be noted; and from this may be determined the rate at which, under ordinary circumstances, oxygen is absorbed—the rate, indeed, at which the elements of destruction proceed. Thus a considerably greater degree of permanence may be secured, than when the artist, trusting only to the varnish-maker, employs a preparation about which he knows nothing.—*Robert Hunt, in London Art Journal of December* 1858.

VARNISH TREE. See Dryandra cordata.

VARNISH TREE of CHINA. Elæococca vernicia.

VARNISHED WARE. The Burmese process of making this ware has been minutely described by Major Burney, who witnessed every branch of the manufacture at Amrapura, and the museum of the Asiatic Society in London contains several specimens of various kinds, as well as a set of cups, in every state from the first weaving of a few strips of bamboo to the complete formation of an elegant article of domestic economy. A description of each specimen will best explain the whole process. The first is a wooden frame of wood covered with strips of bamboo woven together so as to form a basket, which is the frame-work of the intended cup; the weaving is like that of a lady's work basket, and care is taken that it shall be as thin and light as possible, as upon this matter the beauty and delicacy of the ware will depend; towards the edges, the weaving is of a coarser nature, and the bamboo is made as fine as hair. The basket is covered on the outside with varnish laid on with a brush made of the husk of the cocoanut. The varnish is the essential part of the manufacture, without which nothing can be done; it is named thit-tsi (wood oil), and is procured from a tree of which there are extensive forests in the northern parts of the Burmese empire. The varnish may be gathered at all times, but if taken during the flowering season, which is at the beginning of the year, it does not harden well. It appears to be in many of its properties analogous to China varnish, and it affects in a similar way the health of those who prepare it, not apparently to such a degree as in China, but still enough to be very unpleasant to those unaccustomed to it, who frequently find their hands blistered and their arms and faces swelled with its effects. All who use it take certain precautions against accidentally swallowing any portion, and they are careful to touch it with the right hand only, while they take their food with the left. Some persons are more seriously affected by the varnish than others, and its injurious effects appear in blotches so much resembling leprosy, that the other Burmese refuse to hold intercourse with the affected person. The varnish, as before remarked, is laid on with a brush, to spare the hand as far as practicable: but in all future operations on the same vessel, it is laid on with the hand both in order to procure a fine surface, and to enable the workman to discover and reject the minutest particles of dust. When first laid on, the varnish looks of a light brown colour, but rubbing with the hand turns it to a fine black. When the cup is varnished, it must be carefully shut up in a box to exclude the dust, and then deposited in a deep cold vault. This is said to be essential to its proper setting, and with one of which every manufactory is provided. The cup is kept in the vault at least three days.

3. In the third process, the cup is advanced another step towards completion, it is covered over with a thick black paste, which is intended to stop up all holes in the baskets and to give the ware a body. Different pastes are used for this purpose, but all agree in being composed of some fine powder mixed up with thit-tsi; in one sort, the powder is that of calcined bones; in another the fine saw dust of teak wood; in all cases the paste is dabbed on with the fingers, so as to hide the basket as far as the workman is able to do. The specimen under description looks black and rough, and the basket appears in several places through the paste: after this process, as well as after every other in which the varnish is used in any shape, the cup is returned to its concealment in the vault, where it must remain at least three days before any subsequent operation can be proceeded with.

4. In the next process, the cup is ground smooth inside. The operation is performed on a

clumsy lathe, more like the roller on which a jack towel is hung behind a kitchen door than the instrument Europeans call a lathe. This roller is turned backwards and forwards with a stick and leather string like the drill bow of European workmen, and a hollow cylinder. The workman inserts the rough cup, and if it be not large enough to stick tight in it, he fixes it there by slips of bamboo; he then smears the inside of the cup with water mixed with an ochrey red earth, turns the lathe rapidly with his right hand, and presses a piece of pumice stone held in his left hand against the inside of the cup; this process soon rubs down the rough surface of the paste, and is continued until it is quite smooth. The specimen is smooth on the inside, the paste is rubbed down quite level with the basket work which appears through it, but without injury to the smooth surface. The outside of the basket is unaltered.

5, In the fifth part of the process, the cup undergoes precisely the same operation on the outside, the only differences in the manipulation being that the cup is fastened upon a frame or chuck, so as to leave the outside open to the workman, instead of being put into a basket to expose the inside.

6. In the sixth process, the cup is covered on the inside with an additional quantity of paste of finer quality, which is laid on by the workman after the outside is ground smooth, and dried, in order that it might receive an additional polish on a subsequent day.

7. In the seventh part of the process, the cup is covered with fine paste on the outside as well as on the inside. Its appearance is rough and black. In this stage the cup is ground outside and in, and has also received a coat of fine varnish. This is the result of the two successive operations with the interval of at least three days between them, the grinding is performed on the lathe, as in No. 4 and 5, but instead of pumice stone the workman employs first a piece of smooth sandstone, then a rag with charcoal and water, and lastly a piece of moist cloth. The cup is dried well in the sun before the varnish is laid on, which is done with the finger.

8. In the next step, the cup receives a second coat of varnish and is quite black and glossy, but not even on the surface. Thus far all the Burmese ware goes through the same processes whatever may be the style in which they are to be finished, whether black or red, plain or figured. The remaining specimens show the various modes in which the manufacturers finish off their work, according to their own taste or that of their employers.

9. In the ninth part of the process, the cup is simply polished in the lathe; this is performed by turning first against a piece of smooth stone as in No. 7, then by moistened rice husks held in the hollow of the left hand against the cup while turning; thirdly by a rag dipped in well pulverised teak wood, and lastly by the hand smeared with a peculiar polishing powder, said to be made of the petrified wood of a tree. The ware thus furnished is like the black japanned ware used in Britain.

10. In the ware of a red colour like sealing wax, not so fine as British red japanned ware, but still clear and bright, the colour used is manufactured at Ava, and is said to be superior to the best Chinese vermillion; it is moistened with an oil called shazi, extracted from the kunyen (Dipterocarpus turbinatus) and then mixed with thit-tsi varnish. The mixture is laid upon the cup after it has gone through the two first operations of No. 9, and nothing more is required than giving it a polish with the hand unless extraordinary lustre is desired, when a mixture of shazy and thit-tsi is applied.

11. In the cups executed in the Shan or Siamese style, the engraving is done with great ingenuity and rapidity, although the only tool is a needle tied to a stick and whetted on a bit of slate. The artist holds the cup on his knees with his left hand and keeps his graver almost motionless in his right, he then dexterously turns the cup by the help of his knees to meet the graver. The Shan style consists in engraving a piece of black ware as No. 9 and filling up the hollows with vermillion, if any figures are represented they are left in relief, in the manner of wood engraving. Some grotesque figures done in this way are to be seen in many specimens. The vermillion is laid on as in No. 10, and after drying several days is rubbed off in the lathe with wet bran held in the hollow of the hand. The operation is generally repeated to ensure a complete filling up of all hollows, and the cup is afterwards varnished and polished.

A more expeditious method, called the Burman style, consists in engraving upon a red cup left as in No. 10 and filling up the hollows with different colours, usually yellow or green. Some specimens are engraved with grotesque Chinese looking figures, and with the lines filled with yellow or primrose. The engraving is first prepared by being varnished over, and the colour is immediately rubbed in with the finger until it is quite dry. When the cup is finished sometimes a small quantity of indigo is mixed with the orpiment, which produces a green colour. Several articles in the R. As. Society's museum are very

finely executed in this way, some of which have both colours in the same specimen. The beauty of the engraving consists chiefly in the contrast of bright colours, and the regular interlacing of minute lines, in which some specimens resemble our engine turning; taste in drawing is totally out of the question.

There are other modes of preparing the varnished ware: the finer sorts are sometimes finished with gilding or with raised figures or mouldings. These are formed of the teak-wood paste mentioned in process 3, which is pressed when soft into tin moulds, and when dry it becomes as hard as the wood of which it was originally made. Europeans have found this paste an excellent material for making the raised work on picture frames and similar objects. Some articles are diversified by leaving portions of the basket-work uncovered by the varnish; in this case the weaving is of the finest quality, and the open parts being of different patterns, the effect is very good. Larger works are made of wood joined together with teak paste, and afterwards covered in the same way as the basket-work, the only difference between the process being that in the wood work, the first varnishing is omitted, the solid and flat surface of the wood taking the paste at once without preparation.

Mr. Fortune says with regard to the varnished ware of China, that the tree which yields the Chinese varnish is a species of Rhus, which, although producing an article of great value, is extremely dangerous to use. The varnish is largely used in the country for giving a fine polish to tables and chairs used in the houses of the wealthy. The beautiful lacquer ware so extensively exported from Canton to foreign countries, and which is so well known and justly admired, is produced by this tree. It has the valuable property of being less liable than French polish to be injured by a heated vessel which may be placed upon it, but it is very poisonous and requires to be handled with great care by the workmen who use it. Indeed, after furniture is dry, it is very unsafe for certain constitutions until it has been in use for some time and the smell entirely gone. A friend of his, Mr. Jones, American Consul at Foochowfoo, used some furniture which had been lacquered some time and was apparently quite dry, and yet he was very ill for a long time from its effects, so ill that he thought he should be obliged to leave the country and go home; and he has known several persons suffer most severely from the same cause. Mr. Williams adds that the beautiful appearance of the lacquered ware of China owes its lustrous coloring to a composition of lamp-black and the clarified juice obtained from a

VARNISHED WARE.

species of sumach called Rhus vernix or R. vernicia. Wood oils are obtained from other plants of the same family, and the different qualities of lacquered-ware are owing to the use of these inferior ingredients. The real varnish tree is described by De Guignes as resembling the ash in its foliage and bark, it is about fifteen feet in height, and when seven years old furnishes the sap, which is carefully collected from incisions in the trunk opened in summer nights. The body of the ware is wood partially smoothed, or pasteboard, upon which two or three coats of a composition of lime, paper, and gum are first laid, and thoroughly dried and rubbed. The surface of the wood is also hardened by rubbing coarse clay upon it, and afterwards scraping it off when dry. Two coatings of lamp black and wood oil, or in the finer articles, of lamp black and varnish, are laid upon the prepared wood, and after drying, the clear varnish is brushed on, one coating after another, with the utmost care, in close and darkened rooms, allowing it to dry well between the several coats. The articles are then laid by to be painted and gilded according to the fancy of customers, after which a last coating is given them. The varnish is brought to market in brownish cakes, and reduced to its proper fluidity by boiling; it is applied to many purposes both as a varnish and paint, when it is commonly mixed with a red or brown color. A beautiful fabric of lacquered-ware is made by inlaying the nacre of fresh and saltwater shells in a rough mosaic of flowers, animals, &c. into the composition, and then varnishing it. Another kind, highly prized by the Chinese, is made by covering the wood with a coating of red varnish three or four lines in thickness, and then carving figures upon it in relief. The great labour necessary to produce this ware renders it expensive. A common substitute for the true varnish are the oils of the Dryandra, Jatropha, Croton, and other members of the euphorbiaceous family, expressed from their seeds by a variety of simple machines, consisting for the most part of different applications of power to cylinders and pestles, by which the seeds are pressed or pounded. The oil, after pressing, according to De Guignes, is boiled with Spanish white in the proportion of one ounce to half a pound of oil; as it begins to thicken it is taken off and poured into close vessels. It dissolves in turpentine and is used as a varnish either clear or mixed with different colours: it defends woodwork from injury for a long time, and forms a good painter's oil. Boiled with iron rust it forms a reddish brown varnish. In order to prevent its penetrating into the wood

when used clear, and to increase the lustre, a priming of lime and hog's blood simmered together into a paste is previously laid on.

Varnished ware is also made in India. In peninsular India the varnish used by moochee men for palanquins, &c., is prepared by melting sandarus (a kind of copal or Anime called by Dr. Ainslie sandarach,) and mixing it with boiled linseed oil rendered dry by litharge ; they do not usually add spirits of turpentine in the way prescribed for making copal varnish in England. Mr. Rohde knows of no better or more durable polish, for teak and chittagong wood particularly, than may be prepared by melting three or four bits of sandarus of the size of a walnut or small egg, and pouring upon it a bottleful of boiling linseed oil (Avisha noona, Tel.) previously rendered dry by boiling litharge or other drier, and after boiling them together for an hour gently adding, while cooling, a tea-spoonful of Venice turpentine. If too thick it may be thinned with spirits of turpentine. It should be rubbed on the furniture and after a little time, during which it may be exposed in the sun, rubbed off; the rubbing should be continued daily, and the polish should not be again applied for eight or ten days, after which it may be slightly applied every one or two months. Water does not injure this polish, and any stain or scratch may be rubbed over with the polish which cannot be done with French polish. To give the appearance of gold to silver leaf used by the Condapilly moochies for ornamenting boxes, palanquins, &c., a little aloes is dissolved in the varnish which is laid over it. A very good varnish is prepared by moochies with shell lac and wood oil heated in small quantities.—*Rohde MSS. Fortune, Residence, p.* 146. *William's Middle Kingdom, vol.* I. *p.* 121. *Journal Royal Asiatic Society.*

VAROODAH. A Travancore wood of a yellow colour, specific gravity 0·855, used for building houses.—*Colonel Frith.*

VARRA KASIMI. TEL. Toddalia aculeata, *Pers.*

VARRI KOOMUTI-KAI. TAM. Colocynth.

VARSAR. SANSC. Aromatic seeds of Cleome pentaphylla.

VARSH, or Warsh. SANS. See Wa.

VARSHA. SANS. The third season of the hindu solar year, comprehending the months of Sravana and Bhadrapada, when the sun is in the signs Carcata and Sinha, answering to the Tamil months Adi and Avani.

VARSHAKALA MALLE. TEL. Species of Jasminum.

VARSHNEYA. See Krishna.

VARTAKA. SANS. Solanum melongena. Egg-plant. Brinjal.

VARUNA. SANS. Cratæva tapia. C. Roxburghii. C. religiosa.

VARUNA, one of the gods of the ancient hindus, of the times of the Vedas. He is the god of the waters, the analogue of Neptune. He is regent of the west, and lord of punishment, in which latter capacity he resembles Yama, and, like him, holds a snaky cord or noose with which he binds incorrigible offenders under the water. His vahana or vehicle is the fabulous fish called makara. Varuna is Ouranos, the vault of heaven, personified; two hymns in the Rig-Veda are addressed to him. He gave a son to king Harischandra and required the same as a sacrifice. Varuna is rain, the sky, or hemispheric firmament, resting on the waters, and has obvious analogies with the Grecian Uranos. To this god, singly or associated with Mitra, are offered the rare and perfunctory prayers for protection from sin, which appear in one or two of the vedic hymns. A common medium between the Grecian and Aryan mythology may be inferred, and that Mena and the Aswini, Anna and Varuna, were not (so to speak) indigenous. See Aditya, Brahminicide, Hindoo, Indra, Inscriptions, Osiris, Saraswati.

VARVAL. BENG. Amarantus polygamus

VASA. TEL. Acorus calamus, *Linn.*

VASALA HOTIN. See Wijao.

VASALI or Vesali, supposed to be an ancient name for Assam.

VASAMBU. TAM. MALEAL. Acorus calamus aromaticus. Sweet flag.

VASANA GADDI, also Nimma addi. TEL. Andropogon schœnanthus, *Linn.*

VASANGA. See India.

VASANTA. SANSC. Spring-time. See Basant'h ; Kali, Kama, Gauri.

VASANTA GUNDA. TEL. Rottlera tinctoria, *Roxb.*

VASANTA KADIMI. TEL. Species of Barringtonia ?

VASANTA. SANS. ? Phaseolus, sp.

VASANT'HI, amongst the Rajputs, is spring personified, as the consort of Har, and is worshipped by them. On the first spring day, the Rajput princes and vassals open the season with a great boar hunt. On that day, personal danger is disregarded as want of success is deemed an omen that, during the year, Oomia, the great Mother, may refuse all petitions.

VASANTOTSAVA, Madhutsava, or Kamotsava, is a festival held on the thirteenth and fourteenth of the hindoo month chaitra, at which Kamadeva, the god of love, was formerly worshipped. The season was one of much merriment, and the general in-

fluence of returning spring was hailed with music and jollity. Part of the amusement of the people consisted in throwing over each other, by means of syringes, water or fine powder, coloured with saffron. A missile commonly used in some places is rose leaves, large baskets and trays of which are prepared for that purpose. The festival of Kamadeva holds its place in the kalendar, but its observance is restricted to a few places. In fact, it seems to have merged into the Phalgunotsava or Holi, celebrated a month before, when the like merriment and affusion of coloured powder or water takes place. In the south of India, Kama is worshipped at this period, also, which still further identifies the origin of the festival, although it has undergone some important modifications in date and purpose.—*Wilson's Hind. Theat. vol.* ii. *p.* 268.

VASCO DE GAMA, when at Calicut, was shown in basins of water, the three ships he had with him. When Don Francisco de Almeyda, the first viceroy of India, was returning to Portugal, some witches of Cochin told him he should not re-pass the Cape of Good Hope : he did, however, re-pass the Cape, but was buried at the bay of Saldanna, some leagues beyond.—*Lubbock Origin of Civilization, p.* 149.

VASHAMBU. MALEAL. Acorus calamus, *Linn.*

VASHISTA and Visvamitra amongst the hindoos, were two historical persons, and two modern schools were named after them. Amongst the hindus Vasishta is a famous rishi, fabled to have possessed a cow named Shuboola, so fruitful that with her assistance he could accomplish whatever he desired. By her aid, he entertained king Visvamitra and his army. See Brahmadica. Inscriptions. Sati. Veda.

VASMA. HIND. Powdered indigo leaves.

VASOKY. See Kurma.

VASOOKA. BENG. Adhatoda vasica.

VASSA. TEL. Acorus calamus, *Linn.*

VASSA. HIND.? a weight used at Surat for pearls and the precious metals 0·1423 grains.—*Simmond's Dict.*

VASSAMBOO. SANS. Acorus calamus aromaticus.

VA'STU YAGA. On the morning of the day previously fixed for entering a new house the hindoo owner performs the usual morning prayers and ablutions, and having thus purified himself, he presents, according to his means, pieces of gold to brahmans, a waterpot is filled with water, and on it are placed fruits, flowers and mango leaves.—*Elliot Sup. Glos.*

VASU, in hindoo mythology, a name of eight semi-divine beings, personifications of natural phenomena, whose names are variously enumerated. In the Vishnu Purana they are thus given : 1. A'pa, water, or according to others, Ahar, day, 2. Dhruva, the Pole-star. 3. Soma the moon. 4. Dava, fire. 5. Anila, the wind. 6. Anala or Pavaka, fire. 7. Pratyusha, dawn. 8. Prabhasa, light. They are represented as always attendant on their leader, Agni or Fire, and in their relationship to this deity and to the worship of the sun and light, seem to belong to the vedic period of hindu mythology.—*William's Story of Nala, p.* 215. *Wilson's Vishnu Purana, p.* 120. See Ashta, Lakshmi.

VASUKI, in hindoo mythology, a serpent king, which the hindoo gods used as a rope when they churned the sea of milk.

VASU-DEVA. See Avataram; Inscriptions; Kanwa Dynasty ; Krishna ; Magadha ; Sri Sampradaya.

VATADELLA. SANS. Zizyphus trinervia.

VATALOO. A Travancore wood of a purple colour, used only for firewood.—*Colonel Frith.*

VATANBOO. A Travancore wood of a light brown colour, two feet in circumference, used for railings, fences, &c.—*Colonel Frith.*

VATARAJAKUL. CAN.? Solanum species.

VATA VRIKSHA. SANS. Ficus Indica.

VATERIA, a genus of plants of the East Indies, of the order Dipterocarpaceæ. There are four species known, V. Zeylanica, *Wight*, of Ceylon, V. lanceæfolia, *Roxb.*, of Assam and the Khassya mountains, V. Roxburghiana *Wight Icon.* a tree of the peninsula of India, and V. Indica of the western coast of peninsular India and Mysore. A species of this genus, the Le-toak of the Burmese, is plentiful in the Tenasserim provinces. It is a handsome wood, suited for cabinet work, the purposes of the turner, and other purposes requiring a wood of dense structure.—*Major Benson. Wight's Icones. Roxb. Voigt.*

VATERIA CEYLANICA. *W. Ill., p.* 88.

Stemonoporus Wightii, *Thw.*

A large tree in the forests between Galle and Ratnapoora, and at Palmadolla ; near the latter place : wood not known.—*Thw. En. Pl. Zeyl., p.* 37.

VATERIA INDICA. LINN.

Elæocarpus copalliferus, *Retz.*		Chloroxylon dupada, *Ains. Buch.*	
Dupa mara	CAN.	Hal,	SINGH.
Piney varnish tree,	ENG.	Hal-gass,	"
Indian copal tree,	"	Piney maram,	TAM.
White dammer tree,	"	Kondricam,	"
Peini mara,	MALEAL.	Vela kondrikam,	"
Vella kondrikam,	"	Chadacula,	TEL.
Payani,	"	Dupada chettu,	"

The gum.

Kundrikam,	TAM.	Gum anime,	ENG.
Vela,	"		

The oil.

Piney tallow,	ENG.	Piney yennai,	TAM.
Dupada oil,	"		

This large and stately tree grows to the height of about 60 feet, It has entire, smooth, coriaceous leaves, and terminable panicles of white flowers. The young shoots and all tender parts except the leaves are covered with fine stellate pubescence, leaves alternate, petioled, oblong, entire from emarginate to obtuse, pointed, smooth, coriaceous, from four to eight inches long and two to four broad, petioles round, about an inch long; stipules oblong, panicles terminal, ramifications rather remote ; flowers rather remote, pedicelled, pretty large ; bractes oblong, one flowered ; calyx five, cleft to the base, divisions oblong, obtuse, villous on the outside, corolla five petalled, petals oval, emarginate, broader but very little longer than divisions of the calyx, filaments from 40 to 50, short, broad, inserted between the petals and the base of the germ, anthers linear with a single filiform beak, germ superior, conic, downy, three celled, cells containing 3 ovules each attached to the top of the axis, style longer than the stamens, stigma acute, pericarpium coriaceous fleshy, oblong, obtuse, one-celled, three-valved, capsule general size about 2½ inches long and 1½ in diameter, seed solitary, of same shape as the capsule.

It is common in the hotter parts of Ceylon, up to an elevation of 2,000 feet, it grows in Canara and all along the Malabar coast : it is found also in Mysore, and in the western provinces of Ceylon, its wood weighs lbs. 26 to the cubic foot, and its timber is said to last 10 years. In Ceylon, its timber is used for packing cases, ceilings, coffins, &c., but on the western coast of India, it is said to be an excellent and valuable building timber, not liable to be attacked by the teredo, and much employed in ship building. Mr. Edye says that the Paini dup-maram is found in the Cochin and Travancore forests, but is rarely cut down, as the dammer taken from it is valuable, and when mixed with the wood oil makes the Paini varnish. This tree produces a resin, in India called copal, in England known by the name of gum anime, and very nearly approaching the true resin of that name. The best specimens are employed as ornaments, under the denomination of amber (kahroba), to which it bears external resemblance. In its recent and fluid state it is used as a varnish, called Piney varnish, in the south of India, and, dissolved by heat in closed vessels, is employed for the same purpose in other parts of India. Another plant of the same genus, V. lancesefolia, affords a resin from which hindus prepare one of the materials of their religious obiations. This is an article of export to China from Sumatra, where this tree also grows to a height of thirty to fifty feet and from two to four feet in diameter, and in greater abundance than on the coast of Malabar.

When the bark of this tree is wounded, a pellucid, fragrant, acrid, bitter, resinous, fluid, called piney varnish, "pundun," or liquid copal exudes, which, in the rays of the sun, becomes yellow and fragile like glass. It is in this state that it is well known in commerce, and in England receives the name of gum anime, as above noticed. In India it is usually called copal, also East Indian copal. It occurs of all shades of colour, between pale green and deep yellow, and in India the finest pieces are sold, as amber (kahrubah, Arab. Pers.) The resin is used in Ceylon as incense. A solid oil is prepared from the seeds and is called Piney tallow or dupada oil, Piney yennai, Tam, which is used for lamps, for which it is principally used, but is very suitable for soaps and candle making, and might be more largely utilized that hitherto.

The oil from the seeds becomes perfectly solid even in hot climates, and is prepared by cleaning the seeds, then roasting and grinding them into a mass. To 5 seers of seed, add 12 seers of water, and boil until the oil rises to the surface. Remove the oil, stir the contents of the vessel, and allow it to stand until the following day, when more oil will be observed on the surface, which may be collected and the process repeated.

The *Doopada Resin*, which exudes from the Vateria Indica, and constitutes piney varnish, is used as a fragrant incense in temples: the quantity procurable is very considerable. White dammer or Piney resin from this large tree, the Vateria Indica of Linnæus and Wight, the Choloroxylon dupada of Buchanan and Ainslie, exudes spontaneously from the tree and in commerce occurs in large lumps of all shapes and varying in color on the outside from a bright orange to a dull yellow, bearing evident marks of having adhered to the bark of the tree. It has a shining vitreous fracture, is very hard and bears a great resemblance to amber. Its color, internally, is of all shades, from a light green to a light yellow, the green tint predominating in the generality of specimens. It is more soluble in alcohol than the black dammer, and burns with less smoke and a more agreeable odour. It is easily distinguishable from all other Indian resins by its superior hardness, its colour, and amber-like appearance. It is obtained by wounding

the tree and in commerce occurs either in small lumps or in large masses, generally of a shining appearance and balsamic smell. It has a very cellular structure, which is attributable to the mode of collection. Notches being cut in the trunk of the tree sloping inwards and downwards, the resin collects in the cavity, and is either permitted to dry on the spot or is collected and dried by the application of heat. It is of all shades, from light green to light yellow or white, and is usually translucent. Specimens are sometimes seen, in which from the dessication having been improperly conducted, the resin is more opaque, of a dull green color, and full of air bubbles, presenting the appearance of having undergone a partial fermentation. This resin may be recognised by its cellular appearance and balsamic smell—this latter, however (which is, of course, due to the volatile oil it contains) is gradually lost by long keeping or constant exposure to the air. What is called "East Indian copal," and sold in England as gum anime, exudes abundantly from this tree. It occurs of all shades of color between pale green and deep yellow; the finest pieces are called kahroba, the Arabic for amber, and sold as amber in the bazars of India: the resin before it hardens is the Piney varnish of Malabar. Besides the uses already alluded to, candles are made of this resin in Malabar, which Dr. Wight informs us, diffuse in burning an agreeable fragrance, give a fine clear light with little smoke, and consume the wick without snuffing. These candles were at one time introduced into England, but a very high duty having been imposed, the trade ceased. Blume, in his Mus. Bot. Lugod. Bat. ii. 29, makes two species of the Linnæan Vateria Indica, reserving this name for the Ceylon plant, and calling the peninsular one V. Malabarica. The Canarium strictum of Roxburgh is known in Malabar under the name of the "black dammer tree," in contradistinction to the Vateria, which is the "white dammer tree."—*Thw. Enum. Pl. Zeyl. M. E. J. R. Roxb. Flor. Indica. Voigt.*

VATERIA LANCEÆFOLIA. Roxb.

Mool of Sylhet.

A large tree, common in Sylhet, and growing in Assam and the Khassya mountains. It has entire, smooth, coriaceous leaves, and terminal panicles of white flowers. It flowers in April and May, and fruits in July and August. It is valuable as a timber tree. It exudes a clear liquid from wounds, &c. in the bark, which soon hardens into an amber coloured resin. From this the natives distil a dark coloured and strong smelling resin called Ghoon, also Chova, Hind., the gond or gum, which the brahmins use as an incense. —*Voigt, Royle's Him. Bot., Eng. Cyc. Dr. Mason.*

VATERIA LANCEOLATA. McClell.

Pan-they-ya, Burm. | Pan-thit-ya, Burm.

This tree is noticed by Captain Dance, but it may be the same as V. lanceæfolia. He says it is found along the coast near Amherst, and is abundant in Tavoy and Mergui, but scarcely procurable in Moulmein. Its maximum length is 60 feet and maximum girth 6 cubits, and, when seasoned, its wood floats in water. It is often called white thengan, but it is closer and heavier than the thengan. It is, he says, an excellent wood for tool handles and planes, but has not sufficient spring for helves. The Burmese use it for all purposes to which thengan is applied, especially in junks; but the Burmese of Amherst say it is not quite so good or durable as thengan. Dr. Mason also, in his Tenasserim, speaks of a species of Vateria as a common timber tree in the provinces of Tavoy and Mergui. The timber, he says, is whiter than that of Hopea, and equally good. Indeed, it is often, he says, called white thengan or white Hopea, the woods being only distinguished in commerce by their colour. Vateria Roxburghii, when in bloom, is quite ornamental, and diffuses the fragrance of its flowers a great distance around.—*Dr. Wight. Dr. Mason. Captain Dance.*

VATES. Lat. the Bhat or Bard of India.

VATESWARA DATTA, according to some authorities, is the name of the father of Pritha, Prithwi, or Prithivi raja, but by other writers the father was named Someda or Vigraha Deva, and his grandfather Saruga Deva, or Visala Deva. The term datta is also more appropriate to a man of the Vaisya tribe than a Rajput, but then Vateswara is called a samanta, a term especially implying a warrior and a chief, and as in the case of the Jats, the agricultural tribes occasionally follow a military life. These considerations, however, leave the individuality of the author very doubtful.—*Asiatic Researches, vol.* XV. *p.* 447. *Transactions of Royal Asiatic Society, Hind. Theat. vol.* II. *p.* 154.

VATHEK. The hero of the tale by Mr. Beckford, who is made to visit the Takht-i-Jamshid. According to the work called Khulassut-ool-Akhbar, Vathek died of dropsy in the month of Zehuj 232 Hijri, or A. D. 845.

VATICA, a genus of plants of the East Indies, of the natural order Dipterocarpeæ. They are large trees of great economic value. Vatica camphorifera, *Wight*, is the famous camphor tree of Sumatra. V. laccifera, *W. & A.*, grows on the Palghat mountains. V. obtusa, *Wall*, is a tree of Martaban. V.

robusta, *W. & A.*, grows in Nepaul, and V. tumbagaia, *W. & A.*, is a tree of Palghaut.

VATICA. species.

Koung-mhoo. BURM.

A tree of Moulmein: wood used for making carts and boats.—*Cal. Cat. Ex.* 1862. See Shorea.

VATICA LACCIFERA. *W. & A.*; *W. Ic.*

Shorea talura *Roxb.*	Shorea robusta *Roth.*
Shorea laccifera, *Heyne*	Saul tallarea, *Roxb.*

Talura, TAM.

This large timber tree grows in the Naikenary pass, Nundidroog, and the Palghaut mountains, and its wood is much used where it grows.—*W. & A. Useful Plants, Voigt.*

VATICA ROBUSTA. *W. & A.*

Shorea robusta *Roxb.*

Saul HIND	Gugulu. TEL.
Saul Tree ANGLO-HIND,	Sala ,,
Gugilam. TAM.	

The wood of this tree is in great repute; it is very valuable for house and ship building, is used for vats for liquids, door frames, and the rails and battens of doors; it is not suited for planks, it twists, shrinks, and warps whenever the surface is removed, even after many years' seasoning, but it is in general use for building purposes in the Ganjam and Vizagapatam districts. Colonel Baker's experiments shew that, compared with teak, its strength is about 1121 to 869. In Major Hay Campbell's experiments on unseasoned saul it broke with 1391 lbs. It is unquestionably, for engineering purposes, the most useful grown India timber. Unseasoned wood broke with a weight of 1308 lbs.; seasoned saul with 1319 lbs. The tree yields ral or dhoonee ral, which contains some essential oils, and is used by hindoos as incense, and in medicine. It is obtained by notching the trees. *Report of R. Thompson Asst. Conservator of Forests of Gurhwall. Jury's Reports of the Great Exhibition.* See Shorea.

VATICA TUMBUGAIA. *W. & A.*

Shorea tumbugaia *Roxb.*	Saul tumbugaia *Roxb.*
Congo-wood Tree ENG.	Tumbugaia TEL.
Chambagam TAM.	

A large tree grows in the Palghat mountains, yielding valuable and excellent timber, and a quantity of dammer resin; it has a strong heavy wood, close grained, but splintery, superior in strength and finer in grain than sal, too heavy for gun carriages, but would answer for all purposes where great strength is necessary.

VATPATRA. See Narayana.

VATRAPPANACHIYAR. See Hindu.

VATSABRIAM. SANS. Commelyna communis, *Linn.*

VATTANGHY. TAM. Cæsalpinia sappan, *Linn., Roxb., W. & A.*

VATTANGA KOTTE. TAM. See Patunga cottay.

VATTA-THAMARA. MALEAL. Macaranga Indica.

VATTEI PEIMARETTI. TAM. Anisomeles obovata.

VATTI. TAM. TEL. Candle, the batti of Hindustan.

VATTI VERU, also Avaru gaddi. TEL. Andropogon muricatus, *Retz.*

VAUKI. See Indra.

VAVARANG. HIND. Myrsine Africana.

VAVASWANA. See Surya-vansa.

VAVILI CHETTU. TEL. Vitex trifolia, *L.*, *R* iii. 69., *Rheede* ii. 12.

VAW-KARAH. MALEAL. A Malabar and Canara tree which produces the country olive, to which the natives are very partial. This fruit is also eaten by the wild beasts and birds of the forests. The tree grows to about eighteen feet high, and twelve inches in diameter.—*Edye, Forests of Malabar and Canara.*

VAYA VELANGAM CHETTU. TEL. Embelia ribes, *Burm, Roxb.*

VAYGHA——? Lagerstrœmia reginæ.

VAYLARI TYLUM. TAM. Oil of Celastrus paniculata, *Willde. Roxb.*

VAYLI PARTEE. TAM. Cynanchum extensum, *Jacq.* Dæmia extensa.

VAYLLA—? Gynandropsis pentaphylla.

VAYNGHI. TAM. Pterocarpus bilobus.

VAYNGI. TAM. mulu-vengah. MALAYALA. Pterocarpus marsupium. The wood of this tree is of a dark olive or light-brown colour, it is very strong and tough. The tree sometimes grows crooked, and to about two feet in diameter, and from thirty to thirty-five feet long; it is used by the natives both for houses and vessels. This sort has a single leaf in the shape of a pear, but the Vella vengah, which is the white or light coloured tree, has a long leaf, and grows to about eighteen inches in diameter, and twenty feet long. The natives prefer this wood for boat crooks, and the curved parts of the frames of pattamahs and native vessels.—*Edye, M. & C.*

VAYPUM. TAM. Azadirachta Indica.

VAYR-CUDDALA-YENNAI. TAM. the oil of Arachis hypogea, *Linn.*

VAYRU. TEL. Root of a plant.

VAYU. SANS. the atmosphere; one of the gods of the ancient hindus. The god of winds and the regent of the north-west.

VAYU VELANGUM CHETTU. TEL. Embelia ribes, *Burm.* also E. glandulifera.

VEATA, a Singhalese long measure, equal to an English foot.—*Simmonds' Dict.*

VEDA. The religious books of the hindoos known as the Vedas, are four in number, the Rig

the Yajur, the Sama, and the Atharva, but the last of these belongs to a much later age than the rest. The hymns of the Rich or Rig Veda are repeated entirely in a disjointed form in the Sama, and with little alterations in the Atharva also,while the Yajur Vada contains, principally, forms of prayer. A Veda in its strict sense, is simply a sanhita, or collection of hymns. These hymns form the Mantra or ritual, and are the true Veda. The Rig, the Sama, and the Yajur are the three universally received. The Atharva is of more doubtful authenticity. The body of Vedic literature is immense. In the Brahmana, which are considered as belonging to the Vedas, moral precepts, religious instruction, and information are conveyed. Professor Wilson supposes them to belong to the 8th century before Christ, and they are said to recognise certain grand conceptions of the Supreme Being as the Father to be worshipped, "He the creator of the earth, or He the righteous, who created the heavens. He who also created the bright and mighty waters; is the God to whom we shall offer our sacrifice." The prevailing belief is that the Aryan religion was, in the Vedic times, a worship of nature, which rose to theism and then declined to scepticism and merged into atheism immediately before the time of Buddha. Of the four, the Rig Veda is the oldest, and the Yajur Veda, Sama Veda, and the Atharva Veda follow in succession. Each Veda is divided into two parts, viz., 1st the hymns and mantra, which express the wants and aspirations of the worshippers, and 2ndly the Brahmana, which belong to a ritualistic age, and refer to rites and ceremonies. These are of an unmeaning artificial character, although a mystic significance is attached to each. The Aitareya Brahmana illustrates the brahmanical sacrifices of animals as practised in the early age of brahminical ascendancy, which partly preceded and partly overlapped the age of buddhism.

Good scholars are of opinion that the Vedic hymns were composed mostly about fifteen centuries before Christ, but not committed to writing, and therefore not collected, until the eighth century B. C. With all their difficulties, they furnish much information regarding the origin and early state of some of those races who are now called hindus. The people among whom the Vedas were composed, had evidently passed the nomade stage. They had no money, and their wealth consisted of cattle, horses, sheep, goats, and buffaloes, and the cow was the medium of barter. By the Rig-Veda (vol. 1, p. 165; vol. 2, pp. 127 and 225; and vol. 3, pp. 163, 276, 416 and 453) it is evident that the cow was then not reverenced, and that the race who composed these hymns were a cow-killing, beef-eating, and spirit drinking people. Cow-stealing was a great crime.

Professor Max Muller fixes the years 600 and 200 B. C. as the limits of that age during which the brahmanic literature was carried on in the strange style of the sutra.

The geography of the Vedic hymns confirms the theory that the Arian race migrated from Central Asia about seventeen centuries before Christ, entered India by the north-west, dwelt during the earliest Vedic portion in the Punjab, and migrated or fought their way into Hindustan and Central India during the five centuries that succeeded. From the frequent mention of the Saraswati and other rivers, we learn that the Punjab was at one time the locality of the Vedic Arians. The fathers of the Arians originally inhabited Iran Proper, the Land of Pleasantness, and they left it only in consequence of a convulsion of nature, by which a great alteration in the climate was caused. When the climate was altered by some vast disturbance of nature, the Arians emigrated. They did not, however, follow the course of the Oxus, or they would have come in the first instance to Bactria, and not to Sogdiana. Their course, therefore, was more northerly. Its present climate is precisely what the record in the Vendidad describes it to have been when the changes produced by the above commotion took place. It has only two months of warm weather. In the course of the Arians after their expulsion from the primeval country between Sogdiana and the Sutlej, they formed, by the conquest of fourteen countries, as many kingdoms in the whole of the eastern part of Central Asia and India Proper, in the country of the Indus and its confluence. In the intervening countries, they passed amongst the Turanians (Scythians and Turcomans), and there is evidence that the inhabitants whom they found in India were likewise Turanians. The main direction of these travellers was southerly, and on the southern bank of the Caspian is a group the nucleus of the Arian Media. Amongst the Arian hindus, the sacrifice of a horse, the Aswamed'ha, seems to have been practised in their religious rites. There are two hymns in the Rig Veda describing the rite, and which leave no doubt that in the early religion of the race, this sacrifice, as a burnt offering to the gods, was had recourse to. It was, even then, however, falling into disuse, and was existing as a relic of an antevedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And, in still later times, the Aswamed'ha consisted in certain ceremo-

nies ending in the liberation of the horse, as throughout nearly all India is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of Siva or Vishnu or other hindu god.

The language of the Veda is stereotyped Bactrian, and the Zend tongue is a continuation of the old Bactrian language, with two phases of which we are acquainted. One of these is found in the language of the Zend books, the other is that of the cuneiform inscriptions in use from Cyrus and Darius down to Artaxerxes II. The Sanscrit is the weakened prose form of the old Bactrian language, the poetical form of which exists in the hymns of the Rig Veda. These hymns were transmitted orally. Literature proper only commences with Sanscrit after it became a learned language, and it became the sacred language about the year 1000 B. C. at the beginning of the fourth age. Both Vedic and Sanscrit were at first living languages.

Professor Muller excludes from the Vedic period, the Mahabarata, Rama'yana, Manu, all the Purana, and all the Sastra and Darsana, and is of opinion that the Vedic age contained four distinct periods, which can be distinguished from each other by sufficient evidence. He calls them the Chhandas period, Mantra period, Brahmana period, and Sutra period. Sutra means string, and was the last production of the Vedic age when the language was bordering on the modern Sanscrit.

Eight out of the ten maudala of the Rig Veda begin with an invocation to Agni. Indra is certainly the most powerful of the vedic gods, but he never enjoys that supremacy which in Greece and Rome was allowed to Zeus and Jupiter. The Rig Veda (iv. 1. 5) says, Come down to us, Agni, with thy help ; be thou near to us to-day, as the dawn flashes forth. The most modern hymn in the Rig Veda must have been composed before the introduction of prose composition, more than 800 B. C. Brahmans say that there are six members of the Veda, the six Vedanga, which does not mean that there are six distinct books or treatises intimately connected with their sacred writings, but merely the admission of six subjects, the study of which was necessary either for the reading, the understanding, or the proper sacrificial employment of the Veda. These are—

Siksha, Pronunciation	Nirukta, Explanation of words.
Chhandas, Metre.	Jyotisha, Astronomy.
Vyakarana, Grammar.	Kalpa, Ceremonial.

The Vedas, as explained by different teachers, branch out into innumerable schools, to which different tribes of brahmans in the south of India are hereditarily attached : in upper India every classification of the kind has long been forgotten. A very principal division of the Vedas is that named in the text, the Taittiriya or white portion of the Yajur. It derives its name from Tettiri, a partridge, in which shape, according to the Vishnu Purana, the sage Vaisampayana, the first teacher of the Yajur, swallowed the fragments of this work, which he had compelled his disciple Yajuavalkya, who had offended him, to disgorge. This portion of the Veda was thence named Taittiriya. The legend seems to have been invented by the Puranic writers to disguise their ignorance of the real purport of the designation. Charana is supposed by one commentator to be either a branch of the Vedas, or some particular teacher, and by the other to imply a verse or foot, meaning that they were familiar with the metres of the Veda.

The Vedanta is a school of philosophy or psychology, founded on scattered texts of the Vedas, and thence termed the Anta, or end or substance. The rishi of the Vedas are progenitors or founders of races.

There are three lists of rishi given in the Upanishad of the Yajur Veda, called Vrihad Aranyaka, each list differing from the other. The following are a few names in which the first and second agree.

Atreya (Atri.)	*Asurayana* & Yaska.
Bharadwaja.	Jatukarnya.
Asuri.	*Parasarya* or *Parasaryayana.*
Aupajandhani.	Ghrita Kausika,
Srawani.	

Eight descents above Atreya we come to the mythological Abhuti Trastvar (Twashtri, the Vulcan of the Greeks) and the Aswini. Four descents downwards from Atreya we reach the Gotama, Bharadwaja, and Parasara, or Parasarya of the hymns. In the last of the lists we find the following order:—Atreyi (Atri), Gautami, Bharadwaji, Parasari, Varkkaruni, Artabhaga, but now removed by at least 40 descents from the devata ! many of these however, are not the names of men but of countries. Asuri and Asurayana speak for themselves, as the Assyrians and Assyria. Paras-arya is the Arian Persian, or Parisi. Kausika is from Kaush or Kush in Aria ; and as to the Arta-bhaga, Herodotus writes that the Persians originally were called Artoeans, from Arta (Herat): and Bhaga, in the Behistun inscription, means lord or god : so that Artabhaga is, word for word, lord of Arta (or Herat). It will be observed also that Assyria is before Persia in due chronological order. The Vedas allude also to "strong built cities," "perennial

cities," "stone-built cities of the Asura;"

The priests are thus enumerated in the text of the Veda—

1. Hotri.	4. Neshtri.	7. Ahwaryu.
2. Potri.	5. Agnidhra.	8. Brahman.
3. Ritwij.	6. Prasastri.	

Five classes of men are repeatedly mentioned in the Vedas, but there are no allusions to Sudra or Kshatrya. A like division into four classes prevailed amongst the ancient Persians, the fifth probably being captives enemies and slaves. Arrian makes the number seven; but by taking in or leaving out classes and professions, they could be increased or diminished. The spirit of the Vedas is fiercely intolerant to all of a different faith, or who did not conform to their ritual. The rishi intreat Indra "to strip off their back skins:" but any thing like caste, in its modern sense, it utterly ignores. If such a system as caste had prevailed in those ages, it is impossible that no allusion should be made to it in full five-hundred hymns, outspoken enough on other matters. Although however caste may not have been mentioned in the Rig Veda, it is expressly recognised by the Yajur and other Vedas.

The following tabular statement of the number of sakta in 500 hymns translated by Professor Wilson addressed to each deity sets their actual and relative worship clearly before us;

Indra............	178	Mitra............	17
Agni............	147	Varuna..........	20
Aswini...........	28	Usha...........	11
Marut...........	24	Sura or Savitri.	5
Vayu.....	6	Sarasvati........	1
Rudra.......	3	Vishnu, (none in	
Brihaspati.......	2	the first *Ashtaka*.)	2

Total 444. This leaves less than sixty hymns for all the other denizens of their pantheon. They also worshipped "the lights of heaven," possibly the starry firmament. Scholars will recognise this as nothing more or less than the religion of the Persians when they first appear on the stage of history.

Indra takes a very important position in each of the three periods of hindu mythology. In the Vedic period he is the great Being who inhabits the firmament, guides the winds and clouds, dispenses rain, and hurls the thunderbolt. In the Epic period, he is still a principal deity, taking precedence of Agni, Varuna, and Yama. In the Puranic period he is still a chief deity, only inferior in rank to the great triad, Brahma, Vishnu and Siva. His heaven is called Swarga-loka or Indra-loka and his pleasure garden or elysium his city sometimes placed on mount Meru, the Olympus of the Greeks: his charioteer, his thunderbolt, his elephant, his bow (the rainbow) are all famed. In the present state of hinduism, however, in which every hindu has a separate belief, and hero worship, the worship of incarnated beings, devil worship, and the worship of the lingam are the prevailing forms, Indra is unheard of and almost unknown, is now never invoked, and has been succeeded by Vishnu and Siva.

Amongst the earliest dissenters from Indra, were the Yadu race under Krishna's influence. The reasons leading him to the change are not known, but the Maha Bharata makes him say to Nanda his father, "why worship Indra as Supreme God? O father we are Vaisya and our cattle live upon the pastures, let us therefore cease to worship Indra, pay our devotions to the mountain Govardhana." Up to that time it was to the heaven of Indra that the good who died were believed to proceed.

The two gods, Indra and Agni, Rain and Fire, were the chief deities worshipped by the Vedic Aryans. The sovereign of the gods Indra, the most powerful of the Vedic deities, was the god of the firmament, the hurler of the thunderbolt, who smote the rain cloud and brought down waters, who delighted in the Soma juice, in eating, drinking, and war, who was strong and drunk with wine. Agni, another Vedic deity, is the personification of fire, and was worshipped as the destroyer of forests, as useful in the sacrifice and in the household.

"When generated from the rubbing of sticks the radiant Agni bursts forth from the wood like a fleet courser." "When excited by the wind he rushes amongst the trees like a bull, and consumes the forest as a rajah destroys his enemies."

"Such as thou art, Agni, men preserve thee constantly kindled in their dwellings, and offer upon thee abundant food." (*Rig Veda* I, 73.)

Varuna was the vedic god of the waters and god of the ocean, but the name was sometimes applied to the sun and sometimes used as a personification of day. As with other gods, when addressed, he was regarded as supreme, and capable of forgiving sin:—

"Let me not yet, O Varuna, enter the house of clay; have mercy, Almighty, have mercy!

If I go along trembling, like a cloud driven by the wind; have mercy, Almighty, have mercy!

Thirst came upon the worshipper though he stood in the midst of waters; have mercy, Almighty, have mercy!"

Surya or the sun, called also Savitra, Mitra, Aryaman and other names, was a vedic god, who continues to be worshipped down to the present day by brahmins and zoroastrians. The solar race of Kshetrya, who appear in the Ramayana, derive their origin from the sun: but in the higher spirit, the sun is regarded as

divine, as pervading all things, as the soul of the world and supporter of the universe. In a verse of the Rig Veda (iii. 62, v. 10) this idea is supposed to be indicated. It is O'm! Bhurbhuvässuvähä, O'm. Tatsa vit'hru varennyäm. B'hargo dèvassyä dhimahi dhiyo yonaha pracho däyäth: "O'm! earth, air, heaven, O'm! let us meditate on the supreme splendour of the divinesun, mayhe illuminate our minds:" and, at the present day, the enlightened brahmins regard this verse as an invocation to the several deities who are implored by the worshipper to aid his intellect in the apprehension and adoration of God.

In connection with the sun are the twelve Aditya, sons of Aditi, the universe. In the latter vedic age, they were identified with the twelve signs of the zodiac, or the sun in its twelve successive signs.

Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the Soma plant, but in the Mahabharata, Soma is the mythical progenitor of the great lunar race of Bharata. The som, soma or somaluta plant, the Sarcostemma brevistigma, *W. et A.* the twisting Sarcostemma, the Hom of the Zend-avesta, often mentioned in the Vedas, obtained its name because it was gathered by the vedic Aryans by moonlight. They carried it to their homes in carts drawn by rams, and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and ghi. This wine was drunk at all their religious festivals, and was used as an intoxicant by the rishi, who also at their meals partook of beef. How far this race partook generally of this wine is unknown, but the Rig Veda ix. says in its praise, the "purifying soma, like the sea rolling its waves, has poured forth songs, and hymns and thoughts."

The Aswini, apparently a personification of light and moisture, are alluded to in the Vedas as sons of the sun, also as the sun's rays, and are noticed as the physicians of the gods. They are described as young and handsome and riding on horses.

Vayu or the air, and the Marut as winds, are personified and invoked. The Marut are depicted as roaring amongst the forests and compared to youthful warriors bearing lances on their shoulders, delighting in the soma juice, like Indra, and, like him, the bestowers of benefits on their worshipper.

Ushas, or the dawn, the early morning, the first pale flush of light, is compared to a mother awakening her children, to a loving maiden awakening a sleeping world, to a young married maiden, "like a youthful bride before her husband, thou uncoverest thy bosom with a smile." As a goddess she is styled (Rig Veda I. 2) "the mighty, the giver of light: from on high she beholds all things; ever youthful, ever loving, she comes first to the invocation." Indra, according to Bunsen (iii. 587, 8, iv. 459), is the prototype of Zeus, and was a personification of ether; Soma was offered to him in sacrifice. Indra as the regent of the east, is identical with Devandra, the king of the Deva. The Erythrina fulgens, the Parijata or fairy locks, is supposed to bloom in Indra's gardens, and an episode in the Puranas relates the quarrelling of Rukmini and Satyabhama, the two wives of Krishna, for the exclusive possession of this flower which Krishna had stolen from the garden. The gandharva, in hindu mythology, a shade, a spirit, a ghost, a celestial musician, are demi-gods or angels who inhabit Indra's heaven and form the orchestra at the banquets of the gods. They are described as witnesses of the actions of men, and as sixty millions in number.

The geography of the vedic hymns confirms the theory that the Aryan race migrated from Central Asia about seventeen centuries before Christ, entered India by the north-west, dwelt during the earliest vedic portion in the Punjab, and migrated or rather fought their way into Central India during the five centuries that succeeded. From the frequent mention of the Saraswati and other rivers, we learn that the Punjab was at one time the locality of the vedic Aryans. The Massagetæ occupied precisely that position to which the legends of Mount Meru and its rivers (amongst the rivers the Jaxartes and the Oxus may be clearly traced) point as the cradle of the Aryan race, and the early mention of the Sacæ (Sakya) and Bactrians (Yavana) as the principal foreign nations, confirms the supposition that the Aryan race travelled southwards from the highlands of Central Asia before entering the Punjab. The Aryans of the vedic period were not barbarians or nomades. From the Rig-Veda it is evident that at the time of its composition, the cow was not reverenced, though cow-stealing was a great crime. In the earliest period of their migration, they had no money. Their wealth consisted of cattle, horses, sheep, goats and buffaloes, and the cow was the medium of barter. But there is also mention in their hymns of cities, of commerce, merchants and sailors, of weapons of wood and iron, of chariots, of heralds, of travellers, and inns for their accommodation, and even of the vices of primitive civilization. These immigrants into India, in the time of the Vedas, we are also told, were a cow-eating and spirit-drinking people. From their hymns we learn that they had also roads and ferries, bullock-carts and waggons; they had car-

riages and war chariots drawn by horses, and he carriage was made of wood with brass wheels and iron rims and pillars. It had seats and awnings, was easy going and sometimes inlaid with gold. Iron and steel were subsequently, at least, in use, for there is mention of iron armour, of arrows tipped with steel, and Porus gave thirty pounds of steel to Alexander. They had a knowledge of the sea; had halls of justice and halls and chambers of sacrifice, but apparently no temples or images. Women held a high social position. The rishi and his wife conversed on equal terms, went together to the sacrifice, and practised austerities together. Lovely maidens joined in processions, and grown up daughters remained without reproach in their fathers' house. But we read of drunkenness, polygamy, cheating, gambling, abandoning of children, thieves, courtezans and eunuchs. Kashivat, an illustrious rishi, married ten sisters at once, and polyandry also prevailed, for in an allegory, Kashivat says, "Aswins! your admirable (horses) bore the car which you had harnessed, (first) to the goal, for the sake of honour; and the damsel who was the prize, came through affection to you and acknowledged your (husbandship) saying, you are my lord." (vol. I. p. 322.)

The Vedas are the earliest sacred writings of the hindus. The Vedas are hymns (Sakta) arranged in books (Ashtaka), that form a ritual. The hymns of the Rich or Rig Veda are repeated entirely in a disjointed form in the Sama, and with little alterations in the Atharva also, while the Yajur contains principally forms of prayer. A Veda, in its strict sense, is simply a Sanhita, or collection of hymns. These hymns form the mantra or ritual, and are the true Veda. The Rig, the Sama, and the Yajur are the three universally received. The Atharvana is of more doubtful authenticity. They comprise various sections, which are again divided and sub-divided under the distinctions of Mantra, Brahmana, It'hihasa, Purana, Upanishad, &c. They were reduced to order by Vyasa, and prescribe the moral and religious duties of mankind. But the books on divine knowledge, called Veda, or what is known, and Shruti, or what has been heard from revelation, are supposed to have been very numerous; and the four here mentioned are thought to have been selected as containing all the information necessary for man. The commentaries on these hindu scriptures, among which that of Vasishtha seems to be reputed the most excellent, are innumerable. From the Vedas are immediately deduced the practical arts of chirurgery and medicine, music and dancing; archery, which comprises the whole art of war; and architecture, under which the system of mechanical arts is included. Next in order to these are the six Vedanga or bodies of learning, three of which belong to grammar; one relates to religious ceremonies; a fifth to the whole compass of mathematics; and the sixth, to the explanation of obscure words or phrases in the Vedas. Subordinate to these Anga (though the reason of the arrangement is not obvious,) are the series of sacred poems, the body of law, and the six philosophical Shastra. The first Indian poet after Vedic times was Valmiki, author of the Ramayana, a complete epic poem on one continued, interesting, and heroic action; and the next in celebrity, if it be not superior to it in reputation for holiness, is the Mahabarat of Vyasa. To Valmiki are ascribed the books subsequent to the Vedas, the sacred Puranas, which are called the Eighteen, and which have the following titles:— 1 Brahm, or the great one; 2. Pedma, or the Lotos; 3. Brahmanda, or the Mundane Egg; 4. Agni, or Fire—(these four relate to the creation); 5. Vishnu, or the Preserver; 6. Garuda, or his Eagle; 7. the transformation of Brahma; 8. Siva; 9. Linga; 10. Nareda, son of Brahma; 11. Scanda, son of Siva; 12. Marcandeya, or the immortal man; 13. Bhawishya, or the prediction of futurity—(these nine belong to the attributes and powers of the deity); 14. Matsya; 15. Varaha; 16. Kurma; 17. Vamana, or as many incarnations of the Great One in his character of Preserver, all containing ancient traditions embellished by poetry or disguised in fable. The eighteenth is the Bhagavata, or life of Krishna, with which the same poet is by some imagined to have crowned the whole series; though others, with more reason, assign them different composers, and they are differently arranged and named by other authorities.

Of the philosophical schools it will be sufficient here to remark, that the first Nyaya seems analogous to the Peripatetic; the second, sometimes called Vaisishica or Vaiseshika to the Ionic; the two Mimansa, of which the second is often distinguished by the name of Vedanta, to the Platonic; the first Sanchya, to the Italic, and the second, or Patanjala, to the Stoic, philosophy; so that Gautama corresponds with Aristotle, Kanada with Thales, Jaimini with Socrates, Vyasa with Plato, Kapila with Pythagoras, and Patanjali with Zeno; but an accurate comparison between the Grecian and Indian schools would require a considerable volume. The original works of those philosophers are very succinct; but like all the other shastra, they are explained, or obscured by Upadarsana, or commentaries, without end. It results, from this

alysis of hindu literature, that the Veda, paveda, Vedanga, Purana, Dharma, and arshana, are the six great shastra, in which l knowledge, divine and human, is supposed be comprehended. The word Shastra, rived from a root signifying to ordain, eans generally an ordinance, and particular- a sacred ordinance, delivered by inspiration operly; therefore, the word is applied only to cred literature. The shudra, or sudra, or urth class of hindus, are not permitted to udy the six proper shastra before mention- l; but an ample field remains for them in the udy of profane literature, comprised in a mul- tude of popular books, which correspond with e several shastra. All the tracts on medi- ne must, indeed, be studied by the vaida, r hereditary physicians, who have often more arning, with far less pride, than any of the rahmans; they are usually poets, gramma- ians, rhetoricians, moralists, and may be steemed, in general, the most virtuous and miable of the hindus. Every Purana treats f five subjects: 1, the creation of the uni- erse; 2, its progress and the renovation of vorlds; 3, the genealogy of gods and heroes; l, chronology according to a fabulous system; nd 5, heroic history, containing the achieve- nents of demi-gods and heroes. Since each Purana contains a cosmogony, with mytho- ogical and heroic history, the works which bear that title may not unaptly be compared to the Grecian theogonies. This description is applicable to the eighteen mythological poems called Purana, not to certain passages of each Veda, bearing the same name of Purana, and interspersed throughout that portion of the Vedas entitled Brahmana, or divine precepts. In the Brahmana, moral precepts, religious instruction and information are conveyed. The body of Vedic literature is immense. Professor Wilson supposes the Vedas to belong to the 8th century before Christ, and they are by some said to recognise the insti- tution of caste or at least of social distinctions from which this institution has arisen. Very little is known of the Puranas which are less interesting than the Sanhita, as being of later date. The Brahmana are chiefly liturgical and legendary, and in the Upanishad, passing into the rationalized state, and becoming metaphysical and mystical. It would be difficult to find two sets of opinions more absolutely irreconcileable than Vedic hymns and Vedantic philosophy. The Shutra (aphorisms) or Brahmashutra, the chief authorities of the pantheistic Vedanta school, though much later than the rest, are still mnemonics, as also the Vaiseshka or atomic school of Kanada. This supplemen- tary mass of Vedic literature, including philo- sophy, commentaries, aphorisms, &c., might furnish occupation for a long and laborious life. The Rig-Veda Sanhita is the oldest book known to the hindus, and certainly one of the oldest books in the world. Each hymn is called a Sakta, of which there are about a thousand, arranged into eight Ashtaka or Khanda, of unequal extent. Another divi- sion is into ten Mandala, sub-divided into a hundred Anuvaka. Each hymn has a Rishi or inspired writer for its author. The dei- ties which this Veda invoke are elemental. *i. e.*, personifications of earth, fire, and water, and the winds, &c. In the 3rd Ashtaka, Agni has 44 hymns addressed to him; the next to him in number comes Indra with 48, and after them the Marut or the winds have the largest number of hymns. The Rig-Veda is the first, and the chief of the four Veda, the others, the Sama Veda, Yejur-Veda, and the Atharvana Veda, come after it. These four form the Sanhita or text. The Sanhita itself, with the hymns it embodies, forms the mantra or ritual.

The language of the Vedas is not Sanscrit in the strictest sense of the term, but there is not sufficient difference between it and classical Sanscrit to authorise its being called a separate language. The difference is not so great as between Anglo-Saxon and modern English, but it is greater than between the Greek of Homer and Demos- thenes. The names of the rishi or compo- sers are not always given in the body of the hymns, and there is nothing to guide the historian or chronologist as to their dates. Nevertheless, good scholars are of opinion that Vedic hymns were composed mostly about fifteen or seventeen centuries before Christ, but not committed to writing, and therefore not collected until the eighth century B. C. With all their difficulties, they furnish much information regarding the origin and early state of some of the races who are now called hindus. The people among whom the Vedas were composed, had evidently passed the nomadic stage. They had no money, and their wealth consisted of cattle, horses, sheep, goats and buffaloes, and the cow was the medium of barter. But a comparatively small portion of the Vedas has ever been translated, nor is it ever likely that the whole mass of Vedic literature will ever see the light in a modern language. Portions of the Rig Veda have been translated by the late F. Rosen, the late M. Longlois, and by Pofessor Wilson, whose labours have given us four Ashtaka, containing 502 hymns. And Dr. Muller undertook to produce a complete one at the expense of the E. I. Company. The 3000 pages of large quarto which had

appeared, embrace little more than half the Sanhita with Sayanan's Commentary. Indeed, Roth calculated that the mere Sanhita or metrical portion of the Vedas, as distinguished from the Brahmana or later ritual appended to each, contains not less than 30,000 couplets, of which 11,000 go to the Rig-Veda. In the splendid edition of this book which, as has been mentioned, Professor Max Muller was producing at the expense of the E. I. Company, little more than half the Sanhita, with Sayanan's commentary, occupied scarcely less than 3,000 pages of large quarto. There has been printed the first volume of the late Professor Wilson's translation of the Rig-Veda Sanhita. If the language seems prosaic for hymns, and the style altogether more adapted to the huge quarto translation of the Vishnu Purana, it has been stated by a reviewer that the diction of the Vedas is by no means difficult to turn into elegant and even poetic English, and he proves this by the following fresh and animated description of the early dawn :—

"Westward she goes as a brotherless maiden seeks the men of her kin ;
And as one mounts the hall of justice to recover stolen goods ;
Like the wife that yearns to charm her spouse, Dawn decks herself in pleasing garb, and smiling, as it were, displays her charms."

"The youthful dawn approaches from the East ;
She yokes her team of purple oxen. 'Dawn, like a barber, shears the thickened gloom ;
And bares her bosom as the cow her udder yields ;
And as the cattle hasten to the lea, she westward speeds,
And shedding brilliance o'er all the earth, drives back the night."

It is said to be quite possible to give the literal sense and even the proper order of the words, and yet retain the spirit and warmth of the original ; and as a proof of this, the following version is given of one of the most spirited hymns which has yet been published in English. It describes the contest of Indra, the lord of thunder, with Vritra, otherwise called A'hi, the personification of the rain-cloud ; and those who know how important rain is to many countries like India, can well appreciate the joy that welcomes descending showers upon the parched and heated fields, and understand how the cloud which is supposed to imprison the waters, is regarded as a demon, while the lightning that cleaves it, and sets them free to descend on earth, is worshipped as a beneficent deity.

"Of Indra now, the ancient mighty deeds, which he, the thunderer, achieved, I sing.
The cloud he slew, then spilled the waters. He broke (channels) for the mountain streams.
He slew the cloud that slunk back to the mountain. Twashtri had made his rattling bolt for him,
As to their calves do cows, the flowing waters hurried to the sea,
Like a bull, he sought the Soma. At the triple rites he drank it as 'twas poured.
Maghavan seized his shaft, the thunderbolt; he struck that first-born of the clouds.
When, Indra, thou hast slain the first-born of the clouds, then hast thou destroyed the deceptions of those deluders.

The sun and sky and dawn producing, thenceforward found'st thou not a foe at all.
Indra struck the cloudier cloud-god, maimed with his bolt with mighty blow,
As tree-trunks felled by the axe, A'hi lies stretched upon the earth.
Like a warrior, malignant, Vritra challenged the great hero, destroyer of many, slaughterer of his foes.
He has not escaped the contact of these slaughters. Indra's foe has crushed the river (banks).
Footless and handless, Indra he defied. He struck his thunder-dint upon his upper side.

As an eunuch desiring to be like a man, Vritra lay bereft of many limbs.
As from a river of broken banks, the waters, bringing joy to the heart, flow o'er him lying there.
At the feet of the waters which Vritra in his might imprisoned, lies A'hi stretched.
The mother of Vritra lay across her son's (body.) Indra on her brought down his weapon.

The mother was above, the son below. Danu lay as a cow with her calf.
O'er the nameless corpse of Vritra, cast in the midst of restless never ceasing waves,
The waters pass. The foe of Indra lay in lasting gloom.
The waters, the wives of the destroyer, had stood restrained, guarded by A'hi, like the cows by Panin.
Indra, having slain Vritra, has opened the cavern which confined them.
Like a horse's tail wast thou, Indra, with thy thunderbolt, when he alone, resplendent, struck at thee again.
Thou hast won the kine: Thou hast won, O hero, the Soma juice. Thou hast sent down the seven rivers to flow.
Not the lightning, not the thunder, not the rain which he poured, nor the thunderbolt, reached Indra,

When he and Vritra fought. Even in other (fights) was Mahavan victorious.
What, slayer of A'hi, didst thou look for Indra! when fear entered thy heart, about to slay him,
And nine and ninety streams, like frighted hawk, thou fled'st across?
Indra, bearing the thunderbolt, (became) king of the moveable and immoveable, of tame and of horned beasts;
Thus he dwells the king of mortals. All those things he comprehends, as does the wheel its spokes."

At page 84 Professor Wilson gives a translation of the same hymn in the 32nd sakta, of which the following extracts of the opening stanzas are given for the sake of comparison: —

"I declare the former valorous deeds of Indra, which the thunderer has achieved: he clove the cloud; he cast the waters down to earth); he broke (a way) for the torrents of the mountain.

He clove the cloud, seeking refuge on the mountain: Twashtri sharpened his far whirling bolt: the flowing waters quickly hastened to the ocean, like cows (hastening) to their calves.

Impetuous as a bull, he quaffed the soma juice: he drank of the libations at the triple sacrifice. Maghavan took his shaft, the thunderbolt, and with it struck the first-born of the clouds.

Inasmuch, Indra, as thou hast divided the first-born of the clouds, thou has destroyed the delusions of the deluders, and then engendering the sun, the dawn, the firmament, thou hast not left an enemy (to oppose thee).

With his vast destroying thunderbolt, Indra struck the darkling mutilated Vritra: as the trunks of trees are felled by the axe, so lies A'hi prostrate on the earth."

Professor Wilson's prose translation is of value to the student ignorant of Sanscrit, who would naturally look with some suspicion upon poetical versions.

If, as is supposed, the Vedas were composed about seventeen centuries before Christ, but not reduced to writing till the eighth century, this would have admitted of much new matter being introduced when the traditions were first recorded. And a striking difference has been observed between the mythology of the Rig Veda, and that of the heroic poems, the Mahabharata and Ramayana, and the Puranas. Some of the divinities worshipped in Vedic times are not unknown to later systems, but at first perform very subordinate parts, whilst those deities who are the principal objects of worship of the present day, are either wholly unnamed in the Vedas, or are noticed in an inferior or different capacity. The names of Siva, of Mahadeva, of Durga, of Kali, of Rama, of Krishna, so far as research has gone, do not occur in the Vedas. The practice of the conquered races seems to have been to represent or regard their local deities as identical with avatars or incarnations of the vedic chiefs, who had already become objects of worship. The Vedas mention Rudra as the chief of the winds, collecting the clouds as a shepherd's dog does the sheep, and attending on his master Indra. The most that can be made of Rudra in the Vedas is as the father of the winds, and seemingly a form either of Agni or Indra. Even in the Puranas he is of a very doubtful origin and identification; but in the present day, everywhere amongst the hindus he is identified with Siva, of whom an early notice, about the year 800 B. C., is to be found in Ch. V, v. 26 of the Book of Amos, where Siva is styled Chiun, a usual pronunciation in India even of the present day. "But you have borne the tabernacle of your Moloch and Chiun, your images the star of your god, which you made to yourselves." In the Vedas, however, with the single exception of an epithet 'Kapardi,' with braided hair, of doubtful significance and applied also to another divinity, no other term applicable to Siva occurs, and there is not the slightest allusion to the form in which, for the last ten centuries at least, he seems to have been almost exclusively worshipped in India, that of the lingam, priapus or phallus: neither is there the slightest hint of another important feature of later hinduism, the trimurti, or triune combination of Brahma, Vishnu and Mah'eswara or Siva, as typified by the mystical syllable O'M. (a-u-m) although, according to high authority on the religions of antiquity (*Creuzer, vol. i. pp. 26 & 27.*) the trimurti was the first element in the modern faith of the hindus, and the second was the lingam. In this view Creuzer must have intended the mixture of creeds now current in India; for the old vedic faith had few of the elements of modern hinduism.

Of two of the gods whom the vedic hindus worshipped, Indra and Agni. Indra was the firmament, with all its phenomena. He alone held the thunderbolt, and was king over gods and men. Agni was the element of fire. All the other gods were but manifestations, or other forms, of these two. The relationship is evident between Agni and the Sun, the Surya or Sura, or Savitri of the Vedas, and a female divinity. But Indra also is frequently identified with the Sun; indeed the twelve great deities or Aditya, are but other names of the same god as presiding over the twelve

months of the year. It seems strange in the face of so significant an inference, that some of the best oriental scholars, including even the iconoclast Bently, agree in affirming that the division of the Zodiac into twelve signs was long posterior to the time of the Vedas, and that the rishi were familiar with the 27 nakshatra. The Aditya most frequently invoked are Mitra, Varuna, Aryaman, and in a lesser degree Pushan, Bhaga, Vishnu and Twashtri. There is some discrimination in these attributes: but on the whole they are pale and colourless. Pushan watches over roads and travellers, Twashtri is the Vulcan or 'smith' of the gods. Slight mention is made of Vishnu: but we have the germ of the legendary 'three steps' being, apparently, simply the rise, culmination, and setting of the sun. Among the inferior deities, the Marut, or winds, hold the first place; and next to them, or nearly on the same level, the Aswini. These are two, apparently twins or brothers, and sons of the sea (Sindu). Sometimes, as Dr. Wilson notices, they seem to be the 'precursive rays of the sun,' at other times, perhaps, the sun and moon as rising out of the sea; so that the vedic hindus evidently had settlements on the sea coast or on some water, which they called a sea. The Aswini are almost invariably represented as having a triangular car with three wheels, drawn by asses; while their name appears to be derived from "*aswa*," a horse, which would seem to identify them with the two horses of the sun. Altogether they are a perplexing pair: and the sakta addressed to them are richest of all in legend. Their connection with Indra (Jupiter), their patronage of mariners, their twin brotherhood, the two horses and stars found on their coins, identify them with the Grecian Dioscuri, and add much strength to the theory that the Greeks were an Aryan or Persian tribe originally, as their language indisputably proves. The legend of Perseus is another link in the chain. It is singular to find an exceptional and eccentric worship prevailing in countries so remote as India and Greece, while it had died out (if it ever existed) among the parent stock in the vast regions between. It can scarcely be doubted that the Aswini are connected with the primitive hindu astronomy. In the Vedas, heaven, earth, (Aditi and Pritivi) and ocean, are rarely invoked, and the sun has comparatively few sakta. Occasional laudations are given to rivers, especially to Saraswati; and this nature-worship extends so largely as to embrace the cow, the wood used in the oblations, and even the "yapa," or sacrificial post. To Usha, or the dawn, some of the most beautiful hymns in the Veda are addressed. All these deities are expressly declared to be the progeny of the heavens and the earth. (*Wilson's Vedas*, vol. I. p 276). No mention is made of the planets: for Bruhaspati is not a planet, but 'the lord of prayer:' and the moon has not even a sakta. The worship of the Vedic race is briefly but comprehensively described by themselves, (*Asht. I, Adhy. I, Sukta* 6), where it is said, the standers around associate with (Indra) the mighty (sun), the indestructive (fire), the moving (wind), and the lights that shine in the sky.

Aphorisms or Sutra were the usual mode of instruction followed in the hindu liturgical books—the Vedas. They were adopted in the fourth period of the Aryan hindu progress about B. C. 1,000, and in the Sutra, the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system. The Aphorisms of the Nyaya Philosophy, of the Minansa and Yoga, were reprinted in Sanscrit and English by Professor James Ballantyne of the Benares college.

Only a small portion of the Vedas is generally read among brahmins: it is read without the meaning being explained, and is in obsolete Sanscrit. The great rite or sacrifice called yajna is, though very rarely, celebrated among the smarta brahmins. The few brahmins who live by the Vedas commit to memory twenty or thirty chapters, which are recited at certain ceremonies in weddings, funerals, and yajna. Of these they never pretend to know the meaning. Ordinary brahmins, though taught a few pages of the Vedas at school, are not expected to retain this knowledge. From the best information it would seem that not ten brahmins might be found throughout the peninsula who are really skilled in the Vedas. Those recluses who study divinity read various commentaries called Bhashyam. The smarta brahmins read the Sancara Bhashyam. The vaishnava read the Ramanuja Bhashyam, and the Madhava read the Madhava Bhashyam, each man reading the commentator approved by his sect. The jangam sect are in all respects opposed to licentiousness, which is the main spring of the Tantra. The jangam came from the west, Tantrica from the north. The Jangam adore the linga and abhor the Goddess of Delusion (Venus or Kali, as Deos), who is expressly the the goddess (Youi, or Bhaga Malim) of the Tantrica. The Tantrica take no notice of the lingam. They adore Betula (the devil) and other malevolent powers. The jangam honour Siva as Daxina Murti, or the beneficient and loving deity. The Tantrica say they aim at a perfect release from fleshly lusts. The Jangam do the same, but the

former pretend to yield to their passions as the path to freedom, whereas the jangam or vira saiva call on their votaries to deny themselves in all respects. In practice, however, the vira saiva hold women to be inferiors, and their licentiousness is great.

It has been remarked that in the first 500 hymns of the Vedas, we can discover the eastern and southern boundaries of the Arian races at that time. Among the enemies whom they subdued by the help of Indra, we find the Arbuda, supposed by all scholars to be Mount Aboo, on the Aravali Hills. Also Kutsa, by the help of Indra, destroyed a robber chief named Kaya (va), whose country near the Sipha was between the Anjasi, Kulisi and Verapatni rivers. (*Vol. I. p* 268.) A town still called Kaya exists, and in its vicinity are the Sipu, Bunas or Banas, and Kalindi rivers, thus identifying the locality of Kuya (va) as close to Arbuda or Aboo. But the localities further south, viz., Oojein, Chittore or Udipore, the river Chumbul and the Nerbudda seem not to have become known to them then. Of the north, however, notices occur of the Jumna, Sarjju, Gumti, and one allusion to the Ganga. There is fighting on the Sarjju between Arian chiefs, but their silence as to the great Ganges, shows that it was, as yet, personally unknown to them, or that they had only encountered it in its northern course. They were occupants of Kashmir, the valley of the Punjab, Sind, Guzerat, and even perhaps near to Delhi, but the kingdoms of Magadha and Mithila and Ayodhia, were not then known, or were not founded. The seat of vedic power and learning, when at its zenith, was between the Jumna and the Indus, and all to the east of Delhi or Indraprestha, or that ay north of the 28th parallel of latitude, was unknown to them. Later, in the time of Seleucus, their territory had come down to Patna. But their discovery of the great Ganges was later than the Vedas, which only allude to the Sindu, Saraswati, and the Drishdavati (Kaggar.)

The religion of the Aryans, as shown in the Vedas, so far as we are acquainted with it, differs in many very material points from that of the hindoos of the present day. The worship they prescribe is, with a few exceptions, domestic, consisting of oblations to fire, and invocations of the deities of fire, of the firmament, of the winds, the seasons, the moon, the sun, who are invited by the sacrificer, if a brahmin, or by his family priest, if he is not a brahman, to be present, and accept the offering, either oiled butter or the juice of the soma, Sarcostoma brevistigma, which are poured upon the sacrificial fire, in return for which they are supplicated to confer temporal blessings upon the worshipper, riches, life, posterity;—the shortsighted vanities of human desire, which constituted the sum of heathen prayer in all heathen countries.

The following is the second hymn of the Rig-Veda:

1. Approach, O Vayu (deity of the air); be visible: this soma juice has been prepared for thee; approach, drink, hear our invocation.

2. Those who praise thee, Vayu, celebrate thee with sacred songs, provided with store of soma juice, and knowing the season suitable for their oblations.

3. Vayu, thy assenting voice comes to the sacrificer; it comes to many through the offering of the libation.

4. Indra and Vayu, this juice has been prepared; come with benefits for us; verily the libation desires you.

5. Vayu and Indra, observe the libations, being present in the offerings, come quickly.

6. Vayu and Indra, mighty men, approach the priest of the sacrificer quickly, on account of his prayers.

7. I invoke Mitra (the sun) the source of purity; I invoke Varuna, able to destroy; both cherishing earth with water.

8. Mitra and Varuna, be pleased with this propitiatory offering; for to you, assuredly, do sacrifices owe their success, as the waters do their abundance.

9. Mitra and Varuna, all wise divinities, formed for the benefit of multitudes, and multitudinously present, give efficacy to our acts.

The Anga and Upanga, *i. e.*, the sciences and secondary sciences subordinate to the Vedas, are usually called Vedanga. Six principal ones are enumerated, viz.:

1. Pronunciation.
2. Description of religious ceremonies.
3. Grammar.
4. Metre.
5. Daily calendar.
6. Explanation of difficult words, (etymology.)

It seems very doubtful if at the time of the composition of the Vedas, idolatry was practised. In India, images of the deified elements are even now unworshipped, and except images of the sun, they are never made. The personification of the divine attributes of creation, preservation, and regeneration, Brahma, Vishnu, and Siva, which are now almost exclusively recognized, originated no doubt with the Vedas, but they are rarely named—they are blended with the elementary deities, they enjoy no pre-eminence, nor are they ever objects of special adoration. There is no reason, from the invocations addressed to them in common with the air, water, the

seasons, the planets, to suppose that they were ever worshipped under visible types. Ministration to idols in temples is held by ancient authorities infamous; Manu repeatedly classes the priest of a temple with persons unfit to be admitted to private sacrifices, or to be associated with on any occasion, and, even still, the priests who attend upon the images in public are considered as of a scarcely reputable order by all hindus of learning and respectability. The worship of images is declared to be an act of inferior merit even by later authorities, those perhaps with which it originated, and it is defended only upon the same plea which has been urged in other times and other countries, that the vulgar cannot raise their conceptions to abstract deity, and require some perceptible object to which their senses may be addressed. "Corresponding to the natures of different powers and qualities," it is said, "numerous figures have been invented for the benefit of those who are not possessed of sufficient understanding." And again: "The vulgar look for their gods in water; men of more extended knowledge, in the celestial bodies; the ignorant, in wood, brick, and stones." It is almost certain, therefore, that the practice of worshipping idols in temples was not the religion of the Vedas. The dwelling house of the householder was his temple: if qualified, he was his own priest; but this practice even among the brahmans, probably soon fell into desuetude, as they more extensively engaged in secular avocations, and it became almost universally the practice to retain a family priest. This is still the custom. Instead, however, of being a brahman of learning and character, he is very commonly illiterate, and not always respectable. The office has also undergone an important modification. The family priest was formerly also the guru, or spiritual adviser of the family. The priest now rarely discharges that function; he merely conducts the domestic rites; and the guru, to whom extravagant deference, such as is due to deity alone, is paid, is a very different individual, very usually not a brahmin at all, but a member of some of the mendicant orders that have sprung up in comparatively modern times, a vagrant equally destitute of knowledge, learning, and principle.

In many parts of India, the Vedas are not studied at all, or are so merely for the sake of repeating the words, the sense being regarded as a matter of no importance even by the brahmin who recites or chants the expression. Of the four Vedas, the Rig-veda, the Yajur-veda, the Sama-veda, and the Atharva-veda, the Rig-veda is the most important. It consists of metrical hymns or prayers termed sukta or mantra, each stanza of which is called a "rich," addressed chiefly to the gods of the elements, and especially to Indra the god of the atmosphere, and Agni the god of fire. The composition of the principal mantra of the Rig-veda is supposed to have taken place about thirteen centuries before the Christian era.

Much connected with the natives of India of ancient days will never be known, but the powerful branch of the Arian race who passed into India between the fourteenth and eighth centuries before Christ, brought with them the language of the Vedas, and down to the present day, all brahmins profess alike to recognise the authority of these sacred books. We witness worshippers of Siva and Vishnu, and the maintainers of the Sankhya or Nyaya doctrines, considering themselves, and even each other, to be orthodox members of the hindu community. It is this common recognition of that one set of religious books which is the sole bond of union amongst the descendants of the various races and tribes professing hinduism or brahminism, who now people India. The Atharavana or Athara-veda, or Atharva Veda, the fourth of the Vedas, comprehends the whole science of hindu theology, metaphysics, and philosophy.

The Vedas throw little light upon the strange theology and most eccentric tenets of the present hindus. Besides being unable to find in the Vedas the true origin of caste, there cannot be found in them the primitive forms of the hindu triad, the source of the doctrine of metempsychosis, nor that combination of polytheism and pantheism which ought to have preceded the schism of the philosophical schools from orthodox brahminism. For centuries, the brahmins appealed to the Vedas as their authority for every error and malpractice which they maintained, and met the arguments of Europeans by referring to those books, which were always quoted in support of every doctrine and every practice, and to confound an opponent. It has been conceded that the laws of Menu, though excellent and authoritative in one age, were not binding in all; but the universality of Vedic precept was always insisted on, and it was said that if a principle were not found in these books it would not be adhered to. Upon these grounds, now that the contents of the Vedas are known, all the institutions, social as well as religious, of modern brahminism might be overthrown, and in this respect, all labour has possessed such value as that given to the interpretation and criticism of these works which the present hindus assert to have proceeded from the mouth of Brahma himself. The study of the Vedas and Puranas by the

hindoos would serve to dissipate much of the mysterious awe with which they have looked on these books. The more the hindoo may read, the less respect could he feel for them. Not only is the divine origin claimed for them at once refuted by the very ordinary characters which distinguish them as peculiarly mortal, but they are not even all of them on sacred subjects. In one place we have an erotic dialogue of a loose description between a man and his wife; in another, an address to food; in another, a gambler complains of his ill luck. In one the hawk, in another the sacrificial pole, in a third the Francoline partridge, in others even the mortar and pestle, and the wheel-barrow, in which the victim is brought to the sacrifice, are the subjects of laudation.

In the later hymns of the Vedas there can be traced the origin of the Vishnu worship and the setting aside of Indra. But the foreign Mahadeva and Bhavani came in with the Sakæ, and mingled in their worshippings until the doctrines of Buddha, himself a Sakyan, were promulgated, and held their own for nearly a thousand years, until Vishnu, Brahma, Siva, Durga, Kali, Rama, Krishna, Ganesa, Kartikeya, and a host of new divinities, prevailed about the 8th or 9th century of the christian era, over a better faith than their own, and up to the present day, enslave and degrade the hindu.

In the early times represented by the Vedas, in the songs of the Rig-Veda, there is little of philosophy,—mystic tendencies are little developed; but the wars of kings, rivalries of ministers, triumphs and defeats, war-songs and imprecations, occasionally occur. The active side of life is still prominent in the genuine poetry of the several rishi, and there still exists a certain equilibrium between the two scales of human nature. It is only after the Arian tribes had advanced southwards, and taken possession of the rich plains and beautiful groves of Central India, that they seem to have turned all their energies and thoughts from the world without them to that more wonderful nature which they perceived within. Such was their state when the Greeks first became acquainted with them after the discovery of India by Alexander.

The four classes of priests required by Vedic service had their distinct duties assigned, and rules were adopted to assist them in the punctilious discharge of even the most minute services. The "Adhvarya," aided by the ritual prescribed in the Yajur Veda, prepared the place of ceremony, provided the materials, led up the animal, sacrificed it, and performed all the harder labour, muttering as they proceeded, the usual invocations. The " Udgatri," directed by the Sama Veda, sang the sacred hymns. The Hotri, acquainted with the whole, as taught in the Rig Veda, recited at the appointed times, in loud, clear tones, the holy texts, invocations, and prayers; while the brahmin superintended the whole, watched that mistakes were corrected, and saw that the entire rites were performed in due order. On all these topics explanations arose, minute directions were given, and as time went on, and the original import of particular ceremonies and sacrifices became lost, other explanations, even of the most puerile kind, were suggested, confirmed, and adopted. For instance, the great sacrifices, the *Aswamedha* and the *Purushamedha*, in which no doubt at first, in the early history of the race, horses and men were literally sacrificed, entirely changed their character.

An artificial system of expressing the largest amount of knowledge in the fewest possible words was invented, and seems to have been received with enthusiasm. The brief aphorisms so formed were termed sutra.

The emigration of the brahmins southwards into Peninsular India appears to have been subsequent to the first great change in their religious system. The religion they introduced was probably a rudimental form of saivaism, with a tendency to the mystical and mythological system of the Puranas. There is not the least reason to suppose that the Vedic or elementary system was ever known in the Tamil country either as an indigenous religion, or as introduced by the brahmins. The brahmins were doubtless the civilizers of the Tamil people; and the traditional leader of their migration, Agastya, is said to have reduced the Tamil language to order and to have given it a grammar; yet not one of the old Tamil names of the elements, the heavenly bodies, or the operations of nature, is masculine or feminine, as they are in Sanscrit, in accordance with the elementary doctrines of the Vedas; and there is not the least trace of the elements, or powers of nature, having at any time been considered as personal intelligences. The inventors of both the Vedic and the demonolatrous systems seem to have been equally destitute of moral sentiments. Each adored power not goodness, operations not virtues; but whilst the former deified the operations of nature, the latter demonized the powers of heaven. It appears very improbable that demonolatry originated in any form of brahminism, though it may be true that from time to time, especially after the lapse of elementary worship into mysticism and of hero worship into terrorism, a few brahminical ideas have been added to the demonolatry of the Shanar race, and a few of the demons

who were formerly independent may have been taken into the service of the petty divinities. There are traces amongst the Shanar of a vague traditionary belief in the existence of a god: but the term in use also signifies ruler or lord, and they ascribe to him the punishments which overtake the wicked; monstrous births, and prodigies, and on the death of a child, they abuse him for his want of mercy and blindness in slaying the infant. Hence it may be inferred that they regard the ruler or lord as the author of life. Their literature is either of brahminical origin, or it is confined to the recital of the praises of demons, the power of incantations, and the virtue of medicines. They nominally acknowledge as deities some of he braminical mythologies, but they know only their names and a few popular myths or deified heroes. Dr. Caldwell, with one exception, has not discovered the least vestige of their acquaintance with the pantheistic notion so popular with Tamil poets, that God is an all pervading essence without qualities or acts.

The races occupying India, who are now known to Europe as hindoos, have had three great changes in religion. The Vedic age was prior to the absorption of the Saraswati river into the sand. The brahminic age extended from that time to about B. C. 600. The buddhist doctrines prevailed from B. C. 600 to A. D. 800 or 1000, from which date, A. D. 800 or 1000, the brahminic doctrines have, again, prevailed up to the present time.

Indra is worshipped in the south of India in the Pongul or boiling. Pitri, in brahminism, the soul of a deceased ancestor. A recent writer in the *Calcutta Review* remarks that the history of the Arian immigrants whilst in the Punjab, is to be found in the Vedic hymns, which scholars are of opinion were composed mostly about fifteen centuries before Christ, but not committed to writing, and therefore not collected until the eighth century B. C. With all their difficulties, these hymns furnish much information regarding the origin and early state of a race who have exercised a great influence on the other peoples who, along with themselves, are now designated hindus.

The Rig Veda is supposed to have been composed about the twelfth or fifteenth century before Christ, and would therefore synchronize with the Hebrew conquest of Canaan, but some of the hymns have been earlier, some later. Their most famous commentator was Sayana Acharya, who flourished about the fourteenth century of the Christian era. The Veda language is the oldest east Iranian.

The At'harvana Veda is the fourth of the books termed Veda, but is supposed to be a composition of much later date than the other three, as its language is less obsolete than theirs. Self-imposed obligations are in constant practice amongst the hindus. It appears to have been customary for the ancient princes of the hindus, when enfeebled by years, to transfer the crown to their successor and retire to a hermitage. It has been not an uncommon practice with the princes of India, when satiate with years and power, or disgusted with the world, to become ascetics, and hermits. The Ajur Veda treats on the science of life, medicine; Dhanur Veda on archery; Gandharba veda on music.—*Hind. Th. vol.* 1. *p.* 300. *Wheeler's Hist. of India*, p. 11. *Wilson's Religious Practices and Opinions of the Hindus*, *p.* 9, 10. *William's Story of Nala. North British Review. Muller's Hindu Philosophy*, *p.* 30. *C. P. Brown on the Creed, Customs, &c. of the Jangams*, *p.* 11, 17. *Calcutta Review.* See Arian; Hindu; Siva; Veda; Vidya.

VEDACHARI. SANS. from veda, and acharin, practice.

VEDAGU, of RHEEDE. Æschynomene sesban.

VEDALA CHETTU. TEL. Gaertnera racemosa, *Roxb.*

VEDAN, also styled Vedar, Veddah, Bedar, Veddar, Beder, and Weden, a wild forest race in Malabar and the S. of India, engaged in hunting. Those of the Malabar forests are predial slaves, who cut timber and do not cultivate. The Beder of Zorapore in the Doab of the Kistnah and Bheemah, are settled but predatory. See Veddah.

VEDAN. See Vettuvan.

VEDANGA. Of these there are six, treating on metre, grammar, explanation of words, astronomy, ceremonial. See Aditya; Arian; Hindoo; Veda, p. 55.

VEDANTA. SANS. the end, or last part of the veda. A pantheistic philosophy inferred from scattered texts of the Vedas, the Rig veda; Yajur-veda; Sama-veda and At'harva veda. See Sri Sampadaya, Kama, Satnami, Inscriptions, Linga, Manu, Saraswati, Tantra, Veda, Yavana.

VEDYA. See Polyandry. Tantra.

VEDANTIN. SANS. he who follows the vedanta.

VEDATHULI MARAM. Dichrostachys cinerea.

VEDATIL, also Vedatara, TAM. Acacia cinerea, *Spr. Willde.* Dichrostachys cinerea, *W. & A.*

VEDA VALLI MARAM. TAM. Vachellia farnesiana.

VEDA VYASA, a famous rishi, the reputed compiler of the Vedas. See Vyasa.

VEDDAH. A wild, semi-savage race, residing in the interior of Ceylon. The forest

Veddah dwell in hollow trees, or caves, subsist on game, which they kill with rudely formed bows and arrows, wandering from jungle to jungle as the game becomes scarce. They will not hold the slightest intercourse with any natives but those of their own tribe, and their language is said to be unintelligible to all others. The village Veddah dwell in certain districts, hold but slight intercourse with the other inhabitants of the island, and will not intermarry nor mix with them. They can make themselves understood to the Singhalese. Their sole clothing is a strip of cloth which hangs down in front, and is fastened by a coir cord which passes round their loins. Their hair, beards, and whiskers are never shorn or cleansed, but hang down in matted masses. The forest Veddah are dexterous hunters, and are especially skilful in snaring the wild elephant. The two tribes do not intermarry, as they mutually distrust each other. The Veddah generally deposit their dead in the jungle to be devoured by wild animals. They seem to worship the planets, evil spirits, and spirits of their deceased ancestors. They have their own headsmen, whom they elect and obey. They use bows and arrows and clubs of iron and wood. They occupy a district about 90 miles long and 45 broad in the south-eastern side of Ceylon, lying between the sea and the base of the Badulla and Oovah hills. They are a remnant of the Yakko, the aboriginal inhabitants of Ceylon, who, 2,000 years ago, after the conquest of the island by Wijayo and his followers, returned into the wilds, as the Kuli in Guzerat, the Bhil in Malwa, the Putua in Cuttack, the Kond in Gondwana, and the Beda in Mysore retired before conquerors. The Bisadæ, or Besadæ, which in mediæval Greek is called Vesadæ, are alluded to in the tract of Palladius, de Moribus Brachmanorum, written about A. D. 400, and the same name is applied by Ptolemy to a similar race inhabiting northern India. A forest tribe of Mysore, known by the name of Veda or Beda, formed part of the army of Tippu Sultan. The Veddah live by hunting and use the bow, in drawing which they employ their hands and their feet. They are omnivorous and eat carrion and vermin, roots, grain, fruit, birds, bats, crows, owls, kites, but refuse the bear, elephant and buffalo. Their language is a dialect of Singhalese, free from Sanscrit or Pali, but the vocabulary is very limited, and they have recourse to gestures and signs. They have no knowledge of God, nor of a future state, and have no temples, idols, altars, prayers or charms, but have some ceremonies analogous to a devil worship. They do not bury, but cover their dead with leaves in the jungle. They are regarded by the Singhalese as of ancient descent. Bailey mentions that the language of the Veddah of Ceylon is very limited. It only contains such phrases as are required to describe the most striking objects of nature, and those which enter into the daily life of the people themselves. So rude and primitive is their dialect that the most ordinary objects and actions of life are described by quaint periphrases.

Mr. Forbes describes the Veddah as thinly scattered over an extensive unhealthy tract of country lying between the maritime province of Batticaloa on the eastern coast and the Kandian hills. They are, he says, the descendants of Yakka, the aboriginal inhabitants who were in possession of the eastern part of Ceylon when Vijaya and his followers landed B. C. 543; and, having then escaped from the fury of these invaders into the depths of the forest of Bintenne and Veddaratta, have there preserved the purity of their race, and the superstitions of their ancestors. All Veddah are considered to be of the Goyawanza, the highest caste now existing in Ceylon. The village Veddah have permanent places of residence, cultivate small portions of land, and communicate, although they do not mix, with the other natives of the island. The forest Veddah subsist by hunting, or on such fruits as the earth yields spontaneously; and they obtain arrow-blades, the only article of manufacture which they covet, through the intervention of their own headmen and their brethren of the villages. The Veddah to preserve flesh, cut a hollow tree, and put honey in it, and then fill it with flesh, and stop it up with clay, which lies for a reserve to eat in time of want. The Veddah in Bintenne, whose principal stores consist of honey, live in dread of the bears, because, attracted by the perfume, they will not hesitate to attack their rude dwellings when allured by this irresistible temptation.

The Veddah dry the flesh of deer and other animals, on stages, and then store it in hollow trees. They cook their meat with fire, and have a preference for the iguana, lizard, and roasted monkeys above all other dainties. Lassen supposes them to be descendants of the Lamba kannbo alluded to in the Mahawanso. In the dry weather the Veddah watch at some solitary hole which still contains a little water, to which the deer and every species of game resort. Here his broad-headed arrow finds a supply. He dries the meat in long strips in the sun, and cleaning out some hollow tree, he packs away his savoury mass of sun-cooked flesh, and fills up the reservoir with wild honey; he then stops up the aperture with clay. Nevertheless, they are very bad shots with the

bow and arrow, and they never can improve while they restrict their practice to such short ranges. Their bows are six feet long, made of a light supple wood, and the strings are made of the fibrous bark of a tree, greased and twisted. The Veddah in person is extremely ugly; short but sinewy, his long uncombed locks fall to his waist, looking more like a horse's tail than human hair. He despises money, but is thankful for a knife, a hatchet, or a gaudy-coloured cloth, or brasspot for cooking. The women are horribly ugly, and are almost entirely naked. They have no matrimonial regulations, and the children are squalid and miserable. They barter deer-horns and bees-wax with the travelling moormen pedlars in exchange for their trifling requirements.

Doolana is upon the very verge of the most northern point of the Veddah country, the whole of which wild district is the finest part of Ceylon for sport. Up to the early part of the nineteenth century few Europeans had hunted in these secluded wilds. The wandering Veddah, with his bow and arrows, was occasionally seen roaming through this wilderness in search of deer, but the report of a native's gun was never heard. The dimensions of the Veddah country are about eighty miles from north to south, by forty in width. A fine mountain, known as the "Gunner's coin," is an unmistakeable landmark upon the northern boundary. The Veddah huts, among the trees, are temporary watch-houses, from which they guard a little plot of korrakan, Eleusine corocana, from the attacks of elephants and other wild beasts. They live nowhere; they wander over the face of their beautiful country, and migrate to different parts at different seasons, with the game which they are always pursuing. The Vedar or Beder race are spread through several of the western parts of the peninsula.—*Lassen, vol.* ii. *pp.* 100-102. *Baker Rifle, pp.* 120, 121. *Forbes' Eleven Years in Ceylon, vol.* ii. *p.* 75-76-77. *Tennent's Sketches of the Natural History of Ceylon, p.* 24. *Lubbock Origin of Civilization, p.* 292.

VEDDITALE. TAM. Dichrostachys cinerea.

VEDIAVAN, "the Man of Secrets of Knowledge," is the term used by way of reproach to the Jain sect, having the import of magician. Their opponents believe them to be possessed of supernatural skill, and it is be recorded of the celebrated Umara, author of the Cosa or dictionary called after him, that he miraculously "made the full moon appear on Amavus," the idea of the mouth, when the planet is invisible.

VEDILUNRUASA. SING. Nitric acid.

VEDURU. TEL. Bamboo, species of Bambusa, B. arundinacea, *Willd.*

VEDURU BIYAM. TEL. Seed of Bambusa arundinacea, *Willd.*

VEDURU GADDA. TEL. Eulophia virens, *R. Br.*

VEDURU GURUTU. TEL. Sprouts of Bambusa arundinacea, used as food.

VEDURU UPPU. TEL. Tabashir.

VEDYADHARAS. See Inscriptions.

VEELAGA CHETTU. TEL. Feronia elephantum, properly Veluga chettu.

VEELVIE. Cratæva Roxburghii.

VEERANROOSTY. The jungum religious mendicants and those of the Veeranroosty caste blow the chank shells as horns.

VEETE. SINGH. The smallest long-measure, of Ceylon, equal to a grain of rice.—*Simond's Dict.*

VEGA. See Shiraz.

VEGETABLE. HAIR. See African hair.

VEGETABLE IVORY, occasionally seen in India as the knobs of walking sticks, is imported into Europe and North America from the river Magdalina, and in some years no less than 150 tons of it were imported into England, where the nuts may be purchased for a few pence each; in August 1854, 1000 were sold for 7 shillings and 6 pence. The ivory plant is confined to the continent of South America, where it grows between the 9th degree of north and the 8th degree of south latitude, and the 70th and 79° of west longitude, and is found in narrow valleys and damp localities from the coast to 3000 feet above the sea. From the kernels or albumen of the fruit, turners fashion the knobs of walking sticks, the reels of spindles, and little toys, which are whiter than animal ivory and equally hard when dry, but soften when placed in water. The plant is supposed to belong to Endlicher's class Spadiciflora and Lindley's alliance Arales, but Martius regards it as the type of a new natural order and named it Phytelephanteæ, and is called the Ivory palm.—*Seeman.*

VEGETABLE KINGDOM. This term is applied collectively to the various forms of plants, as the terms Animal and Mineral Kingdoms are applied to animals and minerals.

Professor Schow, in his 'Notes for a Course of Lectures on the Distribution of Plants,' gives the following:—

(*a.*) Region of Saxifrages and Mosses, or the Alpine Artic Flora: temperature 1·75 to 41° Fahr. This corresponds with the hyperborean region of De Candolle and other writers, and comprehends all countries within the polar circle, namely, Lapland, the north of Russia and Siberia, Kamstchatka, Labrador, Greenland, and Iceland, and also part of the Scottish and Scandinavian mountains, as well as the mountains of the southern and central parts of

Europe with sufficient elevation to possess an alpine vegetation, and the higher elevations of the Himalayas. This region is characterised by the abundance of mosses and lichens, and of the families Saxifragaceæ, Gentianaceæ, Alsinaceæ, Saliceæ, and Cyperaceæ. There is an entire absence of tropical families, and only a few plants of the temperate zone. The beech and fir occur in forests, or there is a destitution of trees. Annuals are also scarce, and the blossoms of the flower are large in proportion to the root of the plant, and of a pure colour.

(*b.*) Region of the Umbelliferæ and Cruciferæ: temperature 27·5° to 56·75°. This comprehends the whole of Europe, except those districts which belong to the preceding region, from the Pyrenees, the mountains of the south of France, of Switzerland, and the north of Greece, to the greater part of Siberia, and the country about Mount Caucasus. This region is particularly distinguished from that of the same parallel in north America by the presence of cruciferous and umbelliferous plants. It is not easily distinguished from the next region, but the fungi abound more, and it approaches the last region in the abundance of Cyperaceæ. Nearly all its trees are deciduous, and its meadows are exceedingly flourishing. There is a division of the Compositæ; the plants belonging to the cichoraceous division of that order being found in the northern districts, whilst those belonging to the cynarocephalous are found in the south of it. The predominating trees are the Scotch fir, the alder, the beech, the birch, the poplar, the elm, and lime. The shrubs are the heaths, the sloe, &c. The principal cultivated plants are the wheat, barley, oats, maize, potatoes, &c.; apple, pear, gooseberry, currant, vine, strawberry, cucumber, melon, the cabbage, turnip, peas, beans, and other forms of Leguminosæ; carrots, hops, hemp, flax, &c.

(*c.*) The Region of Labiatæ and Caryophylleæ, or the Mediterranean kingdom: temperature 54·5° to 72·5°. This includes the region of the Mediterranean Sea, limited on the north by the Pyrenees, the Alps, the Balkan, the Caucasus; on the south by the Atlas and the deserts of North Africa; on the east by Taurus. It contains more or less of the orders belonging to the last region; but Labiatæ, Caryophyllaceæ, Boraginaceæ, Cistaceæ and Liliaceæ abound. A few tropical plants now and then appear amongst them, belonging to the orders Palmaceæ, Terebinthaceæ, and Lauraceæ, Solanaceæ and Leguminosæ are more abundant than in the last, evergreens increase, and the vegetation never entirely ceases; but verdant meadows are more rare than in the last. Madeira, Azores, and the Canary Islands belong to this region, and their flora approaches to that of tropical Africa. The cultivated plants are similar to the last, to which are added the olive, orange, lemon, mulberry, fig, rice, &c.

(*d.*) The Region of Asteraceæ and Solidaginaceæ, or northern North-American kingdom; temperature 9·5° to 59°. It embraces North America from the southern limits of the first kingdom, 36° N. latitude. There are a greater number of Coniferæ than in the second kingdom, and there are but few Umbelliferæ, Cruciferæ, Cichoraceæ, and Cynarocephalaceæ. There is but little cultivation: where there is any, it resembles that of the second kingdom. Whortleberries, oaks, firs, michaelmas daisies, and golden rods are its great characteristics.

(*e.*) The Region of Magnoliaceæ, or Southern North-American kingdom, between 36° and 30° N. lat.: temperature 59° to 72·5°. There is here an approximation to tropical vegetation, as seen in the frequent appearance of the genera Canna, Chamœrops, Yucca, Zamia, Laurus, Bignonia, Passiflora, Cassia, Sapindus, &c. There are comparatively few plants that are characteristic of the two preceding kingdoms. The Magnolias predominate, and are accompanied with other genera bearing broad shining leaves and large flowers. The cultivated plants are those of the third region, with the exception of the olive: rice is more abundant, and, in the southern districts, the sugar-cane is grown.

(*f.*) The Region of Camellias, and Celastraceæ, or Chino-Japanese kingdom. It embraces Japan and Northern China from 30° to 40° N. lat.: temperature 54·5° to 68.° Too little is known of this region to enable it to be stated positively what are its characteristics. Its vegetation is more tropical than European. With zamas, ginger, bananas, and custard-apples, are found buckthorns and honeysuckles, thus giving this region a mixed character. Its cultivated plants, in addition to those of the previous regions, are the Cycas for sago, the tea-plant, the caladium, &c.

(*g.*) The Region of Zingiberaceæ, or Indian kingdom: temperature 65·75° to 81·5°. This includes the Indian peninsulas east and west of the Ganges, together with the islands between India and Australia. Tropical orders are numerous in this region, as Palmaceæ, Araceæ, Euphorbiaceæ, Bignoniaceæ, Byttneriaceæ, &c. Very few plants belonging to Cyperaceæ, Coniferæ, Labiatæ, Rosaceæ, Ranunculaceæ, or Crucifera are seen. The trees never lose their leaves, and produce large magnificent flowers, and are covered frequently with climbing and parasitical plants. Ginger, zedoary,

cardamon, arrowroot, catechu, cassia, cinnamon, caoutchouc, tamarinds, sago, rice, cocoa-nut, coffee, cubebs, cloves, pepper, oranges, and gamboge, are the cultivated and natural productions of this prolific region.

(*h.*) The Regions of the Himalaya: temperature 36.5° to 65·75°. It includes the highlands of India, or the mountain terraces lying on the south of the Himalayan range, Kumaon, Nepal, Bootan, having an elevation of from 4000 to 10,000 feet. The tropical forms of the last kingdom decrease manifestly here, such as Scitaniaceæ, Palmaceæ, Cycadaceæ, &c. European forms are not unfrequent, as Cyperaceæ, Amentaceæ, Primulaceæ, Rosaceæ, Cruciferæ, &c. The Ferns and Orchidaceæ are abundant. The cultivated plants are the corn and fruit of Europe, varying with more tropical productions according to elevation.

(*i.*) The Region of Polynesia includes the islands between Hindustan and Australia, and has a temperature from 65·75° to 83·75°. This region is similar to the Indian kingdom, and is sometimes included in it. The cultivated plants in addition to those of the Indian kingdom, are the bread-fruit-tree, the nutmeg, the camphor-tree, and the cotton-tree.

(*j.*) The Region of Java has a vegetation probably similar to the Himalayan region.

(*k.*) The Oceania Region, or South Sea Island kingdom, includes all the islands of the South Sea within the tropics, and has a temperature of 72·5° to 81·5°. The flora of these islands is poor, and approximates more closely to that of Asia than to that of Africa, and has some relation to that of Australia. The bread-fruit is the most characteristic production of these islands, but is not confined to them.

(*l.*) The region of Balsomodendra, or the Arabian kingdom, includes the south westerly mountainous part of the Arabian peninsula. The character of its vegetation is generally tropical, assuming the forms of that of India. The cultivated plants are also principally those of India.

(*m.*) The Desert Region includes North Africa south of the Atlas, and the Mediterranean Sea between 15° and 30° N. lat, and the northern parts of Arabia. The mean temperature is 72° to 86°. It has necessarily a very poor flora, having but few even characteristic genera. It is only cultivated in the oases, where the Phœnix dactylifera, the Sorghum vulgare, with wheat and barley, and some of the fruits of Europe and India, constitute the prominent plants.

(*n.*) The Region of tropical Africa includes Africa from 15° N. lat. to the tropic of Capricorn. Temperature 72°5′ to 86°. This flora is neither rich nor rare; it abounds in Leguminosæ, Rubiaceæ, and Cyperaceæ. The Adansonia is the characteristic genus.

(*o.*) The Region of Cacti and Piperaceæ includes Mexico and South America to the Amazon River, and to a height of 5000 feet above the level of the sea. Temperature 68° to 83°74. The orders which characterise this region are Bromeliaceæ, Piperaceæ, Passifloraceæ and Cactaceæ. The orders which are mostly tropical are here less numerous, whilst extra-tropical orders are more abundant. The most abundant genera are Phytelephas, Kunthia, Thouinia, Theobroma, Guazuma, &c. The cultivated plants of this district are the maize, Sorghum vulgare, Dioscorea, Convolvulus; also the plantain, cocoa-nut, pine-apple, tamarind, cacao, vanilla, coffee, sugar, tobacco, cotton, &c.

(*p.*) The Region of the Mexican Highlands includes the mountains of Mexico above 5000 feet elevation. Temperature from 65°·25 to 79° 25. In this district the more tropical forms of vegetation, as the tree-ferns, the palms; passion-flowers, euphorbiums, and pepper, decrease or altogether disappear. The extra tropical forms are more numerous, as the willow, oak, fir, cypress, sago, horehound, whortle berry, heath, and various forms of Umbelliferæ, Rosaceæ, Caryophyllaceæ, and Ranunculaceæ. The cultivated plants are maize, the European cerealia and fruits. In the highest mountain-ranges the vegetation has an alpine aspect.

(*q.*) The Region of Cinchonaceæ. This embraces the Andes from 5000 to 9000 feet in elevation, and between 20° S. lat., and 5° N. lat., having a temperature from 59° to 68°. The extra-tropical forms become very frequent in this region, and only a few tropical forms remain. Some of the most common genera are the Cinchona, Gay-Lussacia, Loasa, Lilæa, Cervantesia, &c. The cultivated plants are very seldom tropical. Maize and coffee are sometimes grown, with European cerealia and fruits, potatoes, and Chenopodium quinoa.

(*r.*) The Region of Escallonias and Calceolarias includes the Andes at more than 9000 feet above the level of the sea, between 20° S. lat. and 5° N. lat. Temperature 34° 25 to 59°. Tropical plants almost entirely disappear in this region, only now and then a straggler appearing; whilst the forms which distinguish the colder and polar regions become frequent, such as the lichens, mosses, sorrels, plantagos, gentians, currant, brambles, &c. The most prevalent orders are the grasses, heaths, and Synantheraceæ. There are no large trees, and a great many shrubs.

(*s.*) The West Indian Region, including the West India Islands, with a temperature of 59°

to 79·25°. The vegetation of these islands bears the same relation to the continent which that of the Polynesian islands does to China. It is chiefly distinguished by the greater quantity of Ferns and Orchidaceæ. The cultivated plants are the same as those of Mexico.

(*t.*) The Region of palms and Melastomaceæ, or Brazilian kingdom, including Brazil, or South America, on the east of the Andes, between the equator and the tropic of Capricorn; temperature 56° to 83·7°. This region is remarkable for the number of its genera and species, the size of individual trees, the dense forests, and the numerous climbing and parasitical plants. Vegetation seems here to attain its greatest activity and energy. The orders which abound most are Palmaceæ, Homaderaceæ, Gesriaceæ, Nielastomaceæ, Sapindaceæ, and, altogether confined to this region, Vochyaceæ. The cultivation is very similar to that of Mexico.

(*u.*) The Region of Woody Compositæ. In South America, on the east of the Andes, from the tropic of Capricorn to 40° S. lat.: temperature 59° to 74.75°. There are but few tropical plants in this region, and extra tropical plants, especially European forms, are abundant, more than half being common to this region and Europe. The Woody Compositæ abound. This region consists chiefly of plains (pampas), which for hundreds of miles present almost the same vegetation, consisting chiefly of thistles and grasses; wheat, the vine, and the peach are cultivated.

(*v.*) The Antarctic Region includes the south-westerly part of Patagonia, Tierra del Fuego, between 50° and 55° S. lat.: temperature 41° to 47·5°. In this region there are no tropical plants, and its vegetation resembles in a great measure the North-European flora. In some of the genera there is an approach to the South African and Australian flora.

(*w.*) The Region of Stapelias and Mesembryanthemums. This embraces South Africa from the tropic to 35° S. lat.: temperature 54·5° to 72·5°. The vegetation of this region is not luxuriant, but it is very rich in forms There are no dense forests nor climbers, but many succulent plants. The orders Restiaceæ, Iridaceæ, Proteaceæ, Ericaceæ, Ficoidaceæ, Bruniaceæ, Diosmaceæ, Geraniaceæ, Oxalidaceæ, and Polygalaceæ, embrace its characteristic vegetation. On the sandy coasts the genera Stapelia, Mesembryanthemum, and Diosma, are found, and on the mountains Protea, Erica, and Brassula. The cultivated plants are those of Europe, with the Musa Paradisiaca, Convolvulus batatas, the tamarind, and Sorghum caffrorum.

(*x.*) The Region of Eucalypti and Epacridaceæ. It includes extra-tropical Australia and Van Diemen's Land: temperature 42·25° to 72°·5. Vegetation is not abundant in this region, but this deficiency is compensated by the variety and peculiarity of its forms. The most abundant of the trees are the Eucalypti, which form three-fourths of all the woods. Next come the genera of Proteaceæ, Banksia, Hakea, Dryandra, Gevillæa, &c.: and next to these follow Epacridaceæ, Diosmaceæ, and Casuaraceæ. Its cultivated plants are all European.

(*y.*) The Region of New Zealand includes the two New Zealand isles: one half of the species are European. The vegetation is not characterised by the prevalence of large groups. Some of the genera approximate the South African flora, and some the Australian.

(*z.*) Indian flora. Drs. Hooker and Thomson relate that all the main elements of the Indian flora exist in its surrounding countries, and that the families of plants peculiar to it are of very limited number. The Aurantiaceæ, Dipteraceæ, Balsamineæ, Ebenaceæ, Jasmineæ and Cyrtandraceæ, are the only orders which are largely developed in India and sparingly elsewhere, and of these few contain one hundred Indian species. India contains representatives of every natural family on the globe, and it contains a more general and complete illustration of the genera of other parts of the world than any other country whatsoever. The Compositæ are, however, especially deficient, as also are the Gramineæ and Cyperaceæ, in some regions, Leguminosæ, Labiatæ, and Ferns in others, whilst Euphorbiaceæ and Scrophulariaceæ are universally present, and Orchideæ appear to form a larger proportion of the flora of India than of any equally extensive country. The total number of Indian species of plants are estimated by Drs. Hooker and Thomson at 12,000 to 15,000, but they are not generally diffused, and it is believed that no part of the whole area in India produces 2,000 species of flowering plants in a radius of ten miles. In the more humid jungles, many species may be gathered in an extensive area: in the dry arid tracts of Central India it would be difficult to collect 150 species in several miles. At 4,000 to 5,000 feet elevation in the Khasia, fifty species of Gramineæ and twenty to thirty species of Orchideæ have been collected in an eight miles walk. The mountains of India, when above 4,000 or 5,000 feet, present a temperate vegetation, which becomes wholly temperate at greater elevations, and passes into an alpine flora over a large extent of still loftier mountain country. In the humid parts of tropical India, as in the impenetrable green jungles of the equable and rainy Malayan peninsula, of eastern Bengal, the west coast of the Madras

presidency, and of Ceylon, the flora contrast strongly with the drier parts of the intertropical zone, and still more so with the loosely timbered districts of Central India and of the base of the western Himalaya. The drier tropical forests of India are much modified in luxuriance and extension by the winter cold in those extratropical latitudes over which they spread; hence many tropical genera and families, as most palms, Cycas, Dipterocarpeæ, except Vatica, Aurantiaceæ, Connaraceæ, Meliaceæ, Myrtaceæ, Rubiaceæ, Ebenaceæ, and many more, which are sensitive to cold, are comparatively local when found beyond the tropics; others which are indifferent to the cold of winter, as are many Leguminosæ, (viz, Bauhinia, Acacia, Erythrina, Butea, Dalbergia, and Milletia,) Bombax, Vatica, Nauclea, Combretaceæ, Verbenaceæ, Lagerstræmia, Grislea, Jasmineæ, and Bignonia Indica, are indifferent to the cold of winter, provided they experience a great summer heat; and they advance far beyond the tropics and lend a more or less tropical aspect to the flora even of the base of the north-western Himalaya in lat. 35° north. On the other hand, the perennially humid forests are uniformly characterized by the prevalence of ferns, and at elevations below 5,000 to 7,000 feet, by the immense number of epiphytal Orchideæ, Orontiaceæ and Scitamineæ. They contain a far greater amount of species than the drier forests, and are further characterized by Zingiberaceæ, Xyrideæ, palms, Pandaneæ, Dracæna, Piper, Chloranthus, Urticaceæ (especially Artocarpeæ, and Fici), Araliaceæ, Apocyneæ, shrubby Rubiaceæ, Aurantaceæ, Garciniaceæ, Anonaceæ, nutmegs and Dipterocarpeæ Besides species of the Gramineæ and Cyperaceæ, a vast number of animal plants vegetate only during the hot rainy season, and, neither exposed to drought or cold, the small Leguminosæ and Scrophularinæ occur amongst Sida, Corchorus, Nama, Blumea, and other Compositæ, some Labiatæ (as Leucas, Anisomeles, &c.) Amaranthaceæ, Acanthaceæ, Convolvulaceæ, Ludwigia, Jussieua, &c. And these tropical annuals and perennial rooted plants with annual stems, are not confined to the plains, but ascend the loftier mountain valleys as far as the well marked rainy season extends, and only disappear where the accession of heat and humidity is not sufficient in amount, or regular enough in period, to stimulate their vegetative organs. Among the most remarkable of these extratropical examples of tropical genera are species of Bignonia, Osbeckia, Argostemma, Plectranthus, various Cyrtandraceæ, Scitaeæ, Araceæ, Commelynaceæ, and a few epiphytal Orchideæ. And during the cold months only in the extratropical regions of India, numerous genera and species of annual plants of the north temperate zone flower when the tropical plants are torpid. Besides the wheat, barley, and more rarely oats, with various kinds of pulse, which form the winter crops of the Gangetic plain of central India, of Berar, of Central Dekkan, of Mysore and Coimbatore, there are of wild plants Ranunculus sceleratus, and muricatus, Capsella bursa-pastoris, Selene conica, Alsine media, Arenaria serphillifolia, Euphorbia heleoscopia, Medicago lupulina andenticulata, Lathyrus aphaca, Gnaphalea, Xanthium, Veronica agrestis and anagallis, Heliotropium Europeum, various Polygona, Juncus bufonius, Butomus umbellatus, Alisma plantago, and very many Cyperaceæ, Gramineæ, and such aquatics as Myriophyllum, Potamogeton natans and crispus, Vallisneria, Zannichellia, Ranunculus aquatitis, Lemna and many others. In the regions at the base of the mountains in the perennially humid provinces of India, from the atmosphere being more loaded with moisture, the climate is more equable than that of the adjacent plains, and a warm temperate flora, unknown to the plains, commences at elevations of 2,000 to 3,000 feet, and prevails over the purely tropical vegetation which appears amongst it in scattered trees and shrubs. Amongst other orders we may mention Magnoliaceæ, Ternstrœmiaceæ, subtropical Rosaceæ (as Pruuus, Photinia, &c.) Kadsura, Sphærostema, Rhododendron, Vaccinium, Ilex, Styrax, Symplocos, Olea, Sapotaceæ, Lauraceæ Podocarpus, Pinus longifolia, with many mountain forms of truly tropical families, as palms, Pandanus, Musa, Clusiaceæ, Vines, Vernonia, and hosts of others.

In the Himalaya, the truly temperate vegetation supersedes the subtropical above 4,000-6,000 feet; and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, longitude, humidity and many local circumstances. In Ceylon and the Madras peninsula, whose mountains attain 9,000 feet, and where considerable tracts are elevated above 6-8000 feet, snow has never been known to fall. On the Khassya mountain which attains 7,000 feet, and where a great extent of surface is above 5,000 feet, snow seems to be unknown. In Sikkim, snow annually falls at about 6,000 feet elevation; in Nepal, at 5000 feet, in Kumaon and Gurhwal at 4,000, and in the extreme West Himalaya lower still. In the mountains of Ceylon, on the Neilgherries, and on the Khassya hills, the temperate forms of plants are more numerous than upon the Himalaya. Violent winds sweep over the broad grassy undu-

 VEGETABLE KINGDOM.

lating tops of the Khassya hills, and hundreds of species common to the Sikkim Himalaya and to the Khassya ascend higher in the warm forest-clad and sheltered Himalayan valleys at 5-7000 feet in Sikkim than they do in the Khassya hills. In the Himalaya, the genera Rhododendron, Monotropa, Pedicularis, Corydalis, Nepeta, Carex, Spiræa, Primula, Cerasus, Lonicera, Viburnum and Saussurea, attain their maximum of development over all other parts of the world. Ephedra ranges from the plains of the Punjab up to 16,000 feet in the N. W. Himalaya : the genus Marlea ascends from 3,000 to 8,000 feet in Sikkim and in the western Punjab, at scarce 4,000 feet, accompanies Celtis and a species of ash : subtropical Myrsine extend into Afghanistan. Juniperus excelsa, found as low as 5,000 feet in Afghanistan, ascends to 15,000 feet in Tibet. Populus Euphratica, a Cynanchum, Chloris barbata, Cyperus aristatus, are tropical and subtropical plants which ascend to 11,000 feet in Ladak, and Peganum harmala attains to 9,000 feet. The alpine or arctic flora, on the Alpine region of the Himalaya, commences above the limit of trees throughout a great part of the Himalaya, and hardly reaches its extreme limit at 18,500 feet (3½ miles) of elevation. It has a comparative paucity of cryptogamic plants, is poor in the luxuriant mosses of tall growth and succulent habit, and though fully representing the flora of the polar regions, it partakes in its characteristic genera of the temperate flora, and contains so many types foreign to the flora of the polar regions (as Gentiana, Ephedra, Veleriaceæ, Corydalis) and some which are even rare in Siberia, that it must rather be considered as a continuation of the alpine flora of Europe than a representation of that of the Arctic zone.

The bulk of the flora of the perennially humid regions of India, as of the whole Malayan peninsula, the upper Assam valley, the Khassya mountains, the forests at the base of the Himalaya from the Brahmaputra to Nepal, of the Malabar coast and of Ceylon, are of one type which includes a very large proportion of the Indian genera.

The floras of the frontier provinces of India are identical with those of the countries which surround them, and there is even a decided affinity between the floras of areas separated by oceans, deserts, or mountain chains, which present many natural characters in common, for which neither migration nor climate will account.

Of the flora of Australia, Pittosporum and Scævola are found all over India and Africa, and of two species of Stylidium, one extends to Midnapore in the Gangetic delta, and one in the Malayan peninsula, along with several genera of Myrtaceæ (Leptospermum, Bœkia, Metrosideros,) and the genus Tristania which advances to Moulmein in L. 17° N. Also the casuarina grows wild up to Ramree, Helicia in the Malay peninsula, and the Lagenophora of N. Zealand and Australia, has a representative in the Khassya and Ceylon. Many species of tropical plants of the Neilgherry and Khassya hills, of Ceylon, and of the Himalaya, are identical with Javanese mountain plants. Gaultheria nummularia is found in the N. W. Himalaya, through the whole range into the Khassya, and also on the Javanese mountains 3,000 miles distant. The Sedgwickia cerasifolia of Griffith (Liquidambar altingia of Blume), also the curious Cardiopteris lobata, several oaks and chesnuts, Antidesmæ, a willow, and Myrica, are common to the Khassya and Java, and Marlea is spread into China, throughout the Himalaya, and to the mountains south of Kashmir.

Amongst the Indian flora are many temperate genera and species which are common to N. America west of the Rocky Mountains, besides many tropical species that are also Malayan and west Polynesian.

The Chinese type is abundant in the temperate regions of the Himalaya, is fully developed in the Khassya, Sikkim and Butan, and extends westward to Gurhwal and Kumaon. Chinese and Japanese species of Aucuba, Helvingia, Stachyurus, Enkianthus, Abelia, Skimmia, Bucklandia, Adamia, Benthamia, Corylopsis, and of those common to India and China are Microptelea parvifolia, a species of elm, Hamamelis Chinensis, Nymphœa pygmæa and Vaccinium bracteatum, all of the Khassya ; Quercus serrata of China, Nepal, Sikkim, and the Khassya, while species of Illicium occur in the Khassya, Thea in Assam, and Magnolia in Sikkim and Khassya, with species of Camellia, Deutzia, Hydrangea, Viburnum, several Corneæ and Houthuyniæ. Schizandreæ are peculiarly characteristic of the Chinese flora, but also extend into Java. Lardizabaleæ belong to the Himalaya, Japan and China. The fern Bowringia is found in Hong-Kong and in the Khassya, and the genera Daphne, Bucklandia, Enkianthus, Henslowia, Scepa, Antidesma, Benthamia, Goughia, Myrica and others, are both Chinese and Indian. Euryale ferox is abundant in China, in the delta of the Ganges and in Kashmir, and Nepenthes phyllamphora is a native of the Khassya, of Macao and of the Louisiade archipelago.

The Siberian type of plants is very fully represented in the upper and alpine regions of the Himalaya, and is most confined to the drier

parts of the chain, but may be observed even in the most humid regions of the Himalaya, and occasionally on the mountains of tropical India. It approaches in many respects to the south European vegetation, but is characterized by the predominance of Fumariaceæ, Potentillæ, Leguminosæ, (especially Hedysarum and Astragaleæ,) of Umbelliferæ, Lonicera, Artemisia, Pedicularis and Boragineæ, and by the rarity or total absence of the European Cistaceæ, Rosa, Rubus, Trifolium, Erica, ferns, and other cryptogams. Artemisia and Artragalus of the Siberian type are abundant throughout Tibet and the interior Himalaya, are represented by a few species in the plains of the Panjab and on the Khassya mountains. Spirœa Khamstchatica, chamœdrifolia and sorbifolia, and Paris polyphylla are alike Siberian and Himalayan forms, while Corydalis sibirica and Nymphæa pumila are identical in Siberia and on the Khassya.

The extent to which the plants of Europe abound in India has only lately been known, but 222 British species have been ascertained to extend into India, and a multitude of mountain plants, many of them the most conspicuous in Europe, range from the coasts of the Levant and the Black Sea to the Himalaya. This is the more remarkable as the Himalaya range is, in idea, rather than really connected with the mountains south of the Caspian, or with the Caucasian alps, or those of Asia Minor, for the mountain mass of Asia sinks to the westward of Afghanistan, rising again only in isolated peaks. The Corylus colurna (C. lacera, *Wall.*) ranges from the Levant and the Black Sea to the Himalaya. Quercus ilex, Ulmus campestris, Celtis australis and orientalis, extend from Spain to the N. W. Himalaya, but the walnut, ivy, juniper, yew, extend from Europe through the Himalaya, across China, through Mexico, and throughout N. America. The yew, the juniper, Aquilegia vulgaris, Caltha palustris, &c. are common to most parts of Europe, Northern Asia, the Himalaya, and N. America. The Mediterranean flora, Celtis, Quercus ilex, Olea europea, Myrtus communis, &c. of the Mediterranean, are also Himalayan plants. The European plants, however, rapidly disappear to the east of Kumaon, but there is a blending of the European flora on the east of the Himalayan chain, as to the eastwards there is a mixture of Chinese and Malayan forms with that of the Himalaya.

Many North African or Arabian forms, such as Peganum, Harmala, Fagonia cretica, Balanites Ægyptiaca, Acacia arabica, Alhaji, Grangea, Calotropis, Salvadora persica, extend through the drier parts of India, and others, Cleome, Balsamodendron, Astragalus hamatus, Cucumis colocynthis, Berthelotia, Anticharis arabica, &c., have a less extensive range, and there is a striking resemblance between the vegetation of tropical Africa and tropical Asia.

If a manufacturer have specimens of all the substances which could be employed in his particular manufacture, with information whence each could be procured, its cost, the quantities in which he might obtain it, and its physical and chemical properties, he would soon be able to select for himself the one best suited for his purposes. This, however, has never happened in relation to any one art; manufacturers have to make the best of the materials which chance or accident brings before them. There are many excellent and abundant productions of nature with which manufacturers and men of science are wholly unacquainted. The old English poet, Herbert, who flourished in the fifteenth century, in a short poem on "Providence," has graphically described, in his unique vein, the sentiment which forces itself upon us in view of the numerous discoveries of the age in which we live :—

> "All countries have enough to serve their need;
> ———— ——The Indian nut alone
> Is clothing, meat and trencher, drink and can,
> Boat, cable, sail, and needle, all in one."

The addition of even a single flower, or an ornamental shrub, to those which we already possess, is not matter below the care of industry and science. The more we extend our researches in the productions of nature, the more are our minds elevated by contemplating the variety as well as the exceeding beauty and excellence of the works of the Creator.—*Simmonds' Vegetable Products. Stationes Plantarum Humboldt; Bonpland, Essai sur la Geographie des Plantes by Humboldt. De Distributione et Geographia Plantarum ; Brown, General Remarks on the Botany of Terra Australis ; Schouw, Grundzuge einer Allgemeinen Pflanizen-Geographie ; Meyen, Grundriss der Pflanizen-Geographie ; Bischof, Lehrbuch der Botanik ; Hooker, in Murray's Dictionary of Geography ; De Candolle, art Geographie des Plants. Dict. des Sciences Naturelles ; Lindley, Int. Bot. 2nd ed. ; Meyen, Geography of Plants, translated for Ray Society by Miss Johnston ; Balfour, Class-Book of Botany ; Johnston, Physical Atlas. Schouw Earth, Plants and Man ; Hooker's Himmalayan Journal ; Hooker and Thomson's Flora Indica ; Eng. Eyc. Simmond Commercial Dictionary. Edinburgh Philosoph. Journ.*

VEGETABLE MARROW.

Squash Gourd ENG. | Suppara Roomro, HIND

This very delicate vegetable of the gourd species, is the Cucurbita ovifera, *Linn.* The crooked-necked variety, when about six inches long, is well flavoured, but soon gets hard and stringy. The pear-shaped is the best of any, but must be dressed when young. Propagation only by seed, and the plants should never be removed, but remain where sown, only thinning the weakly ones. The soil should be a rich loam, the same as for cucumbers. Train the plant on sticks. It is often necessary to fertilize the female blossoms, by approaching the anthers of the male flower when charged with pollen.—*Riddell.*

VEGETABLES OF INDIA.

Abelmoschus esculentus.
Achyranthes aspera.
Ærua lanata.
Æschynomene aspera.
Agati grandiflora.
Allium ascalonicum.
,, porrum.
,, sativum.
Alternanthera sessilis.
Amarantus tenuifolia.
,, spinosus.
,, campestris.
,, tristis.
,, frumentaceus.
,, polygamus.
,, oleraceus.
,, atropurpureus.
Amorphophallus campanulatus.
Andropogon esculentum.
Artocarpus integrifolia.
Asparagus officinalis.
,, acerosus.
Asystasia coromandeliana.
Atriplex heteranthera.
Bambusa, *sp.*
Basella alba.
,, purpurea.
Batatas edulis.
Bauhinia albida.
Benincasa cerifera.
Brassica oleracea.
,, rapa.
Bergera Kœnigii.
Beta vulgaris.
Boerhavia procumbens.
Bryonia coccinia.
Byttneria herbacea.
Caladium esculentum.
Canavalia ensiformis.
,, obtusifolia.
,, gladiata.
Capsella bursa-pastoris.
Capsicum frutescens.
,, minimum.
,, purpureum.
Capparis brevispina.
Caralluma adscendens.
Carica papaya.
Cleome pentaphylla.
Cocos nucifera.
Commelina communis.
Coriandrum sativum.
Cucurbita maxima.
,, citrullus.
,, ovifera.
Cucumis usitata.
Cyamopsis psoraloides.
Cynodon dactylon.
Cyperus, *sp.*.
Daucus carota.
Dillenia speciosa.
,, scabra.
Desmanthus natans.
Dioscorea aculeata.
,, anguina.
,, atropurpurea.
,, glabra.
,, purpurea.
,, rubra.
Dolichos ensiformis.
,, pilosus.
,, catjang.
,, lablab.
Erythroxylon areolatum.
Euphorbia pilulifera.
Emblica officinalis.
Ficus racemosa.
Fœniculum vulgare.
Fungus, sp.
Glinus trianthemoides.
Gisekia pharnaceoides.
Hibiscus sabdariffa.
,, surattensis.
Hoya viridiflora.
Ipomœa separia.
,, reptans.
,, reniformis.
Lablab vulgaris.
Lactuca sativa.
Lagenaria vulgaris.
,, pipo.
Lepidum sativum.
Leptadenia reticulata.
Leucas aspera.
Luffa pentandra.
,, angula.
,, fœtida.
Lycopersicum esculentum.
Mangifera Indica.
Momordica charantia.
,, ,, var.
,, muricata.
,, diœcia.
Morinda umbellata.
Moringa pterygosperma.

Musa sapientum.
Nasturtium, *sp.*
Nelumbium speciosum.
Ocymum villosum.
Oxalis corniculatus.
Pisum arvense
,, sativum.
Phaseolus trilobus.
Pisonia morindifolia.
Plectranthus aromaticus.
Portulacca oleracea.
,, quadrifida.
Premna integrifolia.
,, serratifolia.
Psophocarpus tetragonolobus.
Raphanus sativus.
Rivea fragrans.
Rothia trifoliata.
Rumex vesicaria.
Salsola Indica.
Sinapis *species.*
Solanum incertum.
,, melongena.
,, lycopersicum.
,, torvum.
,, tuberosum.
Sonchus oleraceus.
Spatheum Chinense.
Spinacia oleracea.
Spondias mangifera.
Stellaria media.
Suæda Indica.
Tamarindus Indica.
Trianthema obcordata.
Tribulus terrestris.
Trichosanthes anguina.
,, cucumerina.
Vitis quadrangularis.
Webera tetrandra.
Zyziphus jujuba.

A great variety of vegetables are indigenous or cultivated in the Tenasserim Provinces; but the best are scarce, and rarely for sale in the bazars, but nearly every plant produces a vegetable for the natives of the Burmese provinces. The Burman books say there are ten kinds of vegetables or pot herbs, corresponding to the parts of a plant that furnish them. Vegetables enter largely into the composition of the food of all nations, as will be shown by the following diet tables given by Dr. Christison for the Army Commissariat which show a percentage of nutriment as under:

ARTICLES. Rations.	Carboniferous.	Nitrogenous.	TOTAL.
Biscuit or Wheat-flour ...	71·25	16·25	87·5
Bread	51·5	10·5	62·
Oatmeal	65·75	16·25	82·
Barley, pearl...	67·00	15·00	82·
Peas	55·5	24·5	80·
Potatoes	24·5	2·5	27·
Carrots	8·5	1·5	10·
Turnips	5·7	0·3	6·
Cabbage	6·7	0·3	7·
Lean of Beef & Mutton ...	0·0	27·0	27·
Fat of Meat	100·0	0·0	100·
Average Beef & Mutton ...	15·0	20·25	35·25
Bacon	62·5	8·36	70·86
Skimmed Milk Cheese ...	0·4	64·6	65·
White fish	0·0	21·0	21·
New milk	8·0	4·5	12·5
Skimmed milk	5·5	4·5	10·
Butter milk	1·0	6·0	7·
Beef-tea, strong	0·0	1·44	1·44
Beef tea & Meat, decoction of broth	0·0	0·72	0·72
Vegetables	11·25	1·875	13·125
Sugar	100·0	0·0	100·
Butter	100·0	0·0	100·
Cocoa	50·0	0·0	50·

Proportion recommended by Professor Christison, 3 carbon to 1 of nitrogen, and not less than 28 oz. in all, *i. e.* 21 oz. C. + 7 oz. N. = 28 oz. of nutriment.

	Articles.	Gross Weight.	Net. prox. principle. Carb.	Nitro.	TOTAL.
SCALE 1.	Bread ...	oz.20·0	10·3	2·1	12·40
British Navy allowances. Admiralty Order 1824.	or biscuit...	,,16·0	11·4	2·6	14·0
	Oatmeal ...	,, 1·5	1·96	0·48	2·44
	Cocoa ...	,, 1·0	0·5	...	0·50
	or Cheese.	,, 2·0	...	1·33	1·33
	Sugar ...	,, 1·5	1·5	...	1·50
	or Butter..	,, 1·5	1·5	...	1·50
	Meat ..	,,16·0	2·4	3·24	5·64
	or Saltmeat	,,12·0	2·24	3·24	5·64
	Vegetables.	,, 8·0	0·9	0·15	1·05
	or flour...	,,12·0	8·95	1·95	10·9C
	Tea ..	,, 0·25	...	...	...
	or Coffee...	,, 1·0	0·5	...	0·50
Sufficient.	Total...	...	42·31	15·09	57·4
	daily aver...	...	21·15	7·54	28·70
SCALE 2.	Bread ...	24	12·36	2·52	14·88
	Vegetables.	8	1·96	0·20	2·16
Proposed by Commission on Crimean Army.	Meat ...	16	2·40	3·24	5·64
	Rice ...	2	1·34	0·30	1·64
	Sugar ...	2	2·	0·	2·
	Coffee ...	1	0·50	0·	0·50
Insufficient.	Total .	oz.	20·56	6·26	26·82
SCALE 3.	Oatmeal ...	32	21·04	5·2	26·24
	Sk. milk ..	32	1·76	1·44	3·2
Berwickshire people's diet.	Bread ..	17·5	8·96	1·84	10·8
	Beer ...	32	1·6	0·	1·6
Abundant.	Total...	...	33·36	8·48	41·84

	Articles.	Gross Weight.	Net. prox. principles. Carb.	Nitro.	TOTAL.
SCALE 4.	Bread ...	16·	8·24	1·68	9·92
	Meat ...	16·	2·40	3·24	5·64
Troops in India	Rice ...	4·	2·68	0·60	3·28
	Sugar ...	2·50	2·50	0·	2.50
	Potatoes ...	8·	1·96	0·20	2·16
	Vegetables ...	8·	0·90	0·15	1·05
Inadequate; less than Scale 2.	Tea ...	5/7	?	...	...
	Total. ...	...	18·68	5·87	24·55
SCALE 5.	Bread ...	16·	8·24	1·68	9·92
	Meat ...	12·	1·80	2·43	4·23
Same as above, but 4 oz. of Meat deducted for bone.	Rice ...	4·	2·68	0·60	3·28
	Sugar ...	2·50	2·50	0·	2·50
	Potatoes ..	8·	1·96	0·20	2·16
	Vegetables ...	8·	0·90	0·15	1·05
	Tea ...	5/7	...	...	...
Quite inadequate.	Total ...	...	18·08	5·06	23·24
SCALE 6.	Bread ...	24·	12·36	2·52	14·88
	Meat ..	16·	2 40	3·24	5·64
Modified scale.	Rice ...	4·	2 68	0·60	3·28
	Sugar ...	2·50	2·50	0·	2·50
	Potatoes ...	8·	1·96	0·20	2·16
	Tea ...	?	...	...	...
Sufficient.			21·90	6·56	28·46

VEGETABLE TALLOW is obtained from the China tallow tree, or Stillingia sebifera. It has flowered and seeded at Amritsur and Lahore.—*Powell Hand-book v. I. p.* 423.

VEGETABLE WAX is obtainable at Shanghae in China, in St. Domingo, in the northern parts of which the plant is indigenous, and in Japan. From its high melting point and other physical characteristics, it has of late attracted a good deal of attention: it is admirably suited as a material for the manufacture of candles.—*Simmond's Commercial Products p.* 540.

VEGI or Vengi-desam, an ancient state ruled by buddhist princes, who reigned at Dan Nagara near Amravata and at Vengipura. The exact site is not known.

VEGI, also Vegisa chettu. TEL. Pterocarpus marsupium.

VEGUTTVAM, lit. plurality, a name given to Vishnu's ninth incarnation by Ziegenbalg's correspondent.

VEHAR LAKE supplies Bombay with water. It is situated at the foot of the Salsette hills.

VEHOA. See Khyber.

VEHRI. HIND. Cocculus leæba.

VEHRKANA. See Arians.

VEKKALI TREE WOOD. ANGLO-TAM. A serviceable, variegated, hard, close-grained wood employed by the natives in house-building, and also for making doors, windows, handles of instruments, &c. &c.—*Ains. Mat. Med. p.* 206.

VEKKUDTIGE. TEL. Diospermum halicacabum, *Linn.*

VEKU MATTI. MALEAL. Citrullus colocynthis, *Schrœd.*

VEL. TAM. Acacia Arabica ?

VELA also Bel, is the general term for a climber, sacred to the Indian Bacchus (Bagheš, Adiswara, or Mahadeva,) whose priests following his example, are fond of intoxicating beverages or drugs.—*Tod's Rajasthan v. I. p.* 22.

VELA-ELLE. TAM. Mussœnda frondosa, *Linn.*

VELAGA. TEL. Feronia elephantum, *Corr.*

VELAGA BADANIKA or Badanike. TEL. Loranthus longiflorus, *L.*

VELAGA PANDU. TEL. fruit of Feronia elephantum.

VELAITI. DUK. TEL. from Valait, PERS. a foreign country.

VELAITI AGATI. DUK. HIND. Cassia alata, *Linn.*

VELAITI AMLI. DUK. Garcinia cambogia.

VELAITI BIHI. HIND. Cydonia tomentosa.

VELAITI CHUNNA. Duk. Chalk.

VELAITI KAFUR KI PAT. Duk. Salria Bengalensis.

VELAITI MUNG. Duk. Ground nut, Arachis hypogæa.

VELANGA. Maleal. Feronia elephantum, Cor.

VELANNE. Hind. Mentha incana.

VELA PARTI. Tam. Dœmia extensa, *R. Brown.*

VELAPATHRI MARAM. Tam. Stereospermum chelonoides.

VELARI. Tam. Oil of Celastrus paniculata. Malkangani oil.

VELAS. Port. Sp. Candles.

VELASALU. Tam. The Ceylon white ironwood, which grows to about fourteen inches in diameter, and ten feet high. It is used for huts, poles, &c., where strength and durability are required.—*Edye, Ceylon.*

VELATTE. Tam. Ballangu, Portuguese. A Ceylon tree which grows to about fourteen inches in diameter, and eight or ten feet in height. Its wood is remarkably strong, and is used in vessels. It produces an edible fruit.—*Edye, Ceylon.*

VELATTI. Tam. A wood of Malabar and Canara, which resembles the English pear tree wood, and answers well for carved-work, from the fineness of its grain. The tree grows to about twelve inches in diameter, and fifteen feet high.—*Edye, Forests of Malabar and Canara.*

VELA VENGE MARAM. Tam. Acacia odoratissima, *Roxb. Willd.*

VELEANA. Tam. A Ceylon tree which grows to about twelve inches in diameter, and eighteen feet in height. In appearance it resembles English oak. The native carpenters use its wood in boat and vessel frames, knees, &c.—*Edye, Ceylon.*

VELENGE. A Ceylon wood used for making betel trays.—*Simmond's Dict.*

VELE PANDU. Tam. Allium sativum. Garlic.

VELE UMATE. Tam. Datura alba, *Rumph.*

VELHA AHGUILL. Tam., A wood of Travancore, of a light brown colour, 2 to 4 feet in circumference, used for furniture.—*Col. Frith.*

VELIGARAM, or Kunkuma puvvu. Tel. Rottlera tinctoria, *Roxb.*

VELIGARAM. Tam. Borax.

VELI KUNDRICUM. Tam. resin of Vateria indica, *Linn.*

VELI-PARATAI. Tam. Cynanchum extensum. Dœmia extensa, *R. Brown.*

VELLAH AHGUILL. A Travancore wood of a white colour, specific gravity 0·602, 2 feet in circumference, 50 feet long, used for furniture.—*Col. Frith.*

VELLAI CADAMBAI. Tam. Nauclea cadamba.

VELLAI MARUDU. Tam. Terminalia Berryi.

VELLAI MUNTHARAI MARAM. Tam. Bauhinia acuminata, *Linn* B. albida? *Gibson.*

VELLAI NAGA MARAM. Tam. Conocarpus latifolia, *Roxb.*, *W. & A.*, *W. Ic.*

VELLAI POONDU YENNAI. Tam. Garlic oil.

VELLAI PUNA PINU. Tam., or the white peon pinu tree, can be procured in all parts of the coast of Malabar. It grows to seventy and eighty feet long, and to three feet in diameter; the natives use it for the masts and yards of dowes and other country vessels. It is more like the American white pine, and the upright yellow wood at the Cape of Good Hope (Antinagnatis), than any wood Mr. Edye had seen.—*Edye. M. and C.*

VELLAI SOALUM. Tam. White variety of Sorghum vulgare.

VELLAI TOARATTI MARAM. Tam. Capparis grandis, *Linn.*, *W. & A.*, *W. Ic.*

VELLAI TUMMA. Tam. Acacia leucophlœa, *Willd.*

VELLAI VENGAH, the Tamil name of a Malabar and Canara tree, the wood of which is of a light colour, and very tough and strong. It is used by the natives for the frames of vessels, or where strength is required; it grows to about eighteen inches in diameter and twenty feet long, and the small branches make good crooks for boats—*Edye Forests of Malabar and Canara.*

VELLAK. Tam. a lamp.

VELLA KADALI. Tam. Arachis hypogæa, *Linn.*, *W. & A.*, *R.*

VELLA-KIRE. Tam. Ipomæa reptans.

VELLAK YENAI. Tam. Lamp oil.

VELLA KUNDRICUM. Maleal. resin of Vateria indica, *Linn.*

VELLAL. Tam. Embelia ribes, *Burm.*

VELLALA. Amongst the Tamul races who have adopted brahminism, the Vellala, alike in numbers and in social rank, take the chief place. They are very largely agricultural, and take the honorific appellation of Mudali or first man, which seems to be from the same root as the word Mandal, the village headman of Bengal. The designation, Velala, means charitable, but they claim to be Vaisya, of the Bu-vansa or agricultural section. They believe that they came from the north. They are shorter and darker than brahmins, darker even than the Tiling people, but they have, in general, well formed countenances and graceful forms, though amongst them also occur the decidedly African lip and nose and

forehead of which Mr. Logan makes mention.

VELLA-LAVA. TAM. A wood of Travancore of a brown colour, used for light work. —*Colonel Frith.*

VELLALER, a tribe bearing this name are said to wander about in the jungles of the Poodoocottah estate. They are scantily clothed and subsist on the produce of the jungles.

VELLA MUNTHARA MARAM. TAM. Bauhinia acuminata.

VELLA MUREE ? Indigofera tinctoria.

VELLA-NAGA. ——? Conocarpus latifolia.

VELLANATI WANLU. TEL. Reddi, TAM. TEL. Potail. MAHRATTA. Village heads or village authorities. See Bara Balati.

VELLA-MUNTHARI-PU. TAM. Bauhinia albida.

VELLA-NEER-MARADOO. TAM. A Travancore wood of a light yellow colour, used for furniture, sp. gr. 0·573.—*Colonel Frith.*

VELLAREE KAI. TAM. Cucumis usitata.

VELLA TURU. TEL. Acacia cinerea, *Willde.*

VELLAUR, a river which rises at the base of E. Ghauts, Lat. 10° 28′, Long. 78° 21′ E. It runs to the east and disembogues into the Bay of Bengal, near Porto Novo. The river is small at its mouth, and admits only coasting craft. Length eighty miles.

VELLA VENGAH. TAM. A tree of Malabar, the wood of which is of a light colour and very tough and strong, and is used by the natives for the frames of vessels, or where strength is required ; it grows to about eighteen inches in diameter and twenty feet long, and the small branches make good boat crooks.—*Edye. M. & C.*

VELLAY OOMATTAY. TAM. Datura alba.

VELLA YERKAM. TAM. White var. of Calotropis gigantea.

VELLAY NAGA MARAM. TAM. Conocarpus latifolia.

VELLAY-PANDU YENNAI. TAM. Garlic oil.

VELLAY PUTALLI MARAM, also Vella butali, also Kavali. TAM. Sterculia urens, *Roxb.*

VELLAY-SHARUNNAY. Trianthema obcordata.

VELLAY TOARATTI MARAM. TAM. Capparis grandis.

VELLE AERE. TAM. A Ceylon tree, grows to about twelve or eighteen inches in diameter, and twenty feet in height. It has a light wood, and is generally converted into catamarans, being considered useful for that purpose only.—*Edye. Ceylon.*

VELLE ATI NAR. TAM. Fibre of Bauhinia tomentosa.

VELLE-ELOW. MALEAL. A tree that grows to about sixteen feet high and eight inches in diameter. Its wood is used for the frames and knees of country vessels. It produces a white seed which is used medicinally. —*Edye, M. & C.*

VELLEY ELLEY, or Belilla, also Velleemadenthay. TAM. Mussœnda frondosa.

VELLE NAGA MARAM. TAM. Conocarpus latifolia.

VELLE NEALEA. MALEAL. A Ceylon tree which grows to about ten inches in diameter and ten feet in height. The branches are very strong, and are used for the frames of native vessels.—*Edye, Ceylon.*

VELLE NUCHI. TAM. Vitex negundo, *Linn.*

VELLE PASHANAM. TAM. White oxide of arsenic.

VELLERI-KAI. TAM. Cucumis sativus, *Linn.* Velleri kai yennai. also Velleri-verei yennai. Oil of seed of the cucumber, Cucumis sativus, *Linn.*

VELLI. TAM. Silver.

VELLIELLUS. A Malabar and Canara tree, little used except by the natives for house work, its growth is small, and it is rather scarce.—*Edye, Forests of Malabar and Canara.*

VELLIE PUNA, known in Malabar as the white also Kat-puna. It grows to about eighteen inches in diameter and eighteen feet high, and is used by the native carpenters for the frames of vessels. It grows curved and is not durable. It is not found in any quantity in the forests.—*Edye, M. & C.*

VELLIGURUM, also Vengarum. TAM. Borax.

VELLIGUDDA, properly Vulligadda. TEL. Garlic.

VELLITURU. TEL. Dichrostachys cinerea, *W. & A.*

VELLORE, in L. 12° 55·1′, L. 79° 7·8′, a town in the Karnatic on the right bank of the Palar river, 695 feet above the sea, about 70 miles west of Madras, a military cantonment with a fortress, now dismantled. It was a large military station in the early part of the 19th century, and the native soldiery, incited by the descendants of Tipoo, mutinied on the 31st January 1807, and destroyed nearly all the Europeans. A remnant was saved by Colonel Gillespie, who, commanding at Arcot, 18 miles distant, brought over a body of cavalry. The people designate it Rai-Ellur, or stoney Ellur, to distinguish it from Uppu-Ellu, or saline-Ellur, the Ellore of the maps.

VELLULLI. TEL. Allium sativum, *Linn.*

VELLUM. TAM. White crystalized sugar.

VELLUM. A fine, white, smooth, kind of parchment, made of calf-skin.—*Faulkner.*

VELLUMA SANDHI CHETTU. TEL. Leea hirta, *Banks.*

VELLUTO. IT. Velvet.

VELLUTTA-MODELA-MUKU. MAL. Polygonum barbatum.

VELL VIRU. TAM. A Ceylon tree about fourteen inches in diameter and eight feet in height. Its wood is strong and durable and used as supporters in huts.—*Edye, Ceylon.*

VELLY UMATE. TAM. Datura alba, *Rumph.*

VELMA, Ailma, or Yelmi, in the Tiling country, are a dominant agricultural tribe with military proclivities, and claim to be rajputs. They are soldiers and agriculturalists.

VEL MARUDAM. TAM. Pentaptera glabra.

VELOURS. FR. Velvet.

VELTHOENS ISLAND, the most south-easterly of the Token Bessays group, is in lat. 5° 58′ S., and long. 124° 48′ E. It is low and covered with trees.

VELTY MARAM. TAM. A Travancore wood of a purple colour, sp. gr. 0·623, used only for firewood.—*Colonel Frith.*

VELTY TADDY. TAM. A Travancore wood of a brown colour, sp. gr. 0·635, used only for firewood.—*Colonel Frith.*

VELUTTA MANDARUM. MALEAL. Bauhinia acuminata.

VELUTURU. TEL. Dichrostachys cinerea, *W. & A.*

VELVA MARAM, also Mududi. TAM. Swietenia chloroxylon; Satin wood.

VEL-VELAM. TAM. Acacia leucophlœa, *Willd.* Its gum is the vel velam pisin.

VEL-VENGAY. TAM. Acacia speciosa, *Willd.*, also A. odoratissima, *Roxb. Willd.*

VELVET.

Velours,	FR.	Velluto,	IT.
Sammet,	GER.	Balduwa,	MALAY.
Makhmal,	HIND.		

Of this fabric there are two kinds, one made of silk, and one of cotton called velveteen.—*Faulkner.*

VENA. HIND. Rhazya stricta.

VENDA. MAL. Abelmoschus esculentus, *W. and A.*

VENDI. TEL. Silver.

VENDIAM. TAM. Fenugreek seed, seeds of Trigonella fœnum-græcum. Vendiam kiri. TAM. Leaves of Trigonella fœnum-græcum.

VENDIDAD. The book containing the religious code of the present Parsee or Zoroastrians. It has undergone three various processes of composition, of the Avesta, Zend and Pa-zend. The Avesta is of very ancient date, and is the ground-work of the present Vendidad, though all of it almost is post-Zertushtrian. In the course of time, several explanations and interpretations of the laws have been made, which acquired as much force as the original, and were incorporated with it. This is the Zend, and the incorporation of further explanations was styled the Pa-zend. Avesta means *direct higher knowledge, divine revelation.* Zend means the *explanation* of this, and Pa-zend the *supplements* to the Zend, or further explanation of the Zend doctrine. All the three steps exist in the present Zend Avesta, or more properly Avesta Zend. In recent years, the researches of Chevalier Bunsen and Professors Wilson and Max Muller and Mr. Wheeler seem to prove that much of the earlier history of two branches of the Aryan race are embodied in the Vendidad of the ancient Persians and present Parsees, and in the Vedas of the hindoos. According to Dr. Haug, the opening to the Vendidad, or Code of the Fire-worshippers of Iran dates from the most ancient times, and its contents are the reminiscences of the passage of the old Arians into India on the south, and into Persia on the southwest. According to Ch. Bunsen the Arian emigration from Sogd to Bactria took place prior to B. C. 5000, consequently before the time of Menes; the immigrations into the Indus country about B. C. 4000, and the opening to the Vendidad describes the succession of the foundation of the fourteen kingdoms, the last and most southern of which was the land of the five rivers (the Punjab). According to Chevalier Bunsen, in the same way that political tradition represents that of the western aborigines (the Hamites and Shemites) so does the Arian one represent that of the Eastern tribes in the primeval land. The vast climatic change which took place in the northern countries is attributed in the Bible to the action of water. In the other, the sudden freezing up of rivers is the cause assigned. Both may have resulted from the same cause, the upheaving of the land by volcanic action, elevating portions and depressing into basins such as the Caspian Sea. Ten months of winter is now the climate of Western Thibet, Pamer and Belur at the present day, and corresponds with that of the Altai country, and the district east of the Kuen Lung, the paradise of the Chinese. The country at the sources of the Oxus and Jaxartes, therefore, is supposed to be the most eastern and most northern point whence the Arians came. Wherever the Indians may have fixed the dwelling places of their northern ancestors, the Uttarukuru, we cannot, he considers, venture to place the primeval seats of the Arians anywhere but on the slopes of the Belur Tagh,

in the high-land of Pamer, between the 40th and 37th degrees of N. latitude, and 86° and 90° of longitude. On this western slope of the Belur Tagh and the Mustagh (the Tian-Shang or Celestial Mountains of the Chinese), the Haro-berezaiti (Albordah) is likewise to be looked for, which is invoked in the Zend-avesta as the principal mountain and the primeval source of the waters. At the present day, the old indigenous inhabitants of that district, and generally those of Khasgar, Yarkand, Khoten, Turfan, and the adjacent highlands, are Tajik who speak Persian, and who are all agriculturists. The Turkoman either came after them and settled at a later period, or else they are aborigines whom the Arians found there. On this point Chevalier Bunsen likewise remarks that the opening of the sacred code of the Vendidad as certainly contains an historical tradition of the Arians as does the 14th chapter of Genesis an historical account of the oldest recorded war between Mesopotamia and Canaan. The Fargard is divided into two great parts, one comprising the immigration from the eastern and north eastern primeval countries to Bactria, in consequence of a natural catastrophe and climatic changes, the other the subsequent extension of the Arian dominions through eastern Central Asia, which terminated in the Punjab. The following passage contains a genuine description of the climate of the primeval land of the Arians, Iran Proper. There Ingromaniyus (Ahriman), the deadly, created a mighty serpent, and snow, the work of Deva—ten months of winter are there, two of summer. The following passage, which is omitted in the Huzuresh or Pehlevi translation—and which Lassen considers an interpolation, is irreconcileable with the above. The warm weather lasts seven months and winter five. The fathers of the Arians, therefore, originally inhabited Iran Proper, the land of Pleasantness, and they left it only in consequence of a convulsion of nature, by which a great alteration in the climate was caused. When the climate was altered by some vast disturbance of nature, the Arians emigrated. They did not however follow the course of the Oxus, or they would have come in the first instance to Bactria and not to Sogd. Their course, therefore, was more northerly. Its present climate is precisely what the record describes it to have been when the changes produced by the above commotion took place. It has only two months of warm weather.' In the course of the Arians after their expulsion from the primeval country, between Sogdiana and the Sutlej, they formed, by the conquest of fourteen countries, as many kingdoms in the whole of the eastern part of central Asia and India Proper, in the country of the Indus and its confluents. In the intervening countries they passed amongst the Turanians (Scythians and Turcomans), and there is evidence that the inhabitants whom they found in India were likewise Turanians. The main direction of these travellers was southerly, and on the southern bank of the Caspian is a group the nucleus of the Arian Media. Professor Max Muller gives, as follows, the successive Arian settlements.

"*Sogdiana in Samarcand formed the first settlement of the Arians* : Sughda, afterwards written Sugdia and commonly Sugdiana, is pre-eminently "the country," as being the home of the Fire-worshippers. It is in the 38th degree of latitude, where Mara Kanda (Samarcand) is situated, a paradisiacal land, fertilised by the river Sogd, so that Sogd and Paradise are used synonymously by the later writers. The Vendidad (ii. verse 5) says it was created as the second best of the regions and countries.

"*The second settlement was in Mouru*, (Merv, Margiana.) This is Margiana (from the river Margus,) now Marghab (Margus-water,) Margus in the cuneiform inscriptions : a fruitful province of Khorassan, surrounded by deserts. In the Record (iii. verse 6) it is described as "the third best land, the mighty and pious Mouru, Marw,) . . . . Ahriman created there wars and marauding expeditions."

"*The third settlement was in Bokhdi* (Bactria.) It (iv. v. 7) is stated that the fourth best land was the fortunate Bokhdi, with the lofty banner : "here Ahriman created buzzing insects and poisonous plants." Bokhdi is certainly Bactria (though Burnouf had doubts about it,) the land of the Bactrians. The "tall plumes" indicate the imperial banner (mentioned also by Firdousi,) and refer, consequently, to the time when Bactria was the seat of empire. Up to this time nothing is said about Media, though she conquered Babylon B. C. 1234.

"*Their fourth settlement was in Nisaya* (Northern Parthia.) It (v. verse 8) says "the fifth best land is Nisaya, there Ahriman created unbelief." This is the Nisaia of Ptolemy, famous for its breed of horses, commonly called Nisa, the renowned district of Northern Parthia, bordering on Hyrkania and Margiana. "The city of Nisæ is situated on the Upper Oxus. The term 'unbelief' in the record signifies the apostasy from pure fire worship. Here, therefore, the first schism takes place.

"*The fifth settlement in Haroya* (Aria.) Haroyu is Herat, of which frequent mention is made subsequently, and the Hariva of the cuneiform inscriptions. Its name has no connexion with the Arians, but comes from the

river now called "Heri," abounding in water. The Greek district Aria comprises the larger portion of Segestan, and forms part of Southern Khorassan. In the Record (vi. verse 9,) it is mentioned that the fifth best land was Haroyu, the pourer out of water, here Ahriman created hail and poverty."

"*The sixth settlement in Vekereta,*(Segestan.) This country is the home of Rustum. Dushak is the capital of Segestan. To the south-east of it is the land of the Parikani known to the ancients as a part of the Saken country (Sakastene.) The greater part of it is now a desert, but it was once cultivated. Here again in the words of the Record, there may be allusion to a schism, which, in that case, would be the second historical one. The Record runs (vii. verse 10) "Vekereta, in which Duzhaka is situate; there Ahriman created the Pairiikka Khnathaiti." (Herod. iii. 94, compare Ritter, viii. 59.) Recent travellers have also found nomadic tribes between Media and Gedrosia, who worshipped the Peri (Fairies,) but were fire-worshippers also.

"*The seventh settlement in Urva* (Cabul.) The Record (in viii. verse 11) alludes to Urva, proved by Haug to be Cabul, the identity of which was previously unknown.

"*The eighth settlement in Khnenta* (Candahar.) (ix. verse 12) "Khnenta, where Vehrkana is situated." According to Haug, by this country Candahar is to be understood: Vehrkana cannot be Hyrcania, as is generally supposed, but is the city now called Urghandab situated in Candahar. The curse of Ahriman was pœderastism, a vice known historically to be un-Arian and Turanian.

"*The ninth settlement in Haraquaita* (Arachosia) (x. verse 13) (Haraquaita,) denominated the fortunate; the Harauwatis of the cuneiform inscriptions; the Arachosia of the classics. The work of Ahriman here was the burying of the dead. Another apostacy therefore from the true faith.

"*The tenth settlement in Hetumat* (district of Helmund.) (xi. verse 14) "Hetumat, the wealthy, the splendid," is the valley of the present Helmund, the Etymander of the classics. The mischief inflicted here by Ahriman was the sin of sorcery.

"*The eleventh settlement in Ragha* (Northern Media.) (xii. verse 16) "Ragha with the three races is doubtless the Rhagæ of Strabo and Ptolemy, the greatest city in Media" south of Teheran. This north-eastern portion of Media includes the passes of the Caspian. The possession of these passes was a protection to the other Arians, and at the same time the key to the whole of Media, and therefore Persia. The district is called also Choana (Qwan.) Ahriman established here

VENDIDAD.

unbelief in the spiritual supremacy of Zarathustra, another schism,—at all events another portion of ancient Arian history.

"*The twelfth settlement in Kakhra* (Khorassan.) (xiii. verse 17.) Kakhra is held by Spiegel and Lassen to be the district of Kihrem mentioned in Firdousi. Haug identifies it with the cities of Karhi in Khorassan. The evil done by Ahriman here was the burning of the dead. This was therefore an illegal practice, like the sin of the Arachosians, who were so profane as to bury their dead. All this implies the organization of an hierarchical power in Sogd and Bactria, although not a sacerdotal caste.

"*The thirteenth settlement in Varena* (Ghilan.) (xiv. verse 18.)" "Varena with the four corners." Haug has shown it to be Ghilan. The curse of Ahriman was irregular menstruation.

"*The fourteenth settlement in Haptu Hindu* (Punjab). (vi. verse 19) The Land of the Seven Hindu, that is, the country between the Indus and Sutlej. In the Vedas the country of the Five Rivers is also called the Land of the Seven Rivers. The traditional Greek names also are seven. The Indus and the Sutlej are each formed by the junction of two arms, which, in their earlier course, were independent. According to this view it stands thus:

1. Kophen (Kubha) 2. Indus, Upper.	I.	Indus.
3. Hydaspes (Bidaspes)	II.	Hydaspes.
4. Akesines (Asikni)	III.	Akesines.
5. Hyarotis (Hydraotis, Iravati-Parusni.	IV.	Hydraotes.
6. Hyphasis (Vipasa) 7. Saranges (Upper Satadru, Sutlej, Ghara)	V.	Hyphasis.

"But it is not only unnecessary to suppose, as Ritter does, that the country extended as far as the Sarasvati, but such a supposition would be at variance with history. It is now ascertained from the Vedas that the Arians passed the Sutlej at a very late period, and settled in what is now India. It was not till their fourteenth settlement after the emigration from the primitive country in the north, that they passed the Hindu-Kush and the Indus. The previous resting places form an unbroken chain of the primitive abodes of the Arians (the Free or the Land owners). The last link in those earlier settlements is the land of the Afghans, on the western slope of the Hindu-Kush. Lower down to the westward there is but one settlement necessary to secure their previous possessions, namely, the two districts of Ghilan and Masandaran, with the passes of the Caspian. This settlement more to the north-west (Ghilan and Masan-

daran) forms therefore also a connected group. Putting these two groups together, we shall find that there is no one single fertile district in the whole of eastern Central Asia of which the Arian race did not possess themselves, except Southern Media and all Farsistan or Persis. Now as history exhibits the Arian race spread throughout the whole of Media, but as dominant only in Persia, it follows that Ghilan and Masandaran formed the nucleus of these ancient possessions which afterwards became so important and celebrated. There cannot therefore be a more unfortunate theory than the one which makes Persia the original seat of Zoroaster and his doctrine. History as well as personal observations at the present time, supply unequivocal evidence of the Iranian having been the popular language in all these districts. The names in the Vendidad moreover, when compared with Sanskrit, turn out to be regular ancient formations, although like the old Bactrian formations, as preserved in India, they have been gradually weakened down. We know, lastly, from the inscriptions of the Achæmenidæ, several of them which have become historical and geographical designations at a later period. It is impossible under these circumstances to consider the Vendidad as a modern fiction, or as a fragment of some geographical compendium. The fact of their having suddenly retraced their steps from the south-west, and formed a connected north-eastern group about the Caspian Sea, would be inexplicable supposing it to be a fiction.

A line drawn from India along the Paropamisus and Caucasus Indicus in the east, following in the north the direction between the Oxus and Jaxartes, then running along the Caspian Sea, so as to include Hyrcania and Ragha, then turning south-east on the borders of Nisæa, Aria (i. e. Haria), and the countries washed by the Etymandrus and Arachotus, would indicate the general horizon of the zoroastrian world. It would be what is called in the fourth cardè of the yasht of Mithra, "the whole space of Aria," vispem airyo sayanem (totum Ariæ situm). Opposed to the Arian we find in the zend-avesta the non-Arian countries (anairyao dainhavo) and traces of this name are found in the *Αναριαχαι*, a people and town on the frontiers of Hyrcania. Greek geographers use the name of Ariana in a wider sense even than the Zend-avesta. All the country between the Indian Ocean in the south and the Indus in the east, the Hindu-K[illegible]ropamisus in the north, the Casp[illegible] ...mania, and the mouth of t[illegible] in the west, is included b[illegible] under

the name of Ariana, and Bactria is th
called by him "the ornament of the wh
of Ariana." As the zoroastrian religion spr
westward, Persia, Elymais, and Media
claimed for themselves the Arian ti
Hellanicus, who wrote before Herodot
knows of Aria as a name of Persia. He
dotus (vii. 62) attests that the Medians cal
themselves Arii; and even for Atropat
the northernmost part of Media, the na
of Ariania (not Aria) has been preserv
by Stephanus Byzantinus. Manu speak
of the Palava tribe of Kshatrya, w
had neglected to reverence brahmans, sty
them Dasya, whether they speak the la
guage of the Mlech'cha or that of the Ary
and the people to whom he there alludes se
to have been Medes occupying the valley
the Indus. As to Elymais its name had be
derived from Ailama, a supposed corrupti
of Airyoma. The Persians, Medians, Bac
ans, and Sogdians all spoke, as late as the ti
of Strabo, nearly the same language, and
may well understand, therefore, that th
should have claimed for themselves one co
mon name in opposition to the hostile tribe
Turan. And when, after years of foreign in
sion and occupation, Persia rose again und
the sceptre of the Sassanians to be a natio
kingdom, we find the new national kings, t
worshippers of Masdanes, calling themselv
in the inscription deciphered by De Sa
"Kings of the Aryan and un-Aryan rac
in Pehlevi, *Iran va Aniran*, in Gr
Αριανων και Αναριανων.

West of Armenia, on the borders of t
Caspian Sea, we find the ancient name Al
nia. The Armenians call the Albanians A
hovan, and as *gh* in Armenian stands for
or l, it has been conjectured by Bori th
in Aghovan also the name of Aria is conta
ed. This seems doubtful. But in the valle
of the Caucasus we meet with an Arian
speaking an Aryan language, the *Os* of Os
thi and they call themselves *Iron*. Th
Arians according to Bunsen (iv. 487) em
grated out of the country of the sources
the Oxus (*Gihon*) and Jaxartes, B. C. 11,0
to 10,000, and (iv. 491) about B. C. 7,250
5,000, the Arians separated into Kelts, Ar
menians, Iranians, Greeks, Slaves and Ge
mans. According to Bunsen (iii. 584) th
separation of the Arians was prior to the
leaving Sogd. The emigration from Sogd
Bactria, after the separation, took place B. C
5,000, consequently before the time of Men
The immigration into the Indus count
about B. C. 4,000, and Zoroaster's reform i
Bactria about the time of Menes or half
century later; (*Bunsen* iii, 584) and he is
opinion that B. C. 5,000 to 4,000 the Arian

›rmed their kingdoms in Central Asia, as far s Northern Media, Cabul and Candahar, and ıat B. C. 4,000 they migrated into the Indus ›untry. Their history while residing in ıe Punjab, is contained in the Vedas.—*'heeler's History of India, p. 7. Professor 'ax Muller's Lectures, p.* 69, 108, 201, 226, ?8, 229, 230. *Calcutta Review* 1859. *Edin-ırgh Review. Bunsen's Egypt's Place in 'niversal History, vol.* iii. *p.* 449 *to* 601. *vol.* . *p.* 40 *to* 561.

VENCATAGHERRY, a town in the Car-ıtic 50 miles inland from the sea, and some-hat north, 70 miles of Madras.

VENERAH. MALAYAL. A jungle tree ' Malabar which grows to about twenty-ur feet in height, and eighteen inches in ameter. It is used in building native vessels ıd for other native purposes.—*Edye, Forests ' Malabar and Canara.*

VENERIDÆ, a family of molluscs of the ass Conchifera, of the following genera :—
enus. *rec.* 176 sp. *fossil*, 160 sp.
? Volupia rugosa. *fossil.*
Saxidomus Nuttali. *rec.* 8 sp.
ytheræa. *Syn.* Meretrix. 80 sp. Dione, *rec.* 113 sp. *fossil.*
Meroe. *Syn.* Cuneus. Sunetta, *rec.* 10 sp.
Trigona. *rec.* 28 sp. also *fossil.*
ıb-genus. Grateloupia. *fossil*, 4 sp.
Artemis. *Syn.* Dosinia, *rec.* 85 sp. *fossil*, 8 sp.
ıb-genera. Cyclina. *rec.* 10 sp. *fossil*, 1 sp.
Clementia. *rec.* 3 sp.
ucinopsis. *Syn.* Dosinia. Mysia. Cyclina, *rec.* sp. *fossil*, 3 sp.
Tapes. *Syn.* Paphia. Pullastra, *rec.* 78 sp. also *fossil.*
Venerupis. *Syn.* Gastrana, *rec.* 19 sp. also *fossil.*
Petricola. *Syn.* Rupellaria. Choristodon. Naranio. *rec.* 30 sp. *fossil*, 12 sp.
Glaucomya. *Syn.* Glauconome, *rec.* 11 sp.

The genus Venus of Linnæus was arranged *r* him in the second section (*Bivalvia : onchæ*) of his *Testacea Mollusca Simplicia, tecta Testa Calcarea,* between *Donax* and *oondylus.* Dr. J. E. Gray places the Veneridæ the first family of his order Phyllopoda, with ıe following genera :—*Artemis, Cytherea, eroe, Gratelupia, Trigona, Chione, Circe, osina, Mercenaria, Anomalocardia, Cypreia, ?nus, Tapes, Venerupis, and Clementia. ecent and Fossil Shells, English Cyclopædia.*

VENETIANS, the people of Venice, who scovered a new and much shorter trade route India, that down the river Euphrates, route which even at the present day is ›clared by some to be the best that could be lected for communication between India and urope. The Venetian merchants sailed from enice to Tripoli, thence their goods were ırried in caravans to Alleppo, which was a mous mart, whose reputation even Shakes-are did not fail to notice. From Alleppo the caravans made their way to Bir on the banks of the Euphrates. Here the merchandise was transferred to boats and conveyed down the river to a point near Bagdad on the Tigris. Bagdad being reached, the merchandise was then transferred to boats on the Tigris and carried down to Bussora and the island of Ormuz in the Persian Gulf. In those days Ormuz was what Bombay is to-day, the greatest emporium in India. Here all the velvets, cloths, and manufactures of the West were exchanged for the spices, drugs, and precious stones of the East. The wealth acquired by the merchants of Venice in their trade with the East excited the envy of the whole of Europe. The Portuguese especially spared no expense in their endeavours to discover a new route to India, and after nearly a century of the most indomitable exertions, they were fortunate enough, in the latter part of the fifteenth century, to find their way to Calicut by way of the Cape. The Indian trade of those days was in fact revolutionised. In a very short time, the trade routes by the Red Sea and the Euphrates were completely forgotten, and the cheapest and shortest route between Europe and India was the high sea : but, after making use of the sea route for 500 years, the route followed by the ships of king Solomon and Hiram king of Tyre, is again found to be the best.—*Madras Mail* 7th *June* 1870.

VENGA. TAM. Colosanthes Indica.

VENGAI MARAM. TAM.
Yepi ? vriksha, CAN. | Yapa chettu, TEL. ?

Pterocarpus bilobus, also Pterocarpus marsupium, *Roxb.* The latter furnishes a very useful heavy wood, of a reddish colour, employed in making doors and windows and in common use both for building and for furniture ; it is not strong, and when used for rafters, it should be cut very broad in comparison to its thickness.—*Mr. Rohde. MSS.*

VENGALAM. TAM. Bell metal.

VENGAYAM. TAM. Allium cepa, *Linn.*

VENGENDAH. TAM. MALEAL. A Malabar tree which the natives use for catamarans and in rafts, it is remarkably soft and spongy and not of much use or durability.—*Edye, Forests of Malabar and Canara.*

VENGULA CYAM. TAM. A Ceylon tree, grows to about twelve inches in diameter, and six feet high ; produces a fruit which is not made use of, and wood of little value.—*Edye, Ceylon.*

VENICE TURPENTINE. See Turpentine.

VENISE. FR. Damask.

VENCATESH, a name of the idol of Balaji or Vishnu at Triputy near Madras. The

idol is also called Venkatramma Govinda, also Vencatachella. See Ballaji, Tripati.

VENKULLY. A town near Quilon. Its cliffs are immediately on the sea beach and are from 80 to 150 feet in height, nearly perpendicular. They have a cap of laterite 25 to 40 feet thick, below the laterite is a bed of several layers of sand of various colours very similar to the sands of the cliffs at Alum Bay, Isle of Wight. At the base of the cliffs are beds of lignite and carbonaceous clays.

VENNA. Tel. Butter.

VENNA DEVI-KURA. Tel. also Venna mudra, or Venna vedera, or Commelyna communis, *L.*

VENA KATTE TIGE, or Tappeta, Asystasia Coromandeliana, *Nees.*

VEN-PALLA. Tam. A Travancore wood of an ash colour, used for carving figures, sandals, &c.—*Col. Frith.*

VENTAKU. Can. Ventaku maram. Tam. Venteak. Anglo-Tam. The wood of this tree, Lagerstræmia microcarpa, is much used by the native carpenters for house building and masts for dowes, pattamahs, and other country vessels. It grows to ninety and one hundred feet long, and from twelve inches to three feet in diameter, it is perfectly straight and without branches, excepting at its top; the leaves are small and very thick. This wood is not so durable as the poon, but it may be considered of the same texture, although it is very much lighter in colour, and in this respect much resembles the American red oak. —*Edye, Forests of Malabar and Canara.*

VENTILAGO MADERASPATENA. Gær. *Rox. Corr, W. & A. W. Ic.*

Erra chiratah	Tel.	Suralatige,	Tel.
Surugudu,	„	Surati pette-tige,	,,

Grows throughout the E. Indies and Archipelago. The fishermen of Amboyna use the long climbing stems as substitutes for ropes.—*Roxb, Voigt.*

VENTRA, or Undra, Tel. Mimosa rubicaulis, *Lam.*

VENTRUKULU. Tel. Hair.

VENUTURU, or Veluturu. Tel. Dichrostachys cinerea, *W. & A.* Caillea cinerea, *G. & P.*

VENTURA, an Italian military officer who rose to the rank of general under Ranjit Singh.

VENTUS TEXTILIS. See Cotton manufactures.

VENUS. Lat. of the ancients. Copper.

VENUS SHELL. See Mollusca, Veneridæ.

VENUS, supposed to be from Vana. Sansc. the fair one, but the etymology of the word is also given from Banu, or Benu of Eastern Asia; Hebrew, Benoth; Syrian, Benos; and the Greek and Latin, forming Venus.

In the temple of Venus at Cyprus, as shown by coins, the presiding divinity was placed in the porch, as in a kind of shrine or enclosure. The inscription on one coin, ΚΥΠΡΙΩΝ indicates its having been struck at Cyprus. In the second Book of Kings, (xvii. 30) the sacred historian, when recounting the idolatrous practices of the people transported by the Assyrian monarch into the Samaritan cities, observes, that the "men of Babylon made Succoth-Benoth," which is literally rendered by Parkhurst, the tabernacle of the daughters or the young women. Calmet however supposes that we are to understand Benoth as denoting a female idol, the Benos of the Syrians, and the Venus of the Greeks and Latins. The heathen strangers there made booths or tents in honour of the deity whom they worshipped, which, however obscene the rites there practised, were erected and preserved for religious purposes, and most likely to enshrine the object of their idolatrous services. A representation of pavilions consecrated to Venus, may be seen on many ancient medals. It seems, however, that these tents of Venus, the Succoth-Benoth of the Babylonians, the tabernacle of Moloch, and the silver shrines of Diana, mutually illustrate each other. The procession of idols was of frequent occurrence in antiquity, and was a matter of much importance and ceremony. The gods were carried in chariots, niches, or miniature temples, analogous to the shrines of the Ephesian idols. The image being in a small temple of wood, gilt, they carry out the day before to another building. Among the Egyptians, the shrine of Jupiter was annually transported over the river (Nile) into Libya, and after some days returned, as if the god himself were come from Ethiopia. The sacred procession of idols was also common among the Gauls, who, according to Sulpitius Severus, carried their gods into the fields, protected from the profanation of vulgar eyes by a white veil. These instances may suffice to show in what light we are to regard the shrines of the Ephesian artizans, viz.: as small models of the temple. Examples of the portable shrine are common in Russia, and in all the countries of the Greek church. The ιερα of the Greeks, says Dr. Clarke, as well as the tabernacles of the eastern nations, were sometimes not only portable, but they were so small, that the κιυταλεραι used for enclosing them, could also be carried. The idols of many of the idol-worshipping races of the East Indies are generally kept in the interior of temples, and with the hindus, during festivals, the idol is placed in a car with or without wheels, or in a palanquin, and is carried out dressed up with all

jewellery of the temple, preceded by the a-dasa and the brahmins. When outside temple the worshippers burn camphor l present cocoanuts as offerings, and the ncing girls sing and dance before the god, l the brahmins chant passages from the ranas. If at night, fireworks are also exited. Some of the cars or rut are of great s, with large wheels, beneath which devos used to throw themselves. The village ls at stated periods are carried round the lage boundaries. The Venus of the hindus Rati.—*Milner's Seven Churches of Asia, p.* 2. See Osiris, Saraswati, Singhalese.

VENUS APHRODITE. See Lakshmi. ma. Rati.

VENUS HAIR. ENG. Adiantum capillus neris. See Ferns.

VENUS' LOOKING GLASS. Campnula.

VENUS' SLIPPER. Carinaria.

VENUTURA. TEL. Dichrostachys cinerea, *and A.*

VEPA. TAM. TEL. Vepam. MALEAL. Vepa ettu also Nimbanu. TEL. Azadirachta Inca, *Ad. Juss.* Melia azadirachta.

VEPALA. TAM. Wrightia antidysenterica. e Veppalei.

VEPAM MARAM. TAM. Azadirachta Inca, also Melia azadirachta.

VEPPALEI. TAM. Connessi Bark, bark of Vrightia antidysenterica, the seed is called eppalei arisi.

VEPUDU PACHCHA. TEL. Ocimum asilicum, *Linn.* Vittilu, also Rudra jada. TEL. he seeds.

VERA CRUZ. See Perim.

VERAETAL. A Ceylon tree about fourteen inches in diameter, and eight feet igh. Its wood resembles mahogany, but is apable of a more brilliant polish; and it is sed for superior purposes. It produces a uit of little use.—*Edye, Ceylon.*

VERAJENDERPET, situated on the road ading to Cannanore from Mercara, 20 iles from the latter place. There is a ross road from Mysore, which joins the road Cannanore a few miles below Verajenderpet, nd along this road passes all the direct traffic etween Mysore and the coast.

VERALI ADI PONG. TAM. Pandion aliaetus, *Linn.*

VERAM PELOW. MALEAL. TAM., the ackwood tree, common throughout India, nd of value for its timber, its fruit and uts. The wood when cut is yellow, but, when exposed to the air, turns as dark as mahogany, to which it is superior in brilliancy. It is generally used in articles of furniture for the Europeans, and for house work, and is considered handsome. The largest tree of this kind which Mr. Edye had seen was about three feet in diameter, and from thirty to thirty-five feet high. This was the wood which Tipu sultan used for his vessels at Honore, in Canara, where a naval depot was formed.—*Edye, Ceylon.*

VERAPATNI. See Hindu.

VERATRUM ALBUM. LINN.

Khirbak abiaz ARAB.	White Hellebore, ENG.

VERATRUM NIGRUM takes its name from the dark colour of its roots. The flowers are mostly white, dark purple, and green. It is cultivated in a rich garden soil by seed, or dividing the roots, which contain powerful medicinal properties.—*Riddell.*

VERAVATI, an ancient name of Baroda.

VERA VENA. HIND. Dodonæa Burmanniana.

VERBASCUM THAPSUS. LINN.

V. indicum, *Wall.*

Rewand china of BEAS.	Karathri of SUTLEJ.
Vular of KANGRA.	Eklbir of ,,
Phul of CHENAB.	Kadanda, ,,
Ban-tamaku, ,,	Phuntar, ,,
Ghidar ,, ,,	Kivispre, ,,
Phasruk, ,,	Khargosh, TRANS-INDUS.
Bhun ki-Dum, ,,	Kharnar ,,
Gurgauna of SUTLEJ.	Spin Kharnar, ,,

This plant grows in Europe, in the Caucasus, Siberia, and in the Himalaya to 11,000 feet, a white-flowered variety occasionally occurring at the higher elevations. It is eaten by camels, goats, &c. In Bissahir the root is given as medicine.—*Drs. Roxb. Voigt. and J. L. Stewart.*

VERBENACEÆ. JUSS. The plants in the East Indies comprising the Vervain Tribe, consist of 19 gen. 153 sp., viz. 40 Clerodendron; 1 Ægiphyla; 14 Callicarpa, 36 Premna; 26 Vitex; 8 Congea; 1 Symphorema; 8 Gmelina; 2 Tectona; 1 Phryma; 1 Streptium; 3 Verbena; 1 Stachytarpheta; 2 Zapania; 5 Lantana; 1 Asaphes; 1 Glossocarya; 1 Hymenopyramis; 1 Avicennia. Of the genus Verbena, only three species are natives of the East Indies, though several exotics are cultivated; these are pretty little flowering plants, but do not endure the heat and require shelter and good drainage. During the hot months they are propagated by layers and cuttings. The fine pink or crimson flowered V. aubletia, a native of N. America, is called the rose coloured Vervain; the common Vervain, V. officinalis, is known in N. India as Chiraita or Karaita; several species of the genus Clerodendron, Callicarpa, Premna, Vitex and Gmelina furnish useful products.—*Jaffrey.*

VERBENA CUNEATA. WILLD. and Verbena nodiflora, *Linn.* syns. of Zapania nodiflora, *Linn.*

VERBENA OFFICINALIS. Common Vervain, grows throughout Europe, America, Persia, and the Himalaya. It is the 'holy

herb' of Dioscorides, who ascribed great powers to it, especially in incantations. In most countries where it grows it seems to have been invested with extraordinary powers. It entered into the composition of various charms and love-philters, and has even now a popular reputation for predisposing persons favourably towards those who administer a dose to them. This plant is described as astringent, febrifuge, &c., but has fallen into just neglect. Still among the ancient Greeks and Gauls it held the highest place in popular estimation; it was used to purify the altars, and formed the crowns of heralds and ambassadors. The Druids gathered it with the same marks of veneration as the mistletoe, next to which it was revered. Formerly employed extensively as a medicine it was also the base of numerous philters, or love potions, and hence derived its name of Veneris vena, or source of love. It is well known for its strong aromatic lemon scent. It grows from cuttings or layers, and no doubt would also from seed, as it blossoms freely.—*Riddell. Eng. Cyc. O'Shaughnessy, p.* 484.

VERBENA TRIPHYLLA. LEHER.

Lemon-scented Verbena.	Aloysia citriodora.
Lemon-scented Vervain.	

Pila-Bhungara. DUK.

This plant is a native of Chili, an infusion when cold is administered as a cooling drink in fevers, slight catarrhs, &c.—*Eng. Cyc. Riddell.*

VERBESINA ALBA. LINN. Syn. of Eclipsa erecta, *Linn.*

VERBESINA BENGHALENSIS. ROXB. and Verbesina calendulacea, *Linn, Roxb,* syns. of Wedelia calendulacea, *Less.*

VERBESINA PROSTRATA.

Bhangra, HIND.

A small plant growing in wet soil. A white variety is much used in medicine, and by alchymists.

VERBESINA SATIVA. ROXB. Syn. of Guizotia oleifera, *D.C.*

VERDA CANARA. TAM. A Ceylon tree about twenty inches in diameter, and forty to sixty feet high: some of the country vessels get their masts from this tree: its wood is not durable or strong.—*Edye, Ceylon.*

VERDERAME. IT. Verdigris.

VERDIGRIS. ENG. SP. Sub-acetate of copper.

Zungar,	ARAB.	Sanam,	MALAY.
Jingal,	CASH.	Zungar,	PERS.
Vert-de-gris,	FR.	Jar,	RUS.
Grunspan	GER.	Cardenillo, Verdete,	
Chungal,	GUZ. HIND.	Verdegris,	SP.
Verderame,	IT.	Pittalata,	SANS.
Cupri-subacetas,	LAT.	Vungalap-patchei,	TAM.
Sennang,	MAL.	Zenghalie-patse,	TEL.

Sub-acetate of copper, of a beautiful bluish green colour, extensively used by painters and in dyeing.—*Ainslie, Materia Indica. Rohde. MSS. Faulkner. McCulloch.* See Dyes.

VERDITER. A blue pigment, made by decomposing a solution of sulphate of copper with the addition of chalk.—*Faulkner.*

VER-EFFSHUE, according to professor Ritter, in Persia Proper, and Persepolis, the seat of the town of Ver.

VERI, HIND. Marsdenia Royleana, also Convolvulus arvensis: Van veri, HIND., is Pentatropis spiralis.

VERJUICE.

Verjus,	FR.	Agresto,	IT.
Agrest,	GER.	Agraz,	SP.

A kind of harsh vinegar, made of the expressed juice of the wild-apple or crab. The term is also applied to the expressed juice of unripe grapes.—*Faulkner.*

VERJUS. FR. Verjuice.

VER-KADALE, also Nele Kadale. TAM. Arachis hypogæa, *Linn.* Ground nut, Ver-kaddalai yennai. is ground nut oil.

VERMETUS. See Tubulibranchiata.

VERMICELLI. ENG. FR. IT.

Meelneepen,	DUT.	Save,	HIND.
Proppen.	,,	Tagliolini,	IT.
Nudeln,	GER.	Alterias,	SP.
Save,	GUZ.	Seme,	TAM. TEL.

Vermicelli or Vermichelly is an Italian composition of various edible articles, reduced to a paste, and formed into slender wormlike pieces, from whence its name. The simian of India is made from wheat flour. Locksoy is a kind of Vermicelli prepared from rice at Cochin China, and thence exported in considerable quantity to Japan and China, where it is much esteemed. It is transparent, and gives a consistence to soup. Chinese Locksoy is opaque, and less esteemed. *Hon'ble Mr. Morrison's Comp. Des. McCulloch's Com. Dic. p.* 1216.

VERMILLION.

Vermilioen,	DUT.	Cinnabar,	ENG. GR.
Red sulphuret Mercury.		Bi-sulphuret of Mercury.	

This substance is used as a pigment. It is mentioned in Jerem. xxii. 14 and Ezek. xxiii. 14.

VERMONT. See Karen.

VERNA. See Jain.

VERNACULAR LANGUAGES. See Dravidian, India, Languages, Pracrit.

VERNANGU. TAM. a Ceylon tree, named mast-wood, its wood being light and used for the masts and yards of small vessels. It grows to about twenty inches in diameter and from twenty to forty feet in height. It produces a fruit or seed similar to that of the poon.—*Edye. Ceylon.*

VERNICIA MONTANA. LOUREIRO.

Elæococca montana.

A tree of Cochin-China and China, yields a clear yellowish coloured fatty oil.

VERNICIA. See Rhus vernix; Varnished ware of China.

VERNONIA ANTHELMINTICA. WILLDE. Linn.

Serratula anthelmintica, *Roxb. Rh.*
Conyza anthelmintica, *Linn.*
Baccharoides anthelmintica, *Mœnch.*
Ascaridia indica, *Juss.*

Som Raj,	BENG.	Kanana ziraka,	SANS.
Kali ziri,	DUK.	Sauni naya,	SINGH.
Purple fleabane,	ENG.	Caattu siragum,	TAM.
Bakchi,	HIND.	Adivi jilakarra,	TEL.
Katta seragum	MALEAL.		

The oil.

Wild cummin seed oil, ENG.
Caattu siragum yennai, TAM.

The small and dark coloured seeds are extremely bitter. They are considered as powerfully anthelmintic, and are also an ingredient of a compound powder which is occasionally prescribed in cases of snake bite. An infusion of them is given on the Malabar coast for coughs and in flatulencies. A rather hard fibre is obtained from this plant. *Hort. Mal. part 2d. p.* 40. *Ains. Mat. Med. p.* 74. *M. E. J. R. Roxb. Voigt.* See Caturus speciflorus.

VERNONIA CINEREA. LESS.

Serratula cinerea, *Rh. Roxb. W. Cont.*	Conyza purpurea, *Linn.*
Conyza cinerea, *Linn.*	Conyza mollis, *Willd.*

Chata koksun,	BENG.	Puvanku runal,	MALEAL.
Ash colored Flea-bane.		Sira-shengalnir,	TAM.
Kak-jangi,	HIND.	Nedsitu,	„
Saha-devi,	„	Gariti kamma,	TEL.

This annual plant grows in the Peninsula and in Bengal. Its seeds are used in medicine and said to be a powerful anthelmintic. All the parts of the plant are very bitter, used as a diaphoretic in fever, and its ground seeds are used to destroy vermin in the hair. Dr. Wight gives V. conyzoides, multiflora, Neilgherrensis, pectiniformis, salviæfolia, and Wightiana, to which Voigt adds V. aspera, multiflora, vagans and volkameriæfolia.—*Roxb. Voigt. Waring. Ainslie. Powell Hand-Book, vol.* i. *p.* 357. *Useful Plants. O'Shaughnessy. Birdwood.*

VERONICA, a genus of plants belonging to the natural order Scrophulariaceæ, of which several species occur in India.

VEROOSOO. TAM. A Tinnevelly wood of a whitey brown color; used in building in general.—*Col. Frith.*

VERRICHA TRASI. TEL. Mollugo pentaphylla, *Linn.*

VERRI CHERUKU. TEL. Saccharum spontaneum, *Linn.*

VERRI NELA VEMU. TEL. Oldenlandia herbacea, *Roxb.*

VERRI NILI. TEL. Indigofera cinerea, *Roxb.*

VERRI PALA. TEL. Tilophora vomitoria, *Voigt.*

VERRI PENDALAM. TEL. Dioscorea, *sp.*

VERRI PUCHCHA. TEL. Citrullus ciliatus, *Schræd.*

VERRI TALA NOPPI. TEL. Xanthium orientale.

VERRI ULAVA. TEL. Dolichos falcatus, *Klein.* Lit. "wild gram."

VERRI YADALA. TEL. Hippocratea Indica, *L.*

VERSAVAH, built on a river, in lat. 19° 7′ N. long. 72° 46′ E., about seven miles north of Mehim, north of Bombay.

VERT-DE-GRIS. FR. Verdigris.

VERU. TAM. Root of a plant.

VERU, or Viru Guduchiva. TEL. Dalbergia latifolia.

VERU MALLE, or Chata Kuttu tivva. TEL. Ipomœa cymosa, *Rom. and Sch.*

VERU PANASA. TEL. Artocarpus integrifolia, *Linn.*

VERU SAMPENGA, or Nela sampenga. TEL. Polyanthes tuberosa, *L.*

VERU SANAGA. TEL. Arachis hypogæa, *Linn.* Ground nut. Earth nut.

VERZINO. IT. Brazil wood. Cæsalpinia sappan, *Linn.*

VESADÆ, or Bisadæ, or Besadæ, are alluded to in the tract of Palladius de moribus Brachmanorum, written about A. D. 400, and the same name is applied by Ptolemy to a similar race inhabiting northern India. See Veddah.

VESALA DEVA. See Inscriptions, Suryavansa, Ravana.

VESARA, or Vesura. TEL. also Vesha, properly Visha mandalum. SANS., also Visha mangalapaku. TEL. Crinum Asiaticum, *Willd. Herk.*

VESHA MUSTI BIJAM. SANS. Strychnos nux vomica.

VESHEI, or Visha munghe elle? TAM. Crinum Asiaticum, *Willd.*

VESHI MUNGI, properly Visha Mungi. TAM. Crinum defixum, *Ker.*

VESICATORY BEETLES. See Cantharides, Mylabris.

VESPA MAGNIFICA. SM. An enormous hornet nearly two inches long was brought to Dr. Hooker at Choongtam in Sikkim, alive, in a cleft-stick, lolling out its great thorn-like sting, from which drops of a milky poison distilled: its sting is said to produce fatal fevers in men and cattle, which may very well be the case, judging from that of a smaller kind, which left great pain in his hand for two days, while a feeling of numbness remained in the arm for several weeks. It is called "*Vok*" by the Lepcha race, the common name for any bee: its larvæ are said to be greedily eaten, as are those of various allied insects.—*Hooker Him. Jour. vol.* ii. *p.* 26.

sometimes their whole body. See Jangam. Tripundra.

VIBURNUM, a genus of plants belonging to the natural order Loniceraceæ. The species consist of shrubs with opposite petiolate leaves and corymbose flowers. All the varieties of Laurustinus are hardy evergreen shrubs, and bear the climate of Great Britain well; most of them blossom from November till April, and sometimes during May and June. Drs. Wight and Voigt give Viburnum acuminatum, capitellatum, hebanthum, lantana, opulus, Wightianum, adenophyllum, Colebrookianum, punctatum, cotinifolium, interregnum of Penang, odoratissimum and nervosum of China, fœtidum of Burmah, and mullaha of Dehra.—*W. Ic. Eng. Cyc. Voigt.*

VIBURNUM COTINIFOLIUM. *D. Don.*

V. polycarpum, *Wall.*

Kal-kut,	HIND.	Rich-uklu,	HIND.

A plant of Kaghan and the Himalaya.—*Dr. St.*

VIBURNUM FŒTENS.

Vuna,	HIND.	Talma or Thalin,	HIND. of KOTGHUR.
Aklu,	„	Rich,	„
Banna,	„	Marghwalwa,	PUSHTU.
Guch,	HIND. of KAGHAN.	Kalkut,	KAGHAN.
Ban-kuch,	„ „		

A plant of Kaghan.—*Dr. St.*

VIBURNUM STELLIONUM. RICH.

Thalin of	KOTGHAR.	Guch or Kuch of KAGHAN
Aklu of	KAGHAN.	

V. cotinifolium, V. fœtens, and V. stellionum form the underwood of forests in the N. W. Himalayan valleys. The wood is used chiefly for fuel. The berries of both V. fœtens and V. cotinifolium are edible.—*Mr. Powell, Hand-book. Drs. Cleghorn and Stewart.*

VICEROY. The title of the ruler of British India.

VICHITRA VIRYA married Amba and Ambahka, daughters of the king of Kasi, who had issue, after his death, by his half brother Krishna dwaipa yana or Vyasa, Dhirita rashtra and Pandu, whose wives bore the five Pandava, viz:

Yudishtira.	Nakul	who founded the Magadha line.
Arjuna, father of Parikshita.	Sahadeva	
Bhima.		

Vichitravirya had no male offspring. Of his three daughters, one was named Pandea; and Vyasa being the sole remaining male branch of the house of Santana, took his niece and spiritual daughter Pandea to wife, and became the father of Pandu, afterwards sovereign of Indraprestha. Arrian gives the story thus: "he (Hercules) had a daughter when he was advanced in years, and being unable to find a husband worthy of her, he married her himself that he might supply the throne of India with monarchs. Her name was Pandea, and he caused the whole province in which she was born to receive its name from her." This, says Tod, is the very legend contained in the Purana of Vyasa (who was Heri-cul-es, or chief of the race of Heri) and his spiritual daughter Pandea. from whom sprung the grand race of the Pandua, and from whom Delhi and its dependencies were designated the Pandua sovereignty. Her issue ruled for thirty-one generations in direct descent, or from 1120 to 610 before Christ; when the military minister, connected by blood, was chosen by the chiefs who rebelled against the last Pandu king, represented as "neglectful of all the cares of government," and whose deposition and death introduced a new dynasty. Two other dynasties succeeded in like manner by the usurpation of these military ministers, until Vicramaditya, when the Pandua sovereignty and era of Yoodishtra were both overturned. According to a writer in the Westminster Review, Vichitravirya died childless, and Vyasa begot two sons by his two widows, and a third son by a slave girl whom the third widow Ambika substituted for herself. This practice of a relative raising children for a deceased childless relative is sanctioned by Manu, who says, "on failure of issue by the husband, the desired offspring may be procreated either by his brother or some other near relative, called Sapinda, in the wife who had been duly authorized." Pandu, also, when lamenting his childlessness, says to Pritha, "in distress men desire a son from the oldest brother-in-law." Manu, regarding the choice of a husband, enjoins parents to select a handsome son-in-law; and adds, three years let a damsel wait, though she be marriageable, but after that term let her choose for herself a husband of equal rank. Another mode of ancient hindoo marriage was the Swayamvara or self choice, where a girl chose her own husband. In the Mahabharata, the cases of Pandu with Pritha, Yudhishthera with Devika, Sahadeva with Vijaya, Sini and Devaki, Nala and Damayanti, Draupadi and Arjuna are mentioned. Manu describes eight modes of marriage, viz., Brahma, Daiva, Arsha, Prajapatya, Asura, Gandharva, Rakshasa, and the eighth and worst Paisacha; the first six for a brahman, the four last for a warrior, and the same four, the Rakshasa excepted, for the third and fourth class.—*West. Rev. April* 1868. *Prinsep by Thomas. Tod's Rajasthan, vol.* i. *p.* 31.

VICIA, a genus of plants belonging to the natural order Fabacéæ. The species are usually climbing herbs with abruptly pinnate leaves, with many pairs of leaflets. Vicia biennis, Biennial vetch, has about 12 lanceolate glabrous leaflets. Vicia Bithynica, rough podded purple vetch, has stalked, mostly solitary, flowers. Vicia cracca is the tufted vetch.

icia lutea, rough-podded yellow vetch, has ssile solitary flowers. Vicia pisiformis, pea-ce vetch, is quite a smooth plant. Vicia tiva, common vetch, or tare, has leaves with ndrils. Vicia sepium, bush-vetch, has flowers ostly in fours, somewhat stalked. Vicia lvatica, the wood vetch, has many flowered dnucles longer than the leaves. About fifteen ecies of Vicia are known; the garden bean, icia faba or Faba vulgaris, grows wild about e Caspian Sea, but, throughout the world, largely cultivated for food.—*Riddell. Hog.*

VICIA FABA. Linn.

Faba vulgaris, *Mœnch.*

ul,	Egypt.	Faba major,	Lat.
arden bean,	Eng.	Faba minor,	"
aba Grœca,	Lat.		

This plant, a native of the environs of the aspian Sea, is cultivated in India. Its flow-rs are large, white, striped, and dotted with lack.

VICIEÆ. See Ervum.

VICOA, a genus of plants belonging to the atural order Matricariaceæ. Dr. Wight gives icoa Indica, a native of peninsular India.

VICRAMA. See Krishna.

VICRAMADITIYA or Vikramaditya, a earned monarch and an astronomer, whose apital, Oujein, was, about his time, over-whelmed by a violent convulsion of nature. Hindu legends account for that circumstance, and his origin and birth are described in the 6th vol. of the Asiatic Researches. This prince has given his name to an era, and he is said to have flourished 135 years before Sali-vahana. Its epoch falls when 3044 years of the Caliyug had expired. The era Vicrama-ditya is little used in the peninsula of India, although its current year is generally inserted at the head of the calendar. In those pro-vinces where it is current, it serves to num-ber the luni-solar years, in the same manner as the era Salivahana in the Carnatic does for the solar ones. Vicramaditya reigned B. C. 56 —*Cole. Myth. Hind. page* 400. *Warren's Kala Sankalita. As. Res. vol.* 6.

VICTORY ISLAND, in the China Sea, is in lat. 1° 34′ N, and about long. 106° 22′ E. It is of moderate height and covered with wood.—*Horsfield.*

VICTORIA REGIA, one of the Nymphæa-ceæ, is a beautiful water lily of S. America, but is now to be found in many parts of India. It was first successfully raised in the garden at Calcutta from seed sent by Dr. Wallich from England on the 9th of September 1851. It was received and sown in the garden on the 6th of November following, where it lay in a dormant state until the 23rd of April 1853. On the 13th of May same year, the seedling had made a healthy growth, and was transferred on that date to the mound prepared for it in the tank. The largest leaf when planted out was little more than three inches in diameter. The total number of leaves pro-duced up to the 5th of September were forty-four, fifteen of which were on the plant in different stages of development, when the first flower had made its appearance on the surface of the water, the largest leaf produced up to that time measured 4 feet 5½ inches in diameter. The first flower bud appeared partly above the water on the morning of the 6th September, and by sunset the same evening had partly expanded; the flower closed up the next morn-ing, and finally opened again at sun-set the same evening.—*Journal of the Agri Horti-cultural Society Cal., vol.* 8, 1853. *Riddell.*

VIDAVALI. Tel. Andropogon muricatus, *Retz.*

VIDGNANI. See Lakshmi.

VIDI MARAM. Tam. Maleal. Cordia myxa, *Linn.* The wood is soft, and one of the best for affording fire by friction. The bark is deemed a mild tonic. The dried fruits of this and of *C. latifolia* have long been used as a medicine in India under the name of Sebistan or lobesten. They are slightly laxative, and are much esteemed as a pectoral. The seeds are deemed an infallible remedy in ringworm. The pulp is equally as aperient as that of the Cassia fistula.—*Roxb.* i. 560. *Simmond's Dict.*

VIDRIO. Sp. Glass.

VIDRUMA, also Prabala, Sans. Coral.

VIDYA. Sans. Learning. Amongst the hindu there are eighteen Vidya of true knowledge or sciences, and some branches of knowledge, falsely so called. The first four are the Vedas, which are entitled, in one compound word, Rigyajushsamat'harva, or, in separate words, Rig, Yajur, Sama, and At'harvana. The Rig-veda consists of five sections; the Yajur veda of eighty-six; the Sama veda of a thousand, and the At'harvana veda of nine, with eleven hundred shac'ha, or branches, in various divisions and sub-divi-sions. The Vedas, in truth, are infinite; but were reduced by Vyasa to this number and order: the principal part of them is that which explains the duties of man in a methodical arrangement; and in the fourth is a system of divine ordinances. From these are deduced the four Upa-veda (Upaveda, Upanga, Up-puran, are terms which infer a work deduced, respectively, from its principal : up, like our sub, implies inferiority) namely, Ayush, Gand-harva, Dhanush, and St'hapatya. The first of these, the Ayur-veda, was delivered to man-kind by Brahma, Indra, Dhanwantari, and five other deities; and comprises the theory of medicine, with the practical methods of curing diseases. The second, the Gand'harva, treats of music, was invented and explained by

Bharata : it is chiefly useful in raising the mind by devotion to the felicity of the divine nature. Dhanush, the third Upa-veda, was composed by Viswamitra, on the fabrication and use of arms and implements handled in war by the tribe of Chatriya. Viswakarma revealed the fourth, in various treatises on sixty-four mechanical arts, for the improvement of such as exercise them. Six Anga, or bodies of learning, are also derived from the same source ; their subjects chiefly are—1, of the pronunciation of vocal sounds ; 2, detail of religious acts and ceremonies ; 3, grammar ; 4, prosody ; 5, astromony ; 6, on the signification of difficult words and phrases in the Vedas. Lastly, there are four Upanga, called Purana, Nyaya, Mimansa, and Dhermashastra, eighteen Purana (that of Brahma and the rest) were composed by Vyasa, for the instruction and entertainment of mankind in general. Nyaya is a collection of treatises, in two parts, on metaphysics, logic, philosophy, &c. Mimansa is somewhat similar, divided intot wo parts ; the latter, called Uttara, abounding in questions on the divine nature, and other sublime speculations, was composed by Vyasa, in four chapters and sixteen sections. It may be considered as the source of all the Anga ; it exposes the heretical opinions of sophists ; and, in a manner suited to the comprehension of adepts, it treats on the true nature of Ganesa, Bhascara or the Sun, Nilakanta, Lakshmi, and other forms of one Divine Being. The body of law, called Smruti, consists of eighteen books, &c. &c. delivered for the instruction of the human species, by Manu and other sacred personages. As to ethics, the vedas contain all that relates to the duties of kings ; the Puranas what belong to the relation of husband and wife ; and the duties of friendship and society (which complete the triple division) are taught succinctly in both. This double division of Anga and Upanga may be considered as denoting the double benefit arising from them in theory and practice. The Bharata and Ramayana, which are both epic poems, comprise the most valuable part of ancient history. Sanc'hya is two-fold, that with Iswara, and that without Iswara, called Patanjala, and Kapita : the latter, in six chapters, on the production of all things by the union of Prakriti, or Nature, and Purusha, or the first male, &c. These books contain infinite contradictions. The Mimansa is in two parts, the Nayaya in two, and Sanc'hya in two ; and these six schools comprehend all the doctrines of the theists. Lastly appears a work written by Budha : and there are also six atheistical systems of philosophy, entitled Yogachara, Sidhanta, Waibhashica, Madhyamica, Digambara, and Charvaka ; all full of indeterminate phrases, errors in sense, confusion between distinct qualities, incomprehensible notions, opinions not duly weighed, tenets destructive of natural equality, containing a jumble of atheism and ethics ; distributed, like all orthodox books, into a number of sections, which omit what ought to be expressed, and express what ought to be omitted ; abounding in false propositions, idle propositions, and impertinent propositions. The Vedas consist of three Kanda, or general heads, namely, Carma, Gnyana, Upashasana ; or Works, Faith, and Worship. To the first of which, the author of the Vidyadesa, or view of learning, a rare Sanskrit book, wisely gives the preference ; as Manu himself prefers universal benevolence to the ceremonies of religion.—*Cal. Review. Wilford. As. Res. vol* ii. *p.* 301. See Hindoo Learning, Saraswati, Veda.

VID'HARBHA, an ancient territory, of which the modern Berar forms a part. Vidarbha is always identified with Berar, but the limits of the province in that case included the adjoining district of Beder, in which the name of Viderbha or Biderbha is traceable. Local traditions also assert that the ancient capital still called Beder, is the same as Vidharbha.—*Hind. Th. vol.* ii. *p.* 11.

VIDYA-DESA. See Vidya.

VIDYADHARA, a celestial scholar.

VIEN. Hind. Mentha incana.

VIF-ARGENT. Fr. Mercury, Quicksilver.

VIGNE, a traveller who wrote on the territories of Persia, India, Kashmir, the Punjab, Kabul, Ladak and Afghanistan. His works abound in valuable information. See Kasidanda, Kashmir, Koch, Kohistan, Shalimar, Suspension Bridges, Yak.

VIGHNESVARA. Isvara's elder son; his image is often standing in the temples of the Grama-devata, or village deities.

VIGRAH, or Visala Deva. See Inscriptions.

VIGRAHA RAJA. See Inscriptions.

VIGRAHAM. Tam. Vigram. Tel. Idol.

VIHARA. The budd'hist vihara or monasteries are of two kinds :—1st, Cave vihara, of whch several magnificent specimens have been published by Mr. Fergusson ; and 2nd, Structural vihara, of which some specimens still remain at Sanchi, but in a very ruinous condition.

(*a.*) The Vihara or monastery caves, of the first class, consist of (1) natural caverns or caves slightly improved by art. These are the most ancient, and are found appropriated to religious purposes in Behar and Cuttack : next (2) a verandah opening behind into cells for the abode of priests, as in Cuttack and in the oldest vihara at Ajunta ; the third (3) has an enlarged hall supported on pillars. The most splendid of these caves are

hose of Ajunta; though the Dherwara at Ellora is also fine, and there are some good specimens at Salsette and Juner. The word vihara is supposed by some to be the source of the name Bahar. See Ajunta; Buddha; Caves; Temple.

VIJAYA, a buddhist prince who conquered Ceylon, his title taken from the Sanscrit word, written similarly, meaning conquest. There was a pepul tree at Buddah Gaya, a shoot from which, known as the Bo-tree, has been cherished at Anarjapura for twenty centuries, and in the courtyard of every buddhist vihara and temple of Ceylon, leaves from it are preserved as objects of veneration. A system of caste was introduced by king Vijaya amongst the Ceylon buddhists, which still prevails there, though directly opposed to buddhist doctrines and not existing in any similar form in other buddhist countries. See Inscriptions for Vijaya Bhatta, Vijaya Chandra, Vijaya mandir Udayapur, Vijaya Pala, Vijaya Sah, Vijaya Sena, Vijaya Sinha.

VIJNANESWARA BHATTA, flourished in the tenth century of the christian era, author of the Mitakshara, a commentary on the law book of Yajna Valkya.

VIJAYANUGGUR. A ruined town in the Bellary district, known at one time as Bijanagar, also written Vijayanuggur, Vijianagar, properly Vidianuggur or the town of learning, was founded in the reign of Mahomed Toghlak, according to one account, by two fugitives from Telingana, but according to Prinsep, in 1338 by Bilal Deo, of Karnata, who resisted Mahomed Toghlak and founded Vijianuggur. The family genealogy deduces a descent in the direct line from Pandu of the lunar dynasty, and imperfectly follows the Pauranic lists to Chandrabija, the last of the Magadha rajahs. The first in authentic history is Nanda, A.D. 1034, who founded Nandapoor and Warangal. Between A.D. 1524 and 1565, Rama rajah was killed in an invasion of Nizam Shah Bhairy and Imad-ool-Mulk. In the time of Tipoo, Sultan Khan took the country, and in 1829 the dynasty became extinct with Vera Venkatapati Rama. In 1347, Krishna Rai ruled there: in 1425, Deva Rai: in 1478, Siva Rai. Vijayanuggur was the seat of the last great hindu empire in India. The sovereigns claimed to be of the Yadu race. In the beginning of the 16th century, they granted to the E. I. C. the tract around Madras, engraved on a gold plate, which was lost in 1746 when Madras was captured by the French under Labourdonnais. Towards the fifteenth century, Vijayanuggur had become the capital of a great hindu power, which ruled over the hindu chiefs to the south of the territories of the Adil Shahi, Nizam Shahi and Kutub Shahi kings of the Dekhan. In the middle of the 16th century these three mahomedan kings fearing the growing power of Rama rajah, the sovereign of Bijianuggur, made war against him; Rama was then in his 70th year. These three mahomedan kings were offended at the new currency of Bijianngur, the obverse of which contained the effigy of a pig, and which were distributed to the Patans that were employed under Rama. He met the confederates at Talicottah on the 25th January 1565 with a great army of 70,000 horse, 90,000 foot, 2,000 elephants and 1,000 pieces of cannon, but he was defeated with a loss of 100,000 men, and was taken prisoner. The authors, Khafi Khan and Shahab-ud-din, state that the elephant on which he was mounted ran away with him into the confederate's camp. He was beheaded at Kala Chabutra in the Raichore Doab, and his head remained for 200 years at Bejapore as a trophy. Vijianuggur sank into an insignificant place, and is now known as the ruins of Humpee. The rajah's brother, however, took refuge in Penicondah, and subsequently at Chandragiri, whence the English merchants obtained the grant of the ground on which Madras was built. The descendant of Rama rajah is the rajah of Anagoondee, whose title is Sree Mudrajadhee Rajah, Raja Paramaswara, Sree Veerapratapa, Sree Veera Teroomala, Sree Veeravenkata Ramarawya, Dava Maharawya Sumstan Vedaya Nagarum. The Anagoondi rajah claims to be a Chetrya, and to have relationship with the maha rajah of Vizianagram. Anagoondi has for the past two hundred years been called Vijianagar, but the Vijianagar of the great hindu dynasty is now known as Humpee, about 30 miles from Bellary.—*Thomas' Prinsep. Wh. H. I., p.* 459. See Humpee.

VIJAYA-SAH. See Junagurh.

VIJAYA. SANS. Cannabis sativa, *Linn.*

VIKRAMADITYA. About this great king India affords nothing but fables, but a passage of the Periplus mentions that his capital was Ozene (Ujein), and it is known that he extended his empire to Cabul about B. C. 56. His dominion in the Cabul valley must have been temporary; his empire fell to pieces after his death, and nearly a century elapsed before Chandra Sena restored the sovereignty of Hindustan in its unity. Vikramaditya is supposed to have ascended the throne 57 years B. C., and the natives of Northern India count their luni-solar years from his accession. Vikramaditya was a descendant of one of the Agni-Kula chieftains called Pramara or Pura. He was a great monarch, and encouraged learn-

ing. All the most readable Sanscrit hindu works, however, the drama, the lyric, the sentimental and philosophical Kavya, as Nala and the Bhagavad Gita, the romantic histories and historical romances, the fables, Hitopadesa, Vetala, Panchavinsati, and so forth, and most of the works on science, belong to the first ten centuries of the christian era. See Inscriptions, Kalidasa, Khutri, Orissa, Pali, Malwa.

VIKRAMADITYA ERA, or Samvat or Sambut era B. C. 56, is in general use throughout Telingana and Hindustan. The prince from whom it was named was of the Tuar dynasty, and is supposed to have reigned at Ujjain (Ujjayini) 135 years before Salivahana, the rival founder of the Saka era, south of the Nerbudda (Narmada.) The Vikramaditya or Samvat era commenced when 3044 years of the Kali-yug had expired ; *i. e.*, 57 years B. C., so that if any year, say 4925 of the Kali-yug be proposed and the last expired year of Vikramaditya be required, subtract 3044 therefrom and the result, 1881, is the year sought. To convert Samvat into Christian years, subtract 57 ; unless they are less than 58, in which case deduct the amount from 58, and the result will be the date B. C. Fable represents this monarch to have sat upon a fairy throne, borne upon the shoulders of interdicted angels from Indra's court in heaven, and to have raised spectral agents, like Alla-ud-din in the Arabian tale, for the execution of his behests.

He derived his title of Sakari from his exploits against the Sacæ (Sakæ.) The Sacæ race is still perhaps preserved pure in the wilds of Tartary, between Yarkhand and the Mansarowar lake, where the Jok-po called Kelmak (Calmuc) by the mahomedans, continue to be dreaded by the people of Tibet. He was a Puar Rajpoot.—*Thomas' Prinsep, p.* 157. *Tr. Hind. vol* ii. *p.* 143. See Junagurh, Kabul, Sumitra.

VIKRAMU. TEL. Idol.

VIL, or Vel velam. TAM. Acacia cinerea. A. ferruginea.

VILAITI MUNG. HIND. Arachis hypogæa.

VILIATI. SUN, of Muttra. Hibiscus cannabinus, *Linn.*

VILAITI CHUNNA. DUK. Chalk.

VILA'M MARAM. TAM. Feronia elephantum, *Corr.*

VILAYATI MEHNDI. HIND. Myrtus communis.

VILAYATI. SAN. See Fasli or Harvest, Era.

VILLAGE. Agriculturists in northern India dwell in village communities, in Central India they are village proprietors, and in Southern and Western India they are ryots under the ryotwari system, much like the peasant proprietors of Europe. Goozerat cultivators do not live, as those of European countries do, each upon his own farm, but are invariably concentrated into villages. By the term village is strictly meant, not merely the collection of dwellings which the cultivators inhabit, but the whole area which is in their occupation. The ordinary terms for a village, viz., Gramamu, Gramam, Gram, Gam, Gauw, Gaon, are derived from the Sanscrit. The Grama devata, the tutelar deity of a village, is sometimes one of the hindu pantheon, sometimes as in the south of India, it is Hanuman ; sometimes one of the Ammun, often a shapeless stone or piece of wood. The gramma devata are generally on the outskirts of the villages, frequently beneath a tree, and are generally exposed to the open air without any covering temple. So long as the affairs of the community are ordinarily prosperous and no calamity threatens they are content with the worship common to the sect to which they belong, but in seasons of trouble the gramma devata are largely resorted to. When the calamity is general, such as a drought or a pestilence, or a murrain amongst the cattle, the entire village will repair to the village deity and seek by prayer and offerings to obtain release. All the Assamese regard high trees and sequestered groves as the haunts of spirits.—*Forbes' Ras Mala* or *Hindoo Annals, vol.* ii. *p.* 241. *Wils.*

VILLARSIA, a genus of plants belonging to the natural order Gentianaceæ, named after Villars, a French botanist. There are about 16 species of this genus either aquatic or marsh plants, with alternate entire leaves and yellow flowers, inhabitants of all parts of the world. One only is a native of Europe; Villarsia Indica, aristata, and nymphæoides occur in every part of India, and afford a good bitter.—*O'Sh. p.* 450. *Eng. Cyc. Voigt. Hog.*

VILLARSIA CRISTATA. SPRENG.

Menyanthes cristata, *Roxb.*

Ch'hoto-pan-chooli, BENG. | Chirialli, TEL.

A common plant with small white flowers, floating in sweet water ponds all over the E. Indies.—*Roxb. O'Sh. Voigt.*

VILLARSIA INDICA. VENT.

Menyanthes Indica, *Linn. Roxb. Rh.*

Indian Buckbean, ENG	Buro-pan-chooli, BENG.
Nedel ampel, TAM. MAL.	Chuli, BENG. HIND.
Autara tamara, TEL.	"

This fresh water plant is found floating in lakes and tanks. Its tuberous roots are used medicinally. It has middle sized flowers, with a yellow tube and a white bearded limb.—*Roxb. O'Sh. Voigt.*

VILLARSIA NYMPHÆOIDES. VENT.

Limnanthemum, *Link.*

Kuru, of KAGHAN.	Gul jafari purnka, of KAGHAN.
Khair posh, "	

Nymphæa, like Villarsia, is a floating plant with orbicular-cordate leaves, the peduncle

ingle-flowered and aggregate, the segments f the corolla ciliate. It is found in ditches and low-running streams, and is a native of Denmark, Holland, Sweden, Germany, Piedmont, iberia. In Great Britain it is found in the 'hames in the recesses of the shores near Valton bridge, near Botley bridge, Godstow ridge, and Hinksey ferry. It occurs also n the fens of Lincolnshire and in Yorkshire, very abundant in Holland, frequently overing large tracts of the canals with its eautiful yellow flowers and dark-green leaves, rows in every part of Hindoostan ; in Kashmir vegetates on the lakes, and is given as food o cows, in the belief that it increases their nilk. It is a beautiful plant, and may be easily cultivated. It has a large yellow flower, which is curiously plaited.—*Thirty-five Years n the East by Dr. Honigberger p.* 364. *Dr. J. L. Stewart.*

VILVA CHETTU. Tel. Vilva-maram. Tam. Ægle marmalos. See Zonar.

VIMBIKA. Sans. Coccinea indica, *W. & A.*

VIN. Fr. Wine.

VINA, the hindu lyre, formed by a flat piece of wood with strings, having a gourd at one end, and sometimes one at both ends, seen in plates in the hands of Nareda, Sarasvati, and the celestial choristers. See Krishna.

VINAGO AROMATICA, the Columbia aromatica of Latham, is of a mild and timorous disposition, and is generally seen in flocks or societies, except during the period of reproduction, when they pair, and retire to the recesses of the forest. The nest is simple, and composed of a few twigs loosely put together, and the eggs are two. See Birds. Columbidæ.

VINAIGRE. Fr. Vinagre, Port. Sp. Vinegar.

VINATA. See Arians.

VINAYA. See Pali.

VINAYAKA, a name of Vighneswara.

VINAYAKA BALA. See Inscriptions.

VINCA. A genus of plants belonging to the natural order Apocynaceæ, of which five or six species are known, V. herbacea, V. major, V. minor, V. pusilla, and V. rosea. Their English name, periwinkle, is derived from the French pervenche, but the French also call V. major the Violette des Sorciers, and the Italians Fiore di Morte, from the practice of making garlands of it in sorceries and incantations.

VINCA PUSILLA.

V. parviflora, *Roxb. Fl. Ind.* ii. p. 1.

A small erect annual, common in the East Indies, stem smooth. Applied in India as an external stimulant in lumbago.—*Royle. O'Shaughnessy, p.* 448.

VINCA ROSEA. Linn. ; *Roxb.*

Cartharanthus roseus, *Don.*

Madagascar Periwinkle,		Rattan jot,	Hind.
Gul-firingi,	Beng.	Billa ganneru,	Tel.

A native of China, Cochin-China, common in Indian gardens, with large rose coloured flowers.

VINCETOXICUM CANESCENS. Dne.

V. vulgare. *Rœm. & Sch.* | Tranna of Ravi.

Not uncommon in parts of the western Punjab Himalaya from 5000 to 9500 feet. In some places the natives commend its khushbo (perfume), which is really a rank heavy smell given out when it is bruised.—*Dr. J. L. Stewart.*

VINDHYA: A range of mountains which runs south and north between 24° and 28° N. L., from the neighbourhood of Ahmedabad towards the banks of the Jumna, near Delhi. Running from the gulf of Cambay north-easterly towards the Ganges, the range separates Hindustan proper from southern India, and forms the northern boundary of the valley of the Nerbudda river, extending from Guzerat on the W. to the basin of the Ganges on the E., and comprised between the 22nd and 25th parallels of latitude. The average height 1,500 to 2,000 ft. Chumpaneer, 22° 34′, 73° 41′ ; 2,500 ft. ; Crest of Jam Ghaut, 2,300 ft. ; Mountain in Bhopal, 2,500 ft. ; Chindwarra, 2,100 ft. ; and Patchmaree, vaguely stated to be 5,000 ft. ; but this is probably an exaggeration ; Dokgur, stated to be 4,800 ft. ; Putta Sunka, and Choura Doo, the highest, conjectured at 5,000 ft. ; Amarkantak, a jungly table-land computed to be 3,463 ft. ; Leela, a summit in Lanjhee hills, 21° 55′, 80° 25′, 2,500 ft. ; another of the same hills, in 21° 40′, 80° 35′, 2,400 ft. The chain forms the southern buttress of the plateau of Malwah, Bhopal, &c. In the Saugor and Nerbudda territories its crest is but the brow of this table land ; but in the western part it rises a few hundred feet above the high land on its northern side. The passes that have been made over this range are, for the most part, bad. The geological formations are granitic and sandstone, overlaid by trap rock. The Vindhya mountains as they extend across Central India, throw out branches behind Agra and Delhi to the north. The Vindhya mountain chain is also called Bindh, and holds an important position both in the mythology and geography of India. According to some authorities they are called Bindhya, because they appear to obstruct the progress of the sun. The course of the Nerbudda (Narmada) river indicates the direction of the principal range, but the mountainous tract called Bindhya spreads much more widely, meeting the Ganges in several places to the north, and stretching

across the country in such a manner as to form the base of an irregular triangle, the two other sides of which are the Coromandel and Malabar chains. Connected with the western limits of the Vindhya range, by a curved line of hills, are the Aravalli mountains, which stretch almost to Delhi and serve as a barrier between Central India and the western desert. The eastern portion of the Vindhya chain is a spreading table-land from which spurs descend to the north and south, the latter separating the different valleys of Orissa. The table-land of Chota Nagpur averages 3,000 feet; and westwards near Sirgujah is higher. Hazaribagh is about 1,800 feet, and Parisnath hill on the east is about 4500 feet; the most easterly spurs approach the Ganges at Monghyr, Bhaghulpur and Rajmahal.

Professor Max Müller is of opinion that when the Arian tribes immigrated into the north of India, they came as a warrior people—vanquishing, destroying and subjecting the savage and despised inhabitants of those countries. But that, in the countries south of the Vindhya, their entry was in the way of colonization, and instead of introducing their own Sanscrit language, they adopted those of the southern nations—refined and improved them till they even rivalled the Sanscrit in perfection, though there remain up to the present day, in some parts of the interior of the peninsula, savage tribes never reached by the superior civilization of the Arian. But, although the Arian conquerors seem to have crushed and extinguished the great mass of the aboriginal inhabitants in the north of India, yet some of the earlier inhabitants of India, who were considered by the brahmins as impure and unworthy to partake of their religious sacrifices, found a refuge in the thick forests of the mountain districts, and in the countries south of the Vindhya range, while it is not unlikely that some of them were tolerated by the brahmins, so as to remain in a state of slavery, constituting the class of Sudras, to whom though they were not considered as twice-born, like the three other classes, some few civil rights were conceded, and to whom in latter days even a brahminical origin was attributed. Geologically, few parts of India have excited more interest and attention than the districts adjoining the Nerbudda river, the great thickness of sandstones and associated beds, which form the mass of the Vindhya range, being the most striking and remarkable feature in that country. There is a great faulting, accompanied by much disturbance mechanically, and by much alteration chemically (more especially to the south of this fault,) in the rocks which pass along the main line of the Nerbudda valley, along the continuation eastward of this line down the valley of the Soane, and thence across Behar, where the continuation of the same rocks form the Kurruckpoor hills. It is considered a high probability that this line of dislocation was continued to the east by north, up or towards the valley of Assam; its main direction being E. 15° to 18° N., corresponding with the main direction of the Vindhya range and the Khasia hill range. South of this dislocation the great group of sandstones, shales, &c., forming the Vindhya hills, is almost entirely absent, unless the highly metamorphosed rocks there seen be the continuation downwards of the same series greatly altered. This great group is altogether of a different character and of a more ancient epoch than the beds associated with the coals of Bengal and of Central India,—the latter resting quite unconformably on the former. Mr. Oldham gave the name Vindhyan to this great group, being best seen in the well exposed scarps of the Vindhyan range; and to the subdivisions in ascending order, the names Kymore, Rewa and Bundair: but he applied these names only provisionally, as he thought it possible that the Rewah limestone and Bundair sandstone are only repetitions of the Soane valley limestone and sandstone produced by faulting. Resting unconformably upon the Vindhya formation, there is a considerable thickness of sandstones, shales and coals, in Central India much disturbed and traversed by trap dykes. The total thickness of this group in the district exceeds some thousand feet. In these beds occur numerous fossil plants, which thoroughly identify these rocks with the coal groups of Burdwan, of Hazareebaugh and of Cuttack. Taking it as proved that the strata at Kotah, from which the fish and Saurian remains had been obtained, are the same with those of Kamptee near Nagpore, the strong Permian analogies of the Saurians (Brachyops) ought not to be overlooked. The Vindhya mountains form the southern limit of Hindustan, but, beyond them, separated by the deep valley of the Nerbudda, is a parallel chain called Injadri or Satpura, which must be crossed before we reach the next natural division in the valley of the Tapti. This small tract is low, but the rest of the Dekhan is almost entirely occupied by a table land of triangular form about the level of that of Central India.

The Vindyan languages, and particularly the Gond, have a closer agreement with the Karnataka and Tuluva, and even with the Kodagu and Todava, than with the adjacent Telugu. This is seen in the forms of many common Dravidian roots and particles. Gond

has also some special affinities with ancient Tamil. It is probable that the Telugu and Marathi have spread inland from the east and west into the upper basin of the Godavery, and thus cut off the ancient connection between the Gondi and the Karnataka and the Malayalam, which prevails throughout the rest of the belt to Cape Comorin. The main portion of the south Dravidian land is occupied by three populous nations speaking as many dialects.—*William's Story of Nala. p.* 220. *The British World in the East, Ritchie, vol.* i. *p.* 6. *Hind. Th. vol. p.* 302. *Prof. Max Muller, Rep. Brit. Ass.* 1847, *p.* 330. *Elphinstone's History of India, p.* 3. *Dr. Oldham.*

VINDHYASARAS. See Manasarovara Lake.

VINDRA-VANA, in the forests of Vindra, in which were placed many temples sacred to Kaniya, is on the Yamuna, a few miles above Mathura. A pilgrimage to this temple is indispensable to the true votary of Krishna.

VINDUSARA, or Bimbasara, son and successor of Chandragupta, to whose court a second Greek embassy was sent either by Seleucus or by his son Antiochus Soter. The ambassador Daimachus was considered by Strabo the most lying of all the Greek historians of India. Vindusara died B. C. 263, and was succeeded by his son Asoka.—*Thomas' Prinsep.*

VINEGAR.

Khull.	AR.	Essig saure,	GER.
Tsu,	CHIN.	Sirka, GUZ. HIND.	PERS.
Azyn,	DUT.	Aceto,	IT.
Azyn zur,	,,	Acido acetico,	,,
Acetic acid,	ENG.	Acetum,	LAT.
Acetylic acid,	,,	Acidum aceticum,	,,
Pyroligneous acid,	,,	Chuka,	MALEAL.
Acetous acid,	,,	Vinagre, PORT.	SPAN.
Acid of vinegar,	,,	Ukzus,	RUS.
Essence of ,,	,,	Ganchica,	SANS.
Spirit of ,,	,,	Eisel,	SAX.
Vinaigre,	FR.	Kadidia,	SINGH.
Acide acetique,	,,	Kadi,	TAM.
Essig,	GER.	Pulla millu,	TEL.

Vinegar is an impure acetic acid, of which several varieties are known in commerce, such as wine, malt, sugar, toddy, &c. vinegar. It is extensively employed for pickling, in domestic cookery, &c. Acetic acid is the volatile principle, to the presence of which, diluted with variable proportions of water, vinegar owes its aroma and pungency. This acid exists, ready formed, in notable quantity in certain plants, as Sambucus niger or Black elder, Phœnix dactylifera or Date tree, and Rhus typhenus. It may be readily generated by the fermentation of various vegetable and animal substances, especially the former. For commercial purposes it is made from certain vegetable and spirituous infusions, as those of the grape, malt, and the sugar-cane; but any vegetable infusion capable of yielding alcohol will also, when exposed to the necessary conditions, furnish vinegar. In most cases, and indeed whenever vinegar is manufactured on a large scale, and the vinous or alcoholic fermentation precedes the acetous, the vinegar is formed entirely at the expense of the alcohol. In India vinegar is obtained from the Dolichos uniflorus, but is also made from the sediment of palm wine or toddy, and is coloured artificially. The juice of the Gomuti palm, Arenga saccharifera, put into a jar for five days, is converted into excellent vinegar, equal in strength to that produced by the vinous fermentation of Europe. Large quantities of the palmyra toddy are converted into vinegar in Ceylon, and used for pickling gherkins, limes, the undeveloped leaves of the cocoa-nut and palmyra trees, and other substances. It is also prepared from the toddy of the cocoanut palm. The toddy is collected in fine weather, put into jars, and kept covered for a month; it is then strained and replaced in the same jars, with the addition of a little Chili pepper (Capsicum frutescens) commonly called Bird pepper; a small piece of ghorkah, fruit of the Gamboge tree, the red sort of which is to be preferred, being most acid, and the pod of the Hyperanthera moringa. At the expiration of five weeks or a month, it becomes very excellent vinegar. The vinegar obtained from sugar-cane juice is generally a poor stuff, and does not contain more than two per cent. of acetic acid, but at some places it is made well, especially at Delhi, and really excellent at Peshawar, made from grapes; quite fit for table use. Acetic acid can be distilled from vinegar, but the common country vinegar of the bazar generally contains only a very small portion of acetic acid, often not more than 2 per cent. If ten measures be taken of vinegar, it should be distilled till nine have passed over.—*Powell Handbook, v.* 1. *p.* 312; *Faulkner; McCulloch Commercial Dictionary; Royle Materia Medica; O'Shaughnessy; Eng. Cyc. Tennent Ceylon.*

VINGORLA. A seaport on the western coast of India in lat. 15°53′ and long. 72°27′.

VINHO. PORT. Wine.

VINJANHORA. HIND. Asparagus racemosa.

VINO. IT. SP. Wine.

VINTIN, a Portuguese coin formerly current at Goa, containing 15 basaraco of 2 reis each.—*Simmond's Dict.*

VINUM. LAT. Wine. Vinum adustum. LAT. Brandy.

VIOLA, a genus of plants of the natural order Violaceæ. There are almost 19 species known of the genus Viola. The roots of most of the violet tribe have an acrid

nauseous taste, and have emetic properties, and in Europe V. arvensis, canina, odorata, and tricolor are so used. The "Akukira" and Banafsha plants of Kaghan are species of Viola; V. distans and V. serpens are of the Khassya, V. glaucescens is of the peninsula, V. odorata is of Europe, Siberia, and China, V. patrinii is of Siberia and the Neilgherries, V. roxburghiana is of Bengal, and V. Wightiana is of the Peninsula. Viola hirta, lactea, and lutea, are other species. V. cinerea, *Boiss*, grows in the plains, Trans-Indus, and in the Salt Range, and several species are found in the Himalaya up to 10,000 feet, perhaps the commonest being V. serpens, *Wall*. The plant of this and other species is found in the bazar, and considered diaphoretic and aperient. Viola patrinii is found in Hazara. A dark flowered variety has a particularly fine scent.

VIOLA ODORATA. *W.*

Behussej.	ARAB.	Sweet Violet.	ENG.
March Violet.	ENG.	Banafsha.	HIND. PERS.

This plant in the dry state is sold in all Indian bazars, and is prescribed in infusion by the hakims as a diaphoretic in the treatment of fever. It nauseates slightly, owing to its containing a very minute quantity of the principle termed violina, closely resembling the emetine on which depend the virtues of the ipecacuanha of Brazil. The Viola odorata, as sold in the bazar, has dry, thready, fibrous roots, a pale yellow colour, knotty, some as thick as a quill. The leaves are heart-shaped; flowers blue. The entire plant retains slightly the delightfully sweet smell characteristic of this tribe. Under the name of Bekh-banafsha, or violet root, and having precisely the smell of the fresh flower of V. odorata, the well known "orris root" or Iris florentiana is also sold in the bazar. Excellent issue peas are made from this root. The root of this violet separated from the plant and reduced to powder, proves emetic in doses of from two to four drachms made into a decoction by boiling water. The emetic operation is preceded by much nausea, and is often followed by purging. Dr. O'Shaughnessy preferred as an emetic the Crinum toxicarium. Several species of violet possess similar properties. Royle has figured three Himalayan species, V. serpens, V. reniformis, and V. kunawurensis, the first of which is found in Mussooree, the second on the Choor mountain, the last in Kunawur. The sweet scented violet requires a good rich soil, shelter from the sun and plenty of water. They are best grown in pots, require to be moderately shaded, the morning sun being sufficient for them: must be protected from the hot winds, and divided out into small bunches when transplanted. The white violet is not known in the southern part of India, but in England the finest are generally found in calcareous soils; in India the violet seldom blossoms if grown in garden beds.—*Riddell. O'Shaughnessy page 208. Jaffrey.*

VIOLA SUFFRUTICOSA. syn. of Ionidium suffruticosum, *Ging.*

VIOLA TRICOLOR. Heartsease or Pansy, flowers vary much in size; some only are odorous. The colours are, as its name indicates, mixed and numerous, being from deep purple and yellow to blue and white, crimson, &c. In Europe this flower has been brought to great perfection from the mode of continual offsets. The flowers are not generally scented, but some are found so on the Neilgherry hills. The seed should be taken as soon as the seed vessels appear round and full; they may be dried in the house and the seeds preserved; if left on the plant the capsules dry and open of themselves, fresh plants springing up from the seed that drops out. Requires a light loamy vegetable soil.—*Riddell.*

VIOLACEÆ. *Lindley*, the Violet tribe of plants, of 3 genera, 9 species, viz. 6 Viola; 1 Ionidium; 2 Alsodeia. *Sub Order* Sauvagesieæ, *Lindl.*

VIOLEN WURZEL. GER. Orris root.

VIOLIN. ENG.

Vioolen.	DUT.	Violini.	It.
Violons.	FR.	Violines.	Sp.
Violinen.	GER.		

A stringed musical instrument.

VIPENI. TAM. A Ceylon tree which grows to fourteen inches in diameter, and from twelve to fifteen feet high. It is used for boat-work and house furniture.—*Edye, Ceylon.*

VIPERINE SNAKES form the third sub-order of the Ophidia or poisonous snakes, and the genera and species of the E. Indies may be thus shown:—

3. Sub order **Viperine Snakes.**

I. PIT-VIPERS. CROTALIDÆ.

Trimeresaurus
,, gramineus, *Shaw*, Eastern part of Asia.
,, erythrurus, *Cant*, Bengal, China, Siam, Java.
,, carinatus, *Gray*, Sikkim, Bengal, Rangoon.
,, purpureus, *Gray*. Penang, Singapore.
,, anamallensis, *Gthr*, Anamallay Hills.
,, monticola, *Gthr*, Nepal, Sikkim.
,, wagleri, *Schleg*, Malayan peninsula.
,, strigatus, *Gray*, Neilgherries, Deccan.
,, trigonocephalus, *Merr*, Ceylon.
,, mucrosquamatus, *Cant*, Assam.
Peltopelor macrolepis, *Beddome*, Anamallay.
Calloselasma rhodostoma, *Reinw*, Siam.
Halys blomhoffii, *Boie*, Japan, Formosa.
,, pallasii, *Gthr*, Tartary.
,, himalayanus, *Gthr*, Tibet.
,, ellioti, *Jerd*, Neilgherries.
Hypnale nepa, *Lam*, Ceylon, Southern India.

II. VIPERS. VIPERIDÆ.
Daboia russellii, *Shaw*, Ceylon, S. India. Himalayas.
Echis carinata, *Schneid*, Southern India.
—*Gunther's Reptiles*. See Reptiles.

VIR or Bir. SANSC. man, the Latin Vir. Birbani, the term amongst the Jat for a man's own wife. A femme couverte.

VIRA. See Hindu.

VIRABHADRA, or Ehra badra, amongst the hindoos, a terrible being, created by Siva for the purpose of destroying the sacrifice of Daksha. His image stands in the temples of the Grama-devata, is by some called an *avatar*. As son of Siva, he is fabled to have been produced from the *jatra*, or plaited locks of that deity, which he cut off and threw on the ground in a moment of frenzy, on learning the death of Suti, caused by the curse of Daksha. Vira Bhadra immediately attacked Daksha and cut off his head, which fell into the fire prepared for a sacrifice and was burnt. He is represented armed with various instruments of destruction; and the representations of him are usually seen with the head of a goat (with which that of Daksha was replaced on his body) near them, or accompanied by a human figure with a goat's head.—*Cole. Myth. Hind. p.* 74. See Daksha, Parvati.

VIRADHA GUPTA. See Kabul.

VIRAKTA, a class of the Dadhu Panthi sect of hindoos. They go bare-headed and have but one garment and one water pot.

VIRA BUKKA RAYA. See Sayana Acharya.

VIRA DAMA. See Inscriptions, Junagurh.

VIRAGI, a hindoo religious devotee, who takes the name from the Sanscrit words "vi" privative, and "rag" desire.

VIRAGI NAGA. See Naga.

VIRAGU. TAM. Harmala ruta.

VIRAJ. The primeval being, represented under a form half male, half female. The term is sometimes applied to Siva and Parvati; but where gods meet gods at every step, it is impossible to decide which of them was the primeval being. Mr. Colebrooke informs us that the primeval being felt no delight, therefore man delights not when alone. He wished the existence of another, and instantly became such as is man and woman in mutual embrace. He caused this, his own self, to fall in twain, and thus became a husband and wife; therefore was this body, so separated, an imperfect moiety of himself. This blank, therefore, is completed by woman: he approached her, and thus were human beings produced, &c., &c.—*Cole. Myth. Hind. p.* 100. See Brahmadica, Saraswati.

VIRAJAJI ?—Jasminum, *sp.* Double jasmine.

VIRAKTA. See Viragi, Dadhu Panthi.

VIRAMPILA. TAM. MALAYAL. The Jackwood tree, Artocarpus integrifolia, of great value in consequence of its fruit. In Ceylon it supports the pepper-vine. In many places it is found two feet and a half in diameter, and from thirty to thirty-five feet high. In Canara this wood was preferred by Tipu sultan for the Grab vessels built at Honore, his naval depot. In Ceylon, at Point de Galle, it is used by furniture-makers for chairs, couches, &c., for which purpose it answers well, and, if polished with care, its brilliant colour is superior to that of mahogany. When worked and cut down it is yellow, but turns dark and improves by age.—*Edye, M. & C.*

VIRANANG. SANS. Andropogon muricatus, *Retz.*

VIRA-SAIVA, a sect of hindoo worshippers of the god Siva. They are divided into two sects: one semi-brahminical or high church, called A'ra'dhya; the other is anti-brahminical, and is called Jangam. The A'ra'dhya claim to be descendants of saivite brahmins, and between them and the Smarta brahmans there is a certain degree of reluctant intercourse founded upon the rites of initiation (upanayanam) which both parties use.—*Brown's Essay on the Creed, Customs, and Literature of the gams, p.* 2.

VIRA SENAKA. See Inscriptions, Junir, Karli.

VIRATARA, also Viratarang. SANS. Cuscus root, Andropogon muricatus, *Retz.*

VIRAVARMA. See Inscriptions.

VIRDATI. See Timor Laut.

VIREY. TAM. A Ceylon tree which grows to about twenty inches in diameter and twelve feet high. It has a very handsome, hard wood, and produces a mealy seed, which the poorer natives eat as a substitute for rice.—*Edye Ceylon.*

VIRIGE CHETTU. TEL. Cordia sebestena, *Linn.*

VIRIKA, amongst the Canarese race of Mysore and in the Southern Mahratta country, the ghost or evil spirit of unmarried or unchaste persons, or of those who have met a violent death. They are appeased by offerings.

VIRK. See Jat, Jet, Jut.

VIRTRIUOLO BLO. IT. Blue stone.

VIRUGADU, or Irugudu. TEL. Dalbergia latifolia, *Roxb.*

VIRUM, also Vachira kallu. TAM. Diamond.

VIS, or Viss, or Pusseree, an Indian weight. The Burmese viss or picktha is 140 tolas, 100 ticals, 40 pollams or 3 catties, = 3lbs. 2oz.; 8 viss, therefore, make a maund of 25 lbs. The viss, however, varies in different localities: in Trichinopoly, it is 3 lbs.; in Masulipatam, 3·515 lbs.; in some other places it is much

more. Visary is a name in the Madras presidency for the vis.—*Simmond's Dict.*

VISAGUL. SING. Bezoar.

VISAKHADATTA. See Kabul.

VISALA. See Surya-vansa, Topes.

VISCUM ALBUM. *L.*

Mistletoe,	ENG.	Jang,	KAGHAN.
Banda,	HIND.	Ahalu,	,,
Bhangra,	,,	Kakbang of	SUTLEJ.
Bambal,	KAGHAN.	Ringi of	,,
Wahal,	,,	Turapani of	TR. INDUS.

This parasite occurs in many places at from 3,500 to 9,000 feet in the Punjab Himalaya up to the Indus, and in the Suliman Range. The plant is of popular interest as having been connected with Druidical superstitions. But the mistletoe of the Druids was exclusively that found upon the oak, and was, possibly, so much valued because of its rarity, for its appearance on that tree is now so rare that many persons have believed the mistletoe of the Druids either to have been some other plant, or to have had no real existence. Honigberger states that it is given in enlargement of the spleen, in cases of wound, tumour, diseases of the ear, &c. The fruit is covered with a viscid pulp, and is made by the Italians, and in Herefordshire, into a kind of bird lime; and as it is a favourite food of the large or Missel Thrush, it is thought to have given rise to the proverb, 'Turdus malum sibi cacat.' The seeds in germination seem to offer an exception to a general law that the radicle of the embryo shoots downwards, and the plumule upwards; for the radicle of mistletoe invariably turns itself down upon the body to which it is attached, whatever may be the position of the surface of that body with respect to the earth. For instance, if a cannon ball, to which mistletoe seeds are glued on all sides, be suspended by a cord some distance from the earth, both the upper and under seeds, as well as those at the sides, all direct their radicle to the surface of the ball. This property ensures their growing upon the branches of trees, to whatever side they may happen to stick. In fixing itself upon a branch, the embryo of the mistletoe curves its radicle down upon the bark, and then adheres firmly to it, and it is a twelvemonth before the plumule begins to extend; this may be to give the radicle time to pierce the bark and introduce itself below the liber, where it expands and acts the part of a root, by attracting thence the fluids which are necessary for the support of the parasite. It is not a little remarkable that in the structure of its ovary, this plant and others of its order, should offer the singular fact of the ovule not existing at the time of impregnation, nor appearing till from six weeks to two months later. Dr. Wight gives Viscum coralloides, moniliforme, orbiculatum, ramosissimum.—*Dr. Wight. Ic. J. L. Stewart. Eng. Cyc.*

VISCUM MONOICUM.

Kuchila ke mulung. HIND.

It was accidently discovered in 1836 that the Viscum found on the Nux vomica trees of Cuttack possessed all the properties of the supporting tree. In 1837 Lieut. Kittoe, then at Cuttack, received information of the existence of a parasite on the Nux vomica tree which the natives held to be an extremely powerful narcotic and poisonous in small doses, and they used it in the treatment of agues and rheumatism. Mr. Kittoe having procured specimens of the leaves, sent them to Dr. O'Shaughnessy for experiment. Given in three grain doses to dogs and kids, tetanic spasms set in in the course of from five minutes to a quarter of an hour, recurring at intervals, and proving fatal by fixing the diaphragm and causing asphyxia.—*O'Sh. p.* 375.

VISENIA VELUTINA. *W. Ic.*

Riedelia velutina, *DC.*
Glossospermum velutinum, *Wall.*
Visenia umbellata, *Blain. W. Ic.*

A considerable tree of Sumatra, Java and Mauritius, of great beauty, with rose coloured flowers and velvety leaves. It was introduced from Sumatra into the Calcutta Garden by Dr. Wallich.—*Voigt, Dr. Cleghorn in M. I. J. R.*

VISERWA. The name of a usurper with whom commenced a line of fourteen princes, who held the sceptre for about 500 years, and the last of whom was deposed in a manner analogous to that which had first put the dynasty in possession of the throne.—*Tra. of a Hindoo.*

VISH. HIND. Ativasa, TEL. Aconitum ferox, *Wall. Cat.*, also any poison, and variously pronounced bis, bish. The Sanscrit syn. Ati visha, is from ati "very," and visha "poison." Wallich applies the term to a species of Betula which he states to be an antidote to poison, and in like manner the word nirvisha "an antidote," has been given to some kinds of aconite. But the Telugu word is always understood as designating an active poison, which is the character of the vish, bish, or bikh of upper India.—*Royle. Roxb.* iii. 57. *O'Shaughnessy,* 155, 168. *Elliot.*

VISHA. The poison ordeal. If the accused person swallow it with impunity he is innocent. Another ordeal is the kusha, or drinking of holy water.

VISHA-AL. MALEAL. Embelia ribes, *Burm. Roxb.*

VISHABUDDI. TEL.

Sida acuta, BURM. | Sida lanceolata.

Boddi is a name of Rivea, Visha is poison, referring apparently to a poisonous Convolvulus

vulaceous plant. Brown refers to a Menispermaceous plant, Anamirta? sent from Guntur to the Exhibition of 1859.

VISHAKALLU, and Pamu Kallu, also Telukallu. TAM. Bezoar. The terms mean respectively poison stone, snake stone, and scorpion stone.

VISHA KANDRIKELU. TEL. Kandrika means "a lot of land or portion of a village granted free of rent."—*Br.* 159.

VISHAL. TAM. Embelia ribes, *Burm.*

VISHALA, also Indravaruni. SANS. Cucumis colocynthis. Colocynth.

VISHAMA KONDANARU. TEL. Sanseviera Roxburghii, *Schult.*

VISHAMANDALA. SANS. Visha mungali, also Visha neduraku. TEL. Visha munghe. TAM. Crinum asiaticum, *Willde. Herb.*

VISHA POGALU. TEL. Poisonous vapours.

VISHNU is the second person in the triad or trimurti of hindu deities, and is worshipped as the supreme being by about sixty millions of the people of India. He is a personification of the preserving power, and his sectarian worshippers, called vaishnava, are more numerous than all the others. He has on nine occasions assumed human and other shapes (styled avatar), and has yet to appear in his last shape, that of a white horse. Of his avatar in human shape may be named Rama, Krishna, Buddha, and Kalki. Vishnu is also called Hari, and it is under this name that his votaries call together the brahminy kites, Haliætus pondicerianus, to feed them with portions of animal food. Vishnu is a personification of the sun, or conversely the sun is a type of him; this character, as well as that of time, he shares with Brahma and Siva. In hindu mythology every thing is, indeed, the sun: but Vishnu is sometimes the earth; he is also water, or the fluid and humid principle generally. Hence he is air, he is also space, and his colour is blue, its apparent tint. In pictures, Vishnu's ethereal character is indicated by mounting him, as his vahan, on a garuda composed of the eagle and the man. Images and pictures of Vishnu either represent him in his own person, or in that of any of his avatara or incarnations, and these pictures may generally be distinguished from those of other deities by a shell chank and a wheel or disc, called a chakra. When whirled by Vishnu, the chakra has a sharp edge, and irresistible fire flames from its periphery. Two other attributes appertain generally to Vishnu: these are the gadha, a mace or club, and the padma, or lotus, though these last are oftener seen in the hand of his avatara than in those of Vishnu himself. Vishnu, regarded as time, corresponds with the Horus of Egypt. The legends of his sleeping, awaking, and turning on his side, evidently allude to the sun at the solstices; also to the phenomena of the overflow and receding of the Ganges, so similar to that of the Nile in Egypt. On the 11th day (sometimes on the 14th, which is the day of the full moon,) of the bright half of the lunar month Kartica, Vishnu is fabled to arise from his slumber of four months. A festival is held in honour of this day, and at an auspicious moment, astrologically determined, Vishnu is awakened by this incantation or mantra: "The clouds are dispersed, the full moon will appear in perfect brightness, and I come in hope of acquiring purity to offer thee fresh flowers of the season; awake from thy long slumber, awake! Lord of worlds." During his four months' repose, and when it is just half over, Vishnu is supposed to turn himself on his side on the 11th of the bright half of the month Bhadra. This is a coincidence with the allegories of the Egyptian Horus. Vishnu is the second-named of the trimurti or hindu triad, and the preserving spirit of the supreme deity Brahm. This god is represented of a black or blue colour, with four arms, in which he holds a club, to show that he punishes the wicked; the chank, or wreathed shell, blown on days of rejoicing, and at periods of worship; the chakra or discus, the emblem of his universal domination; and the lotus, or water-lily, the type of his creative power. He is variously described: sometimes seated on a throne of the sacred lotus, with his favourite wife, Lakshmi, in his arms, or standing on a lotus pedestal between his two wives, Lakshmi and Satyavama; at others reclining on a leaf of that flower, or on the serpent Ananta, or eternity, floating on the surface of the primeval waters; or riding on Garuda (his celestial vahan or vehicle), which is represented as a youth with the wings and beak of a bird. No sanguinary sacrifices are offered to Vishnu. He is considered as a household god, and is extensively worshipped. His wives are Lakshmi, the goddess of fortune and beauty, and Satyavama. Of the various incarnations of this deity, one is mentioned in an ancient legend relating to the destruction of the city of Mahabalipooram, or the Seven Pagodas on the coast of Coromandel, by an earthquake and inundation, during an early period of hindu history. It is stated that "Hirinacheren, a gigantic prince or demon, rolled up the earth into a shapeless mass, and carried it down to the abyss, whither Vishnu followed him in the shape of a hog, killed him with his tusk, and replaced the earth in its original position." A large portion of the magnificent ruins of that city and pagodas are now covered by the sea; other

parts of them (the sculpture of which are still in many places very little injured by the lapse of ages or the effect of the elements,) extend over a space of several miles. One of the cavern temples, now used as a place of worship, is said to contain a fine figure of Vishnu in the Varaha avatar. In this avatar Vishnu appears in the person of a courageous and virtuous prince, the son of the puissant sovereign of Hindustan (whose capital, Ayodhya, is said to have extended over a space of forty miles,) to punish a monstrous giant, Ravana, who then reigned over Lanka or the island of Ceylon. Ravana, like the tyrants of the preceding avatars, according to one version, had obtained his power by his piety. Acording to another, the mode of Ravana's acquirement of power exonerates Brahma and implicates Siva in a manner difficult to account for beyond the charmed pale of hindu mythology. Ravana, to propitiate Siva, cut off nine of his ten heads, and was about to decapitate the tenth, when Siva (Mahadeo), moved by such extraordinary devotion, demanded to know his wishes, pledging himself unreservedly to grant them. Ravana demanded immortality, universal dominion, the linga, and Parvati. These were, in consequence of Siva's pledge, bestowed: but as that god happened to be seized with a momentary uxorious fit, he was unwilling to part with the lovely source of all his torment and all his bliss; so he prevailed on Vishnu to obtain (which that deity had a happy facility in doing) by stratagem, what he himself could not withhold. Vishnu, in disguise, succeeded; and Parvati, after purifying herself by austerities, was restored to her proper lord. Dominion and immortality, it would appear, still remained with Ravana, as, according to descriptions of compartments said to be in the temples of Ellora, he made prisoners of all the gods, not excepting Brahma, Vishnu, and Siva, and put them in chains. The other version is that Brahma, in consequence of Ravana's piety, rewarded him with the monarchy of three regions. Rama Chandra had also been brought up in the paths of religion and virtue, and had been taught that one of the first duties of a prince was to subjugate his own passions to their control. When, therefore, Ravana became an apostate from his duty to the gods, Ramachandra was appointed the instrument of his destruction. The Grecians had their Homer to render imperishable the fame acquired by their glorious combats in the Trojan war; the Latins had Virgil to sing the prowess of Æneas, and the Hindus have had their Valmiki to immortalize the martial deeds of Rama, and his army of monkeys, in subduing the giant Ravana and his hosts of many-headed monsters. The Ramayana, one of the finest epic

poems (in spite of its many extravagances) extant, beautifully describes the incidents of Rama's life, and the exploits of the contending foes. The deity whose fame is thus celebrated, is, in the pictorial representations of him, usually described as a green man, seated beneath an umbrella, the emblem of sovereignty, on a throne: a quiver of arrows hangs at his back; in one hand he holds his destructive bow, and in the other a flower of the sacred lotus. By his side is placed Sita, who is depicted as a goddess of transcendent beauty, of a deep yellow complexion. The incarnate deity, whose exploits are recorded by the poet Valmiki, is considered by Sir William Jones to be the same as the Dionysos or Bacchus of the Greeks. This Dionysos or Bacchus, whom he imagined to be Rama, the son of Cush, is fabled to have invaded India and other countries with an army of satyrs, commanded by the sylvan deity Pan; and Sir William Jones concludes that this army, or probably part of it, which he thinks may have been composed of hardy mountaineers, gave rise to the poetical tale of the feats of Rama aided by the hero Hanuman and his host of monkeys. We shall, however, obtain a more consistent, as well as better understood comprehension of Rama, in considering him to have been the son of Dasaratha, of the solar race, king of Ayodhya, now termed Oudh, a potent sovereign of Hindustan who, having been banished by his father in consequence of the machinations of his queens, retired to the banks of the Godavery, accompanied by his brother Lakshmana, and his wife Sita, and lived in the neighbouring forests the austere and secluded life of an ascetic. But Sita having been forcibly taken from him by Ravana, the king of Lanka (Ceylon), Rama, with the aid of Sugriva, the sovereign of Karnata, invaded the kingdom of Ravana, and having conquered him, placed his brother on the throne of Lanka in his stead. The Godavery is a sacred stream, and its banks appear to be classic ground, where the visitor is almost at every step reminded of the heroes of the Ramayana. Here are the temples of Rama and Hanuman, the caves of Nasuk (some of which commemorate the ungallant action of Lakshman in cutting off the nose of Surpanukha, and the cave of Sita, round which Lakshman drew the circle with his bow which in his absence she was not to overstep. Like the misguided bride of Blue-beard, however, she did so; and the war of Lanka and the Ramayana were the consequences. Rama is extensively worshipped, and numerous temples are erected to him, among which is the splendid one at Ramnaghur. The second of Vishnu's ten grand avatars, or incarnations, was in the form of a tortoise, and has

alled the Kurma avatara, the principal incident in which was churning the ocean with he mountain Mandara, the huge serpent Sesha serving as a rope to whirl the mountain ound withal, and Vishnu, in the shape of a ortoise, sustained the vast load. The result was fourteen precious articles, called gems, or chaoda ratni, (more classically Chatur desa atna), and one of the fourteen was poison; out,

'To soften human ills, dread Siva drank
The poisonous flood that stain'd his azure neck."

It might perhaps have been more in character, if the preserving power had averted from mankind the calamities incident to the production of this "poisonous flood," but the legend, which is very popular, gives the action o Siva or Mahadeva, whence the epithet Nilacantha or blue throated, is a name of Siva. With the saiva sect it is now not an uncommon name of men, usually pronounced, as is that of he deity, Nilkant. It is related in the Scanda Purana, that, when the whole earth was covered with water and Vishnu lay asleep on the bosom of Devi, a lotus arose from his navel, and its ascending flower soon reached he surface of the flood; that Brahma sprang from the flower, and looking around without seeing any creature on the boundless expanse, he imagined himself the first born. Vishnu, otherwise called in this character, Narayana, with his toe in his mouth, reposes on a floating lotus leaf. This may perhaps represent a circle, and like the tail of a snake in its mouth, in mythological language, is interpreted endless: applied to time, eternity: o being, eternal.

The sects of the hindoos merge into each other; for, in consequence of the interposition of Vishnu to appease a physiological difference between Mahadeva and Parvati, or the worshippers of the Linga and Yoni, his (Vishnu's) navel, says Major Moor, came to be considered as the same with the Yoni, thus confounding he yonija with the vaishnava. The vaishnava sect of the present day, though nominally worshippers of Vishnu, are, in fact, votaries of deified heroes. The Goculast'ha (one branch of this sect) adore Krishna, while the Ramanuj worship Ramachandra. Both have again branched into three sects; one of whom, he exclusive worshippers of Krishna, are deemed the only true and orthodox vaishnava; another joins his favorite Radha with the hero; a third, called radha-villabhi, adores Radha only, considering her as the active power of Vishnu. The followers of these last mentioned sects have adopted the singular practice of presenting to their own wives the oblations intended for the goddess; and those among them who follow the left-handed path are said to require their wives to be naked when attending them at their devotions. Among the Ramanuj some worship Rama only, and others both Rama and Sita; none of them practise any indecent mode of worship, and they all, like the goculast'ha, as well as the followers of the bhagavata, delineate on their fore-heads a double upright line with chalk, or with sandal-wood, and a red circlet with red sanders wood, or with turmeric and lime; but the Ramanuj add an upright red line in the middle of the double white one. The saiva sect are all worshippers of Siva and Bhavani conjointly; and they adore the linga, or compound type of this god and goddess, as the vaishnava do the image of Lakshmi-Narayana. There are no exclusive worshippers of Siva besides the sect of naked gymnosophists, called Lingi; and the exclusive adorers of the goddess are the sacta sect. Major Moor mentions that the indecent worship of this sect is most grossly so, and consists of unbridled debauchery with wine and women; they are held in deserved detestation; and even the decent sacta followers do not make public profession of their tenets, nor wear on their foreheads the marks of their sect, lest they should be suspected of belonging to the other branch of it. The saiva and sacta delineate on their foreheads three horizontal lines with ashes obtained, if possible, from the hearth on which a consecrated fire has been maintained; they add a red circlet, which the saiva make of red sanders, and which the sacta, when they avow themselves, mark either with saffron or with turmeric and borax. The Saura or Suria are true worshippers of the sun; and some of them adore the dormant and active energies of the planet conjointly. This sect, which is not very numerous, is distinguished by the use of red sanders for the horizontal triple line, as well as for the circlet on their foreheads. The left-handed path, or indecent mode of worship, of the several sects, especially that of the sacta sect, is founded on the Tantra, which are, for this reason, held in disesteem. The worshippers of Vishnu, Siva and the Sakti, are not to be confounded with the orthodox adorers of those divinities; few brahmins of learning, if they have any religion at all, will acknowledge themselves to belong to any of the popular divisions of the hindu faith, although, as a matter of simple preference, they more especially worship some individual deity as their chosen or Ishta Devata. They refer also to the Vedas, the books of law, the Puranas, and Tantras, as the only ritual which they recognise, and regard all practices not derived from those sources as irregular and profane. Vishnu, and all other of the hindoo deities,

have their different avatars or incarnations, in all of which, except that of the Sacti themselves, they have their sacti (wives) or energies of their attributes. These have again ramified into numerous names and forms. The great point of difference amongst the sectaries is as to the claims of respective deities to be regarded as the First Cause. Some assert that as Vishnu (the preserving spirit of God) was sleeping on the serpent Ananta, or eternity, on the face of the waters, after the annihilation of a former world, a lotus sprung from his navel. From this issued Brahma, who produced the elements, formed the present world, and gave birth to the god Rudra (or Siva) the destroyer. He then produced the human race. From his head he formed the brahmins or priests; from his arms, the khetri or warriors; from his thighs the vaisya or merchants; and from his feet the sudra or husbandmen. If inquiry be made of a vaishnava, or one of the exclusive adorers of Vishnu, he will not fail of exalting the object of his own adoration to the throne of the one only almighty being; and with that view will call him Narayana, although, in fact, the name is not strictly applicable to that being, but to his spirit, if such a personification can be conceived. The Goculast'ha, a branch of the vaishnava, will similarly exalt Krishna, the exclusive object of their adoration; and in other personages we are scarcely able to distinguish the persons of Narayana and Brahma. On the other hand, many of the hindu sects seem to have originated, in a great measure, out of opposition to the brahminical order; teachers and disciples are chosen from any class, and the distinction of castes is, in a great measure, sunk in the new one of similarity of schism. The ascetics and mendicants, also, in many instances, affect to treat the brahmins with particular contempt, and this is generally repaid with interest by the brahmins. A portion, though not a large one, of the populace, is still attached to the Smarta brahmins as their spiritual guides, and so far are distinct from any of the sects; whilst most of the followers even of the sects pay the ordinary deference to the brahminical order, and especially evince towards the brahmins of their own fellowship, of whom there is generally an abundance, the devotedness and submission which the original hindu code so perpetually inculcates. Excluding those hindus who may be regarded as the regular worshippers of recognised gods, the following is an enumeration of the several sectaries of each class, and to them we refer for notices of their origin and tenets.

Vaishnava sects.

1. Ramanuja or Sri Sampradaya, or Sri Vaishnava.
2. Ramanandi or Ramawat.
3. Kabir Panthi.
4. Khaki.
5. Maluk Dasi.
6. Dadhu Panthi.
7. Raya Dasi.
8. Senai.
9. Vallabha Chari or Rudra Sampradayi.
10. Mira Bai.
11. Madhawa Chari or Brahma Sampradayi.
12. Nimawat or Sanakadi Sampradayi.
13. Vaishnava of Bengal.
14. Radha Vallabhi.
15. Sak'hi Bhava.
16. Charan Dasi.
17. Harischandi.
18. Sadhua Panthi.
19. Madhavi.
20. Sanyasi, Vairagi and Naga.

Saiva sects.

1. Dandi and Dasnami.
2. Jogi.
3. Jungama.
4. Paramahansa.
5. Urdhaba'hu, Akas-Muk'hi and Nak'hi.
6. Gudara.
7. Ruk'hara, Suk'hara and Uk'hara.
8. Kara Lingi.
9. Sanyasi.

Sakta sects.

1. Dakshini.
2. Vami.
3. Kanchebiya.
4. Kararia.

Miscellaneous sects.

1. Ganupatya.
2. Samapatya.
3. Nanik Shahi, of seven classes, viz.
   - *a.* Udasi.
   - *b.* Ganjbakhshi.
   - *c.* Ramrayi.
   - *d.* Suthra Shahi.
   - *e.* Govind Sinhi.
   - *f.* Nirmala.
   - *g.* Naga.
4. Jaina, of two principal orders,
   - *a.* Digambara.
   - *b.* Swetambara.
5. Baba Lali.
6. Pran Nathi.
7. Sadh.
8. Satnami.
9. Siva Narayini.
10. Sunyabadi.

Amongst other sectarians, we have—

Aghori.
Avadhuta.
Gudara.
Kanchelia.
Bhakta.
Saurapata or Saura.
Brahmachari.
Kerari.

The following are towns with celebrated vaishnava temples:—

Tirupathy (N. Arcot.) Vencata Ramah.
Conjeveram (Chingleput.) Vurda Raja.
Triplicane (Madras.) Parthasardy.
Seringham (Trichy.) Runga Naika.
Seringapatam (Mysore.) do.
Sevasumoodrum (Mysore.) do.
Malcotta (Mysore.) Chellapilla Roya.
Theroonarrayanapoorum (Mysore.) Yôga Narasimha.
Nursepoorum (Mysore.) Narasimha.
Near Guntoor, Panaka Narasimha.
Bilegory Rungan Hill (Mysore.) Bilegori Runga.
Mondepollum (Coimbatore.) Vencata Rama.
Sutheagal (do.) Gunee Ramasawmy.
Streeparamathoor (Chingleput.) Odayavur.
Tinanore (do) Baktha Vatchalasawmy.
Teroovellore (do) Veeraragava.
Chicacole (Ganjam.) Chicacolusawmy.
Buthrachella (Ceded dists.) Rama.
Teroopagoodul (Chingleput.)
Caroor (Coimbatore.) Thauthony Vencataramana.
Uduppy (S. Canara) Krishna.
Ulamaloo Mungapoorum (N. Arcot.) Ulamalo munga.

Other localities famed for incarnations of Vishnu are—

Kovilady.	Simhaudry.
Algherry.	Bhudradry.
Strevullyputtoor.	Pundrapoorum.
Strivycoontum.	Virarymuly.
Anuntasainum.	Thenkasi.
Triputor.	Tirvuttoor.
Kanarthanum.	Tirmamboor.
Ghuteka Chellum.	Mylapoor.
Ahabulum.	Kristampet.
Srisailum.	

Ashadi Ekadasi is the eleventh of the light half of the month Ashad, and is dedicated to Vishnu. It falls about the 12th July, and refers to the summer solstice, and, on this feast day, commences the night of the god, during which he reposes for four months on the serpent Sesha. The Battia are a hindu sect who worship Vishnu and his incarnation as Ballaji, at Panderpur and Triputti. They have a great reverence for their guru, whom they style maharaj, and place at his disposal tan, man, dhan, body, mind and means, and recently, in Bombay, scandalous immoralities regarding the carelessness of their women were shown. They are generally merchants. Amongst the vaishnava, the term Bhakta or Bhagat is now usually applied to a puritan, or individual more devout than his neighbours. The Bhakta formerly were a sect who worshipped Vishnu as Vasudeva, and the Bhakta mala is a work in which is embodied the legendary history of all the most celebrated Bhakta or devotees of the vaishnava order. It was originally written in a Hindi dialect, by Nabha Ji, about A. D. 1580, but was added to by Narayan Das, who probably wrote in the reign of Shah Jehan. This, termed the *Mala*, was added to in A.D. 1713 by Krishna Das, the additions being named the Tika. The sacrificial offerings to Vishnu are rice, flowers, curds, fruits. To Siva and Durga, the objects offered in sacrifice, are goats, sheep and buffaloes.

The Tulsi plant is typical of a nymph beloved by Vishnu or Krishna. The Chatamula, according to Wilson, are a class of sudra who worship Vishnu exclusively, and whose occupation is the sale of flowers; and this seems to be the race known in the pennsula as the Satani or Satani-wanlu.

The Ananta chaturdasi is a hindu festival in honor of Vishnu.

The Bairagi or Viragi, meaning devoid of passion, are hindu devotees, worshippers of Vishnu. In the south of India Vishnu is considered by the vaishnava to be the supreme being, or the masculine power of the Paramaravastu, and he is one of the mummurthi.

The Bania race largely worship Vishnu, who is adored in some places as "the four-armed," and is placed upon an altar clad in robes of his favourite colour (pandu, or yellow ochre), whence one of his titles, Pandurang. At the intervals of the minor destructions of the world, Vishnu is represented as having reposed himself upon the serpent Sesha, amidst the waters by which the earth is overspread. He also sleeps for four months, from the 11th of Asharh to the 11th of Kartik, or from about the middle of June to the middle of October, or from the time the periodical rains usually commence till their termination. Vykoontha is the seat of Vishnu, the heaven which he quitted to assume the incarnate form of Rama. There sits the preserver of the world, enthroned with his consort Lakshmi, attended by Hanuman, Garuda, and watched by Droove, the north star, the keeper of his royal gate. Nothing has yet turned up to give a clue for ascertaining the age in which vaishnavism first originated. The most authentic fact of its earliest existence on record is furnished by the inscription on the iron pillar at Delhi, stating raja Dhava, who put up that pillar in A. D. 319, to have been a worshipper of Vishnu. The next fact is supplied by Fa Hian, who saw the Vishnupod to have been already established at Gaya in the beginning of the fifth century. Vishnu worship is said to have been instituted at Kanchi in the Carnatic by Luchmana Acharya, but it must have been by a learned brahmin either of Rajpootana or Guzerat, places famous for the life and acts of Krishna, that vaishnavism was modified to introduce the worship of that incarnation. The great text-book of the vishnuvites, Streemut Bhagbut, is supposed to be the work of Bopdeva, a grammarian who lived in the court of the rajah Deoghur in the middle of the twelfth century. In vaishnava hinduism, there are five stages of faith. The first and lowest is simply contemplative, like that of the rishi, Sanaka and Yogendro. The second is servile, like that of men generally. The third is friendly, like the feeling with which Sreedama and the Gopun regarded Krishna. The fourth is maternal, paternal, or filial, like that of Jushoda, Devaki, &c. The fifth and highest is amorous or loving, like that of Radha.

The name of Vishnu is said to occur in several hymns of the veda as an epithet of Indra; the earliest mention of Vishnu, however, now worshipped as Krishna, is on the iron pillar at old Delhi. Gaya is Fa Hian's Kia-ye. It is famous for the hindu vishnupod. The vishnupod, is a rival counterpart of the impression of Buddha's foot, and Gaya and Boodh Gaya, in each other's proximity, point out the alternate predominance of the antagonistic sects. The vishnupod had been set up prior to Fa Hian's visit. Gayalese widowers are barred the privi-

lege of wiving after the death of their first wife, as hindu widows are barred the privilege of taking a husband after the death of their first lord. This savours of the celibacy of the budd'hist priests. The god Vishnu is to the mind of his hindu worshippers the one supreme being who created all things and exists in all things. According to a widely spread belief, Vishnu became incarnate in succession in the two heroes Rama and Krishna, for the purpose of delivering the human race from the oppressions of the Rakshasa, or demons; in other words, to drive out the buddhist hierarchy, and re-establish the brahminical system in India. From some cause or other, the worship of Vishnu declined in Bengal, but it was modified and revived in the fifteenth century by a celebrated religious teacher named Chaitunya. This eminent personage succeeded in reforming many religious and social abuses and founded a sect of all classes without any distinction of caste; and in so doing, continued the great work of Jayadeva, which was commenced about a century previously. The Bania race of Bengal chiefly belong to the sect of Chaitunya, and acknowledge him an incarnation of Krishna, without however adopting any of those ascetic habits which distinguish many of the vaishnava. The lay followers of Chaitunya are merely initiated in the mantra or invocation to the deity by their religious preceptors, who are called Gosains. These gosains are followers of Nityananda, the coadjutor of Chaitunya, and it was to this Nityananda that Chaitunya intrusted the task of spreading his religion after his retirement from his spiritual labours. Up to the beginning of the 19th century, the gosain were held in great veneration, but since then, in Bengal, they receive little respect excepting from hindu females, being regarded amongst the more enlightened hindu community, as the main preservers of superstitious ideas and usages. The gosain are otherwise called guru, and as such are hereditary preceptors in a family. The utmost respect that is paid to the Bengalee gosain by their followers, consists in taking and kissing the dust of their feet, but the younger females are not permitted to appear before them, and no scandals have arisen in the community like those which about the year 1867, obtained such unhappy notoriety in the western presidency. Throughout Bengal, Nuddea is celebrated as the great seat of hindu learning and orthodoxy, the most sacred place of hindu retreat. The Chaitunya Bhagbut states: —'No place on earth is equal to Nuddea, because Chaitunya was there incarnated. No one can tell the wealth of Nuddea. If people read in Nuddea, they find the răs of learning, and the number of students is innumerable.' The brightest epoch in the history of Nuddea, however, dates from the era of Chaitunya. Regarded by his adversaries as a heresiarch, worshipped by his followers as an incarnation, he is now truly appreciated by the discerning generation of the nineteenth century as a reformer whose efforts produced a little good. The consorts of Vishnu are Lakshmi, Padma or Sri, and those of Siva are Parvati, Bhawani or Durga.—*Wilson's Hindoo Sects, Wilson's Glossary, Travels of a Hindoo, Coleman, Moor*. See Avatar, Bhavani, Hindoo, Inscriptions, Iswara, Kali, Kama, Kapila, Kedarnath, Krishna, Kurma, Lakshmi, Man-Lion, Maya, Mendicants, Mohini, Nandi, Naneshwar, Narayana, Parvati, Prit'hivi, Rama, Ramanandi, Ramavat, Ramayana, Ravana, Rosaries, Sakta, Salagramma, Sanyasi, Saraswati, Satani, Semiramis, Serpent, Sri Sampradaya, Surya, Takht-i Suliman, Tripati, Vaishnava, Vamana, Varaha, Veda, Viragi, Vrishala, Yoni.

VISHNU BHAKTA, a worshipper of Vishnu, more especially as Ramachandra or as Krishna.

VISHNU KANTI. HIND. Clitorea ternatea.

VISHNU KARANDI. TAM. Vishnu karanta, TEL. Evolvulus alsinoides, *Linn.*

VISHNU-MUNDIRU, is a flat-roofed building having one room with a portico in front, erected either within or without the wall which encloses a hindoo house, or at a little distance from the owner's house.—*Ward's View of the Hindoos, vol.* ii. *p.* 3.

VISHNU PUNYAJANA. See Inscriptions.

VISHNU PURANA. The fourth book of this work contains all that the hindoos possess of their ancient history. It is a tolerably comprehensive list of dynasties and individuals, but is a barren record of events. It can scarcely be doubted, however, but that much of it is a genuine chronicle of persons, if not of occurrences. The Vishnu Purana has kept very clear of particulars from which an approximation to its date may be conjectured. No place is described of which the sacredness has any known limit nor any work cited of probable recent composition. The Veda, the Purana, and other works forming the body of Sanscrit literature are all named; and so is the Mahabarata, to which therefore it is subsequent. Both budd'hists and jains are adverted to. It was, therefore, written before the former had disappeared; but they existed in some parts of India as late as the twelfth century at least, and it is probable that the Purana was compiled before that period. That it is discredited by palpable

absurdities in regard to the longevity of the princes of the earlier dynasties must be granted, and the particulars preserved of some of them are trivial and fabulous. Still there is an inartificial simplicity and consistency in the succession of persons, and it is not essential to its credibility or its usefulness that any exact chronological adjustment of its different reigns should be attempted. Deducting however from the larger number of princes a considerable proportion, there is nothing to shock probability in supposing that the hindu dynasties and their ramifications were spread through an interval of about twelve centuries anterior to the war of the Mahabarata, and conjecturing that event to have occurred about fourteen centuries before christianity, the commencement of the regal dynasties of India is thus carried to about 2600 years before that date. After the date of the great war, the Vishnu Purana, in common with those Puranas which contain similar lists, specifies kings and dynasties with greater precision, and offers political and chronological particulars, to which, on the score of probability, there is nothing to object.—*Professor Wilson, pages* 64, 65, 70, *and* 71, *quoted at page* 235 *of Thomas' Prinsep, vol.* ii. See Kasambi, Puranas.

VISHNU-RAT'HA, the car of Vishnu. This is Garuda or Guruda, an eagle, now personified as a winged man.

VISHOLA. Rus. Cucumis colocynthis, *Linn.*

VISHWA-TULASI. Sans. Basella alba, *Linn.*

VISIGOTH. See Hindoo.

VISISHT'HA-DVAITA, a system of philosophy, founded by the vaishnava philosopher Ramanuja. See Sri Sampradaya.

VISLADEVA. See Haravati or Harauti.

VISRAVANA. See Ravana.

VISRI. Tam. a fan.

VISS. A weight of the peninsula of India 3 lbs. 3 oz. 3. In Burma, the viss is equal to 100 tikal in weight, or 336·6516 lbs. avoirdupois; the Burmese name of the weight is paiktha.

VISSCHEN. Dut. Fish.

VISSER PALLAM. Tam. Ehretia buxifolia.

VISTARA-KULA-PALLA, or Istarakula palem, Holarrhena antidysentrica, *Wall.* The name is taken from the leaves being employed as trays by hindus to eat from, and which are often made from this tree, but also applied to Holostemma Rheedianum, *Spr.*

VISTNA KLANDI. Maleal. Vistnu krandi. Tam. Vistnu Krandam. Tel. Evolvulus alsinoides, *Linn.*

VISVA DEVAH. See Hindoo, Saraswati.

VISVA KARMA, the Vulcan of the hindus.

VISVAMITRA. A famous rishi of the hindoos. Viswamitra was born a prince in the Lunar dynasty. According to the Ramayana, he was the fourth from Prajapati, but the Bhagavat makes him the fifteenth from Brahma. They agree in calling him the son of Gadhi, who, according to the first, was the son of Kusanabha, and, according to the second, the son of Kusamba. Viswamitra was sovereign of Kanoj, and engaged in war with the sage Vasist'ha for the possession of Surabai, the all bestowing cow. In this contest, the cow produced all sorts of forces, particularly mlechha, or barbarians, by whose aid Vasisht'ha overcame his adversary. There can be little doubt that this legend is an allegorical account of a real transaction, and that by the cow we are to understand India, or the most valuable portion of it, possibly the valley of the Ganges, for the sovereignty of which either two princes or two tribes, the brahmins and kshetriyas, contended. One of the parties calling to their aid the barbarians, the Persians, and not impossibly the Greeks, triumphed by their means. Viswamitra was born a sage, in consequence of his mother partaking of some charmed food prepared by the muni Richika for his wife, her daughter. After observing the superior might of the brahmins, he engaged in a course of austerities, to rise from the mortal order in which he was born to that of the sacerdotal, and ultimately compelled Brahma to grant him that elevation. To Viswamitra, and his successors, are attributed the ballads in the third book of the Rig Veda. The Viswamitras are known as the Kushika or Kaushika; that is, they came from Kush, to this day the name of a river near the Asia Palus, where M. Ferrier found the ruins of a large place called Kussan. The Kushan, he tells us, were a famous scythian race, who held Balkh in remote antiquity. Sir H. Rawlinson found their bricks, with cuneiform scythic legends at Susa and on the Persian Gulf. Cush is largely used in the local nomenclature of Central Asia. The Caspian Sea, Cashgar, Cashmere, Khas-Sak, (Sacæ or Cossack) Caucas-as (Khas-mountain) Cossæ or Cissii in Persia, the Bal-kash lake and the Kush, are terms, and these are but a mere sample, and it is supposed that the Scythians did not come to the Cushites, but that the Cushites colonized Mongolia, as they colonized Arabia, Ethiopia and the N. coast of the Indian ocean. Indra himself is called a son of Kusika. Fire and Indra worship seem to have been introduced by the Viswamitras and to have supplanted a previous sun worship of earlier immigrants.—*Calcutta Review. Ra-*

mayana, I. Sect. 41-52, *Mahabharat, Adi Parva. Bhagavat,* ix. 15, *&c.* See Brahmadica, Vidya, Hindoo.

VISVARAWA MUNI. See Ravana, Suryavansa, Kuvera.

VISWAKARMA, one of the gods of the hindoos, the architect of the universe, and the fabricator of arms to the gods, is the son of Brahma, and the Vulcan of the hindus. He is also called the Sutar, or carpenter, and presides over the arts, manufactures, &c. In paintings, he is represented as a white man with three eyes, holding a club in his right hand. Some of the most grand and beautiful of the cavern temples at Ellora, Nasik, &c., bear the name of this god. One, at the first mentioned place, is hewn one hundred and thirty feet in depth, out of the solid rock, presenting the appearance of a magnificent vaulted chapel supported by ranges of octangular columns, and adorned by sculptures of beautiful and perfect workmanship. In the sculptured representations of this deity he is shown in a sitting posture, with his legs perpendicular, and holding with the fingers of one hand the fore-finger of the other. Sir W. Jones considers Viswakarma to be the Vulcan of the Greeks and Romans; being like Vulcan, the forger of arms for the gods, and inventor of the Agnyastra, or fire shaft, in the war between them and the Daitya, or Titans.—*As. Res. vol.* i. 264. See Inscriptions, Vidya, Saraswati.

VISWASEE, or Wisweesa, an Indian long measure, of from 4½ to 5 inches; also a superficial measure of 20 to 24 square inches.—*Simmond's Dict.*

VISWASAH. See Inscriptions, Junagurh.

VISWA TULASI. SANS. Basella alba, Ocimum album.

VISWAVARNA. See Inscriptions.

VISWESWARA. SANS. Lord of all—an epithet of Siva. See Benares, Kala, Priyanath.

VITA BAJA. See Inscriptions.

VITACEÆ of Lindley's *Nat. Syst*, a natural order of plants, climbing, sarmentose, sometimes simple shrubs, rarely herbs. DeCandolle's Prodromus enumerates, under 5 genera, 102 forms, viz. 32 E. Indian; 20 S. American; 11 N. American; 11 W. Indian; 4 from Madagascar, Bourbon and Mauritius; 4 S. African; 4 from Guinea; 1 from Zanguebar; 4 Arabian; 3 Syrian and Armenian; 2 Japanese; 2 from Timor; 1 from New Holland; and 3 unknown as to their native place.—*Voigt, p.* 27.

VITASTA. The Jelam or Hydaspes.

VITEX, a genus of plants belonging to the natural order Vitaceæ, the vine tribe. The species known to occur in India are

V. agnuscastus.	V. haynga.	V. negundo.
V. altissima.	V. heterophylla	V. pubescens.
V. alata.	V. incisa.	V. saligna.
V. arborea.	V. leucoxylon.	V. trifolia.

Mr. Rohde says that a species of Vitex, a tree of considerable size, is a native of the forests in the interior parts of Coromandel. Another species of Vitex is a native of Kaghan, where it is called Bankahu. Its wood is used for making large dishes. A third species of Vitex, Kjeyoh, *Burm*, as yet not specifically determined, furnishes one of the woods of British Burmah used for tool handles, and is much prized, but rather scarce; a cubic foot weighs lbs. 45. In a full grown tree on good soil, the average length of the trunk to the first branch is 15 feet, and average girth measured at 6 feet from the ground is 3 feet. The ancients considered the Vitex anti-aphrodisiac, but the berries, from their warm aromatic taste, must be possessed rather of stimulant properties. Vitex Agnus-castus, a native of the south of Europe, is the longest known species, in the month of February, in the tropical region below Darjeeling, it grows in profusion by the road-side and the air is scented with its white blossoms. It has digitate leaves of 5 or 7, nearly entire leaflets, something resembling those of the hemp plants, and it forms a shrub of about 12 feet in height. The flowers are arranged in spiked whorls. The fruit is globular, rather smaller than black pepper with an acrid and aromatic taste, whence it is called Petit Poivre Sauvage in the south of France. It was well known to the ancients, and forms the Piper agrestis of some authors. The seeds are inodorous when entire, but when bruised their odour is acrid and disagreeable, the taste acrid and pepperish, very persistent. They are very rich in essential oil, and possess powerful stimulating properties. At Smyrna the powder strewed over sliced onion and applied to the stomach is deemed a certain remedy in colic. In India the fruits of the species V. triphylla and V. Negundo, which are indigenous there, have the same properties ascribed to them, and are called Filfil Burree (Large Pepper). There are in the Bombay presidency two species of the genus, V. alata and V. leucoxylon.—*Rohde MSS. Hooker Him. Jour, page.* 374. *O'Shaughnessy page* 485 *quoting Lindley.*

VITEX LITTORALIS, is the Puriri or oak or teak or iron-wood timber tree of New Zealand.

VITEX ALATA. ROXB.

Mal-elow. MALEAL.

A small tree found in the Naggery hills, leaves ternate, petioles winged. It occurs in the Bombay presidency, but is rare. Both it and V. leucoxylon have a white compact wood ap

parently good for turning, as well as for cabinet work. Its leaves and bark are used in medicine. —*M. E. J. R. Drs. Cleghorn and Gibson.*

VITEX ALTISSIMA. LINN.; *Roxb.*; *W. Ic.*

Tall chaste tree,	ENG.	Milila gass,	SINGH.
Katu mellau mara,	MAL.	Kat miella maram,	TAM.
Meeyan milila-gass	SIN.		

This tree, in Ceylon, is common in forests, up to an elevation of 3,000 feet. In Coimbatore it is a large tree, of great beauty when in flower, and frequent on the slopes of the western ghats. The timber was reported to Dr. Wight as fit for cabinet purposes. But Dr. Gibson says he is not sure as to the species which Dr. Wight had in his eye when he remarked on this. In Ceylon, this tree produces one of the most valuable timbers in the island for building and other purposes, very hard, fine, close grained and heavy.—*Thw. En. Pl. Zeyl. p.* 144. *Drs. Wight, Cleghorn and Gibson. M. E. J. R. Mr. Mendis.*

VITEX ARBOREA. ROXB.; *Rheede.*

Ptouk-sa,	BURM.	Nevali adugu	TEL.
Pouk-ta'sa,	,,	Busi,	,,
Chaste tree,	ENG.	Nawel busi eragu,	,,
Kattu mellalu,	MALE.	Neval adugu manu,	,,
Kat miella,	TAM.	Nowlee eragu,	,,

A native of the mountainous parts of the Circars, of the forests of the Godavery, at Courtallum, growing in Silhet and Chittagong; very common at Moulmein, and found at Tavoy, Penang and Singapore, flowering in the hot season, and the seed ripens during the rains. In the Circars and Chittagong it grows to be a very large tree, and at Moulmein it furnishes a valuable small timber. Its wood is hard, of a yellowish brown colour, and when old is chocolate coloured, very hard and durable, which renders it useful for various ordinary purposes.—*Voigt. Roxb. Captain Beddome. Dr. Mason. Cal. Cat. Ex.* 1862. *Rohde, MSS. M. E. J. Reps.* 1855, 1857.

VITEX BICOLOR. *W.*

Two coloured chaste tree,		Neergoonda	BY.

VITEX LEUCOXYLON. ROXB.

Karril.	MALEAL.	Karril, Can. of	RHEEDE.
Neva-ledi.	TEL.		

A native of the hotter parts of Ceylon, of both peninsulas, Coromandel, Assam, the mountains of Chittagong, not uncommon by the edges of streams in the South Konkan, and the ghaut jungles of the Bombay presidency, a large tree, very common in the plains of British Burmah, wood grey, deserves attention for furniture, used for cart wheels, breaking weight 142 lbs. A cubic foot weighs lbs. 42. In a full grown tree on good soil, the average length of the trunk to the first branch is 30 feet, and average girth measured at 6 feet from the ground is 12 feet. It sells at 8 annas per cubic foot. It flowers in April.—*Thwaites. Drs. Voigt. Gibson and Brandis. Cal. Cat. Ex. of* 1862. *Rohde MSS.*

VITEX NEGUNDO. LINN.; *Roxb.*; *W. Ic.*

Vitex paniculata, *Lam.*

Fenjengisht,	AR.	Marwande,	PUSHTU.
Sanake,	BEAS.	Marwa,	SALT RANGE.
Nishinda,	BENG.	Mawa,	,,
Nergundi,	,,	Sindhuka,	SANS.
Bimra,	CHENAB.	Sinduya,	,,
Shumbali,	DUK.	Soodoo nikka gass,	SING.
5 leaved chaste tree,	ENG.		
Ban-kahu, of	HAZARA.	Shwari,	SUTLEJ.
Sembhalu,	,,	Vella nuchi,	TAM.
Nisinda,	HIND.	Nuchi,	,,
Tor banna,	JHELUM.	Veyala chettu,	TEL.
Inoram,	,,	Wayalaku,	,,
Marwan,	,,	Wyala,	,,
Ban nuchi,	MALEAL.	Nalla vavali,	,,
Banna,	PANJ.		
Root and Leaves. Samalu.		Fruit. Filful bari.	

A shrub or small tree common in Ceylon on the banks of rivers up to 3,000 feet, in the peninsula of India, Bengal, the Dehra Dhoon and the Moluccas, common in the Sewalik tract and up to 3,500 feet in the outer hills, and occasional in the Salt Range and out in the plains. The branches are used for wattle-work in Chumba. The leaves are given for colic and used in poultices; and the warm leaves are a useful application in rheumatism or sprains, and the mahomedans are in the habit of smoking the dried leaves in cases of headache and catarrh. The root and fruit likewise are officinal; a decoction of the aromatic leaves is used as the warm bath for women after delivery. In medicinal qualities it is similar to, but weaker than, V. Agnus castus. The decoction of the root is a pleasant bitter and is given in cases of intermittent fever. Fruit considered vermifuge in Behar.—*O'Shaughnessy, page* 485. *Drs. Cleghorn, Kulu and Kangra. J. L. Stewart, Punjab Plants, Roxburgh Fl. Ind. Voigt. p.* 469. *Thwaites. p.* 244.

VITEX PANICULATA. LAM. Syn. of Vitex negundo, *Linn.*

VITEX PUBESCENS. VAHL.; *Wight Ic.* A Ceylon tree.—*Thw. En. Pl. Zeyl. p.* 244.

VITEX TRIFOLIA. LINN.

Ussel ki abi ? ?	AR.	Samalu saubalu,	MALAY.
Kyoung ban,	BURM.	Kara nuchi,	MALEAL.
Kara nuchi,	CAN.	Jela-nirghundi,	SANS.
Nirgunda,	DUK.	Sinduvara,	,,
Pani ki shumbali,	,,	Sind'huka,	,,
Three leaved chaste tree.		Sappos milile ?	SIND.
Indian prenet,	ENG.	Meean ,, ?	,,
Nisinda,	HIND.	Csba ,, ?	,,
Seduari,	,,	Nir nuchi,	TAM.
Nishinda,	,,	Vavili chettu,	TEL.
Lagondi,	MALAY.	Tella vavili,	,,

A small tree found in south-eastern Asia, not uncommon near the sea, in Ceylon, much cultivated by the Burmans, it bears a little but pretty blue flower. Both leaves and flowers are rather agreeably heavy scented. In the Dekhan, it is a common shrub generally to be

met with growing in patches in moist places, appearing in April and May, but more or less throughout the year. Young shoots round and villous. Leaves slightly bitter, but of delightfully aromatic taste and smell, are deemed powerful external applications in rheumatism, sprains, &c. The powdered leaves are said to cure intermittent fevers. The fruit in powder is given usually in electuary or decoction, for amenorrhœa and several other diseases. The leaves are used to stuff pillows, to cure catarrh and headache. The flowers are prescribed in Behar with honey, in fevers attended with vomiting and much thirst. In the Punjab it is used in special diseases, and after parturition, also to produce appetite and increase the bile.—*Dr. Hamilton Buchanan. Powell Hand-book, vol.* i. *p.* 364. *Mr. Mendis. Thw. En. Pl. Zeyl. p.* 244. *Mason. Riddell. Sir William Jones, 4th vol. Asiatic Researches, p.* 293. *Ainslie,* ii. *p.* 238. *O'Shaughnessy, page* 484.

VITI-VER or Vetti-ver- Tam. Cuscus root, root of Andropogon muricatus.

VITIS, a genus of plants of the natural order Vitaceæ. The species growing in the East Indies are—

adnata,	indica,	pedata,
angustifolia,	lanata,	pentagona,
auriculata,	latifolia,	quadrangularis,
carnosa,	lanceolaria,	serrulata,
cordata,	muricata,	setosa,
elongata,	Neilgherrensis,	vinifera.
glandulosa,	pallida,	
glauca,	parviflora,	

They are climbing plants, found in many parts of Asia, Europe and America, and one species, V. vinifera, the common vine or grape vine, is largely cultivated all over the world from near 55° N. lat. to the equator, but in south latitudes it only extends as far south as 40°. It is cultivated at various elevations. In middle Germany it ceases from about 1,000 to 1,500 feet above the level of the sea. On the south side of the Alps it reaches 2,000 feet; in the Apennines and Sicily 5,000 feet; and on the Himalaya as high as 10,000 feet above the level of the sea. The point of the greatest importance in the ripening of the fruit of the vine is the length of the summer. Thus, although the maximum of summer heat is as great at Moscow as in Paris, yet the vine will not ripen its fruit in the former place, and this arises from the fact that although the greatest heat of the months of June and July are as great as that of Paris, the months of August and September are several degrees below. England, also, has a mean temperature as high as many parts of the world, where the vine flourishes in the greatest perfection; but it will be found that although England is warmer than these countries in the winter, it is not so warm in the months of September and October, at which time the vine is ripening its fruit. A multitude of varieties of this plant have been recorded, both occurring wild and resulting from its very extensive cultivation. Like most extensively cultivated plants, it is very difficult to ascertain of what country the vine is originally a native. It is among the plants of which we have the earliest records in the books of Moses, and from which it appears to have been made use of in the same manner as at the present day. Although the vine is found in many places wild, it may still be doubted whether it is indigenous there, on account of its frequent cultivation. There can be little doubt of its being truly indigenous in the East, in the district between the Black and Caspian seas. In the forests of Mingrelia and Imiretia it flourishes in all its magnificence, climbing to the tops of the highest trees, and bearing bunches of fruit of delicious flavour. In these districts no cultivation of the vine exists, and the inhabitants seldom harvest the abundance of fruit that is produced. In many spots in France, Germany, Portugal and Italy, the vine is found wild, but the fruit is very generally of an inferior kind, and it may be doubted whether it is truly indigenous in any part of Europe. There are three or four species of Vitis in Tenasserim.—*Eng. Cyc. Voigt, Hort. Suburb. Calcuttensis. Roxb. Flor. Indica. Wight, Icones. Mason's Tenasserim.*

VITIS AURICULATA. Wall.; *W. & A.*; *W. Ic.*

Cissus auriculata, *Roxb.* | Kura palleru, Tel.

VITIS CARNOSA. Wall.; *W. & A. W. Ic.*

Cissus carnosa, *Roxb. Rh.*

Fleshy wild vine,	Eng.	Kadepa tige.	Tel.
Kassar,	Hind.	Edakula mandula mari,	"
Kusar.	"		
Kanapa tige.	Tel.	Mandula mari tigei.	"
Kani-apa tige.	"	Mekamettavi chettu.	"

Common in hedges and forests in Bengal, and flowers in the rainy season. Remarkably acrid, roots used in native medicine.—*O'Shaughnessy, p.* 245. *Ell. Flor. Andhr.*

VITIS INDICA. Linn.

Vitis rugosa, *Wall.*

Shembra vulli, Maleal. | Amdhuka, Beng. Hind.

A wild shrubby climbing plant in the plains of India, and not uncommon in the jungles, even at a considerable distance from the foot of the mountains, common throughout the Deccan and in the Tenasserim provinces; this is seen creeping over every hedge and bush, and has sometimes been mistaken by Europeans for the true grape vine, but the fruit is acrid, like all the indigenous species, and not edible even to a native. In the Himalaya however, it produces beautiful clusters of round purple berries and a large grape which

very fair eating; it is not the common vine of Europe, which nevertheless is probably this Himalayan plant, the Vitis Indica. The origin of the common grape being unknown, it becomes a curious question to decide whether the Himalayan Vitis Indica is the wild state of that plant: a hypothesis strengthened by the fact of Bacchus, &c. having come from the East. Dr. J. L. Stewart has not distinguished between V. indica, V. lanata and V. vinifera; he says V. lanata, with velvetty, white or red backed leaves, appears to run into the glabrous leaved wild one. In the N. W. Himalaya they are generally found at from 3,000 to 6,000 feet and appear to give both purple and green fruit, and Dr. Thomson says that specimens of V. vinifera are scarcely distinguishable from V. indica, *L.—Dr. J. L. Stewart Punjab Plants, p.* 33. *Thomson's Travels in Western Himalaya and Tibet, p.* 349. *Hooker. Him. Jour. vol.* i. *p.* 187. *Drs. Riddell. and Mason.*

VITIS QUADRANGULARIS. WALL; *W. & A.*; *W. Ic.*; *Rheede.*

Cissus quadrangularis, *Roxb.*

Harjora, Hasjora.	BENG.	Pirandi kodi.	TAM.
Square stalked vine.	ENG.	Perunde.	,,
Tangelam parinda.	MAL.	Nalleru.	TEL.
Perunda,	TAM.	Nalla ratiga.	,,

A trailing and creeping plant with 4 angled and winged stems cultivated about villages, used by the natives as greens, and in the preparation of chatney. Berries acid.—*Caffrey.*

VITIS LATIFOLIA. ROXB. *W. & A. Rh.*

humambu valli,	MALEAL.	Bedisa tivva,	TEL.

Grows in Bengal and in the hills of Southern India, and is used in medicine.

VITIS RACEMOSA.

ngur, Maljar.	HIND.	Wild grape.	ENG.

Used in the Punjab by zemindars as "bunds" or ties for their fences.

VITIS RUGOSA. WALL. syn. of Vitis indica, *Linn.*

VITIS SETOSA. WALL.

Cissus setosus, *Roxb.*

airy wild vine,	ENG.	Puli-naravi	TAM.
li maram,	TAM.	Bara butsali,	TEL.

Grows in the Peninsula, and is used as a medicine; is in all its parts excessively acrid, and the leaves toasted and oiled are applied to indolent tumors to bring them to suppuration.—*Roxb. Fl. Ind.*

VITIS VINIFERA. LINN.; *W. and A.*

rm (vine)	AR.	Dips, Dibs,	EGYPT. SYRIA.
ab (grape),	,,	Grape vine,	ENG.
aa ain (juice),	,,	Common grape vine,	,,
weez (raisins),	,,	Angur ka jhar,	HIND.
bib (raisins),	,,	Dakh,	,,
amr (wine),	,,	Kismis (grape)	,,
gur gach,	BENG.	Be-dana (,,)	,,
ksha,	BENG. SANS.	Buri,	JHELUM.
khya luta, ,,	,,	Lanang	KAGHAN.
khi,	CHENAB.	Tanaur,	,,
ha,	,,	Talor,	KAGHAN.
gur,	DUK.	Newala,	

Zirishk,	LADAK.	Muddrap,	SINGH.
Mitha (currants),	,,	Laning,	SUTLEJ.
Basho (,,),	,,	Kodrimundri pallum,	TAM.
Bu-angur,	MALAY.	Dividatsi,	,,
Angur (grape),	PERS.	Dracha pandu,	TEL.
Mewus (,,),	,,	Draksha chettu,	,,
Gandeli,	RAVI.	Gostani chettu,	,,
Mamri,	,,	Gostani draksha,	,,
Wœl-midi,	SINGH.	Kisumisu chettu,	,,
Oomus	,,		

The common vine or grape vine seems to have been a native of N. W. Himalaya, the Caucasus, and Asia Minor, but is now cultivated throughout the world, and many varieties have been produced. In the Dekhan, the trees are reared from slips taken at the time of first cutting after the rains, and when ready to be removed are put about seven or eight feet apart. They are for the first twelve months trained on dry sticks; after that, a large straight branch of the pangrah, Erythrina Indica, with a fork left at the top to support the vine is placed about twelve inches from it; if put at a greater distance it is apt to give a bend to the vine which is hurtful. The vine cannot be too straight, and the length of the prop should be about five feet. The fruit is cultivated in the greatest perfection in all parts of the Deccan, and the finest flavored are found in the gardens in the neighbourhood of Dowlatabad, about nine miles N. W. of Aurungabad. Its agreeable sweet acid flavour when ripe has always rendered it a very desirable food when fresh. The ancients, also, there can be little doubt, were in the habit of drinking the expressed juice of the grape before fermentation. Grapes are also dried and used under the name of raisins. The drying is generally effected by cutting half through the fruit-stalk whilst they are suspended on the tree. Grapes thus dried are called Muscatel raisins, and principally brought from Spain and the Levant. The different kinds of raisins in use in India called Monuka, Kismis and Bedana, are brought chiefly from Istalik. Another small sized dried grape called currants, are the produce of a vine which grows in Zante and Cephalonia. The grapes of Kashmir are not equal to those of Cabool, possibly from the little trouble taken in rearing them. In many parts of the Punjab the vine thrives quite as well as in Europe; it seems to be indigenous in Hazara, and possibly also in the Salt Range. Its tendency is to grow too luxuriantly, so that it all goes to wood and leaves, and this might probably be counteracted by proper cultivation and by choosing a poor rocky soil, and selecting suitable varieties of vine. It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 7,000 to 9,000 feet, but the grape is an uncertain crop. In Kanawar a spirit prepar-

ed from the juice is compared to grape-brandy by Hoffmeister. This spirit is called by the usual Arabic term arrak, and a wine also (sheo) is made there. The circumstance that the hindu name is applied to this and the barley brandy of Lahoul would seem to imply that the art of distillation has been introduced into these countries from below. In Afghanistan, Bellew states that a grape wine is prepared, which is consumed by well-to-do mahomedans, and a raisin wine for hindus. *Powell's Hand-book of the Punjab. Dr. J. L. Stewart Punjab Plants, p.* 35. *Dr. Cleghorn Punjab Reports, p.* 65. *Dr. O'Shaughnessy Bengal Dispensatory, pages* 251-254. *Royle Him. Botany. Riddell, Gardening.* See Grapes, Vitis, Wine.

VIT KHIRA. SANS. Acacia farnesiana, *Willd.*

VITMANNIA ELLIPTICA. RHEEDE; *Vahl.*; syn. of Samadera Indica, *Gærtn.*

VITMANNIA TRIFOLIA.

Samadera. SINGH.

Under these names, Mr. Mendis notices a tree of the western province of Ceylon, the wood of which weighs 26 lbs. to the cubic foot and which is used for buoys, &c.; it is said to last 60 years.—*Mr. Mendis.*

VITRA. SANSC. The rain cloud. See Indra.

VITRE, also Verre. FR. Glass.

VITRIOL, Vitriolic acid. Sulphuric acid. Acidum sulphuricum.

VITROLEUM CERULEUM. LAT. Bluestone. See Copper.

VITRINA, a genus of molluscs.

VITRUM. LAT. Glass.

VITTALA NATH. See Rudra Sampadayi.

VITTI-VER, or Vettiver. TAM. Cuscus root.

VITTULEI-KASTURI. TAM. Abelmoschus moschatus. *Mœnch ? W. & A.; W. Ic.*

VITTULU. TEL. Seeds.

VITTY MARAM. TAM. Dalbergia sissoides, *Grah.*

VIVERRIDÆ, a family of carnivorous, animals, whose place in the order may be thus shown.

Order CARNIVORA.
Tribe Plantigrada.
Fam. URSIDÆ. Bears.
2 Gen. Ursus, 4 sp.; Ailura, 1 sp.
Tribe Semi-Plantigrada.
Fam. MELIDIDÆ.
5 Gen. Arctonyx, 1 sp.; Melivora, 1 sp.; Meles, 1 sp.; Taxidia, 1 sp.; Helictis. 2 sp.
Fam. MUSTELIDÆ. Weasels; Martens.
4 Gen. Martes, 2 sp.; Mustela, 12 sp.; Lutra, 7 sp.; Barangia, 1 sp.
Tribe Digitigrada.
Fam. FELIDÆ.
1 Gen. Felis, 14 sp.
Fam. VIVERRIDÆ.
Sub-Fam HYENINÆ. Hyænas.
1 Gen. Hyæna, 1 sp.
Sub-Fam VIVERRINÆ. Civets.
7 Gen. 31 sp. viz.: Viverra, 5 sp.; Prionodon, 1 sp.; Parodoxurus, 10 sp.; Paguma, 1 sp.; Artictis, 1 sp.; Herpestes, 12 sp.; Urva, 1 sp.
Fam. CANIDÆ. Dog tribe.
3 Gen. 14 sp. viz.: Canis, 5 sp.; Cuon, 1 sp.; Vulpes, 8 sp.

Of the genus Viverra, known as civet-cats or genets, four species occur in the East Indies, which may be thus noticed.

VIVERRA CIVETTINA. BLYTH.

V. Zibetha, *Water.* | Malabar civet-cat.

Found in the forests of the Western ghats and is destructive to poultry.

VIVERRA INDICA. GEOF.; *Hodgson.*

The glossy genette, the civet of Europeans, is common in the northern province of Ceylon. —*Tennent's Sketches Nat. Hist. of Ceyl. p.* 32.

VIVERRICULA MALACCENSIS. GR.

V. malaccensis,	*Gmelin.*	V. bengalensis,	*Gray.*
V. Rasse,	*Horsfield.*	V. pallida,	,,
V. Gunda,	*B. Ham. MSS.*	Genetta manillensis,	*Eydoux.*
V. indica,	*Geoffroy.*		

Malacca civet.	ENG.	Kasturi,	MALEAL.
Lesser civet.	,,	Jowadi manjur,	,,
Katas,	BENG.	Punajin bek,	CAN.
Gando-gokal,	,,	,, pilli,	TEL.
,, gaula,	,,	Sayer,	NEPAL.
Musk-billi,	HIND.	Bug-nyul,	,,

This is found throughout India and the Archipelago. It lives in holes in the ground or under rocks. It can be quite domesticated. The Indian civet-cats secrete an odoriferous substance identical with civet, though not the civet of commerce. This species is not infrequently found in the Tenasserim villages, and its secretion enters into the Burmese materia medica.—*Blyth. Mason.*

VIVERRA TANGALUNGA. GRAY. Inhabits the Malay peninsula and the islands of the Archipelago as far east as the Philippines.

VIVERRA ZIBETHA. LINN. Zibeth civet.

V. Zibetha,	*Linn.*	V. melanurus,	*Hodgson.*
V. Bengalensis,	*Gray.*	V. orientalis,	,,
V. undulata,	*Gray.*	V. civettoides,	,,

Katas	BENG.	Kung.	BHOT.
Mach-bhondar	,,	Bhran	NEPAL.
Bagdos	,,	Nit biralu	,,
Pudo-gaula	BHOT.	Saphiong	LEPCH.

Inhabits Central India, Cuttack, Orissa, Bengal, Assam, Burma, Malayana, and China. It is destructive to poultry and game. Civet is obtained from the sub-caudal gland of the animal, which is 2½ inches in diameter, and in some places the animal is kept in confinement and the drug is collected periodically. —*Jerdon Mammals, Horsfield Catalogue* of Mammalia.

VIVIAN, General Sir Robert J. H., K. C. B., of the Madras Army. In 1818, entered the military service at Madras, and rose by gradual steps of promotion until he became Major-General in 1854. He commanded the

rkish Contingent in the East during part of e Crimean war, and shortly afterwards was minated one of the Board of East India irectors.

VIZAGAPATAM, a town on the eastern ast of the peninsula of India, in lat. 17° 42′ . long. 83° 17′ E. Vizagapatam is the chief wn of the district, and has a convenient rbour; vessels of 300 tons have been ilt there. Much work of horn and ivory d silver is performed. Ankapilly is anher wealthy town, also Vizianagram. The pulation of the district is 1,254,272. Vizagatam, as a Madras collectorate, formed part the Northern Circars, in the low country tween the Eastern ghats and the Bay of ngal. Large supplies of Sal (Shorea) and egis (Pterocarpus marsupium) timber find eir way to the coast in the north part of the izagapatam district, and in the whole of anjam.—*Conservator's Report*, p. 12.

VIZIANAGRAM, a town and military cannment near Vizagapatam.

VIZIADROOG, in the Conkan; its flagaff is in lat. 16° 34′ N.

VIZIANAGAR, in 1441 was visited by mal-ud-din, whom his father Kazi-shah Ruh Samarcand sent on an embassy to this ace. See Nicolo di Conti.

VLASCH. DUT. Flax.

VLOER-TAPYTEN. DUT. Carpets.

VOBILINTA. TEL. Polygonum herniaides, *Delil.*

VODDU or Woddu. CAN. Used for catchg fish, is like a large hurdle, the full breadth the river, and is frequently thrown across a ream as large as the Thames at Richmond. e Coorg race annually place woddu at the ads of the Canara rivers to catch the fish turning from spawning.

VODALA. TEL. Poivrea Roxburghii, *De nd.*

VODI. TEL. Spathodea Rheedii, *Spreng.*

VODISA. TEL. Cluytia collina, *Roxb.*

VODITE, also Tummeda. TEL. Species Diospyros.

VODLU. TEL. See Oryza sativa.

VOGEL. GER. Bird.

VOGEL-LEIM. GER. Bird-lime.

VOGELS. A group of small islands off the alay coast.

VOHEMO KADPHISES. See Kabul.

VOHORO, or Wohoro, properly Bohra, of zerat, are traders, shop-keepers, and bankers the west of India. They are of two classes, limani and Dawdi.—*Wils.* See Borah.

VOHU MANO. See Bactria.

VOIGT, C. J., author of Hortus Suburbnus Calcuttensis, published at Calcutta in 845.

VOLA. SANS. Myrrh.

VOLATILE ALKALI. ENG. Ammonia.

VOLATILE OIL OF CASSIA BARK. Cassia oil.

VOLCANIC ROCKS. In Central India, volcanic rocks spread east and west from Neemuch in the form of basalt, basaltic greenstone, greenstone and greenstone amygdaloid, and southwards by Oujein and Saugor across the Vindhya, assuming a columnar structure in their steep descent to the Nerbudda. The trap across this river meets with sandstone and fossils in the Satpura range, and spreads over all western Berar and the Aurungabad province; it assumes a columnar form at Gawilgurh and Chikaldah, occupies Kandeish and the Concan to Bombay, and passes southwards to Malwa in latitude 16° north; its southern limits being observed south of Punderpoor, and the right bank of the Kistna towards Bejapore. In the valleys near Homnabad, south and west of Beder, it is seen between and beneath, but never penetrating the great plateaux of laterite hills, and is noticed at Maharajah-pettah, 30 miles west of Hyderabad. The eastern edge of this vast tract of volcanic rocks, after crossing the Nerbudda to the south, skirts the town of Nagpore in Berar, passes Naudeir, onwards to the west of Hyderabad and to its southern limits just mentioned. South of this, as well as to the eastward, the trap only appears as great dykes, from fifty to a hundred yards broad, which run east and west parallel with each other. These dykes can, at places, be traced for a hundred and fifty miles, bursting through the granite and other rocks, tearing the highest of the hills asunder and filling the chasms and crevices with their dark and compact substance. In these provinces, the elements of the trap-rock assume, in the dykes, a variety of lithologic appearances, greenstone, and porphyritic greenstone; and, in the great volcanic district, basaltic greenstone, hornblende rock, basalt, and amygdaloid, with cornelian, heliotrope, prase, jasper, agates and onyx. The dykes are particularly numerous near Hyderabad, but they occur in the Balaghaut Ceded Districts, in the Carnatic and Mysore almost to the southern cape of the peninsula, and, with very rare exceptions, they run due east and west.

VOLCANOES. The middle of the 18th century was a great epoch of earthquakes all over the world. In 1750 Chili was visited by an earthquake, by which the town of Conception was destroyed: the sea rolled over it, and the entire port from thenceforth became useless. The whole shore seems to have sustained an upheaval of about 24 feet; and shells similar to those found in the adjoining seas, are now abundant on mountains above

1000 feet high. Lyell's Elements gives it 1848 English feet. On the 15th September 1751, the capital of St. Domingo was destroyed by an earthquake, and part of the coast, 40 leagues in length, sunk down, and has ever since formed a bay of the sea. The Lisbon earthquake, one of the most fearful on record, occurred in November 1755, and in 1757 the Azores were struck with an earthquake, during which eighteen small islands arose about 200 yards from the shore; these corresponded very closely with the Pondicherry explosion.

Volcanic regions occur to the westward of Kurrachee, and on the South Arabian coast, and in the Red Sea. The volcanic band trends away northerly from lat. 2° to lat. 22°, at the mouth and at the lower part of the Red Sea, commencing with Cape Aden, and concluding with Gibbel Teir, extending across from the former of these to the Salt Lake Assal, inland from Tadjoura, and so on towards Shoa.

Aden is spoken of by Arab writers as having been in a state of activity within the historic period, and though there scarcely seems sufficient evidence of this to be relied on, and a very strong presumption to the contrary, it has all the appearance of great recency. The Aden volcano forms the terminal point of Southern Arabia, where the shore, after having inclined gently southward from Ras-el-Hudd, 21° N. lat, at the entrance of the Persian Gulf, to 12°, stretches almost due west till it turns up the Red Sea. At no great distance of time it has obviously been an island, and is now connected with the mainland by a low sandy spit four miles long and half a mile across, only a few feet above high-water mark; the whole shore, indeed, consists of sandy downs or salt swamps, only a little above the level of the sea, and wearing the aspect of recent emergence. The peninsula itself is an irregular oval, five miles in its greater, and three in its lesser diameter. There are numerous little head-lands with sandy bays between, all around it. There is at the head of each little bay and on several points of the shore besides, a level expanse of rolled gravel and sea shells, evidently an old sea margin, brought to light by the same upheaval that converted the island into a peninsula, and raised the isthmus above the level of the sea. The rocks themselves are all lavas of various descriptions, more or less vesicular, and the volcano affords a vast diversity of igneous minerals. There seem to have been, from time to time, a number of craters in the mountain, one of very considerable magnitude, beyond the coal depot betwixt Ras Morbut and Ras Tar Shegan, having been blown outwards, and is now remaining as a valley ascending from the sea. The edge of the principal crater is near the centre of the peninsula. The crater itself occupies the eastern half. It is exceedingly well defined indeed, and at once indicates its origin to the spectator. It is about one and a half mile in diameter, and is nearly circular, affording a circuit of five miles. Of this half a mile has been blown out right down to the level of the sea. The bottom of the crater, on which stands the town of Aden and the British cantonments, is covered with a bed of rolled gravel and sea shells, proving that there has been no trace of eruption since the last general upheaval, which produced the sea beach all along these shores, but which is still believed to have been within the human, perhaps even the historic, period. The Shum-Shum range, which forms about half the wall of the crater, reaches an altitude of above 1760 feet. There is a huge crack or slip which cuts above a third off the eastern side of the volcano, and through a portion of this constituting a narrow gorge or pass, ten feet wide, and twenty or thirty high, the road from Steamer Point enters the crater, and leads to the cantonments. Dr. J. P. Malcolmson supposed this to have been the remains of the latest great eruption of which the effects are chiefly manifest on the tableland on the eastern buttress of Shum-Shum; by this the ancient crater was shattered nearly through its centre from the northern to the southern pass, breaking into pieces and separating the whole of the eastern side of the edge of which Seera Island is a fragment, and in these views Dr. Buist concurs. (See London As. Trans. 1836.) On the [illegible] side of this which remains, the wall of the crater subsides from 1700 to 607 feet and then breaks away altogether. The slip probably occurred when the side of the crater was blown out and demolished. The walls of the crater, as now existing, when seen from the cantonments, present the most magnificent view that can be imagined; one semi-circular precipice, five miles in circuit, ascends some 1776 feet from the plain. It is in most places perpendicular. The cliff is of a rusty dark brown colour, and full of caverns and recesses, carved almost like the altar screens of a Gothic cathedral. Great streams of lava may be observed from point to point, as if the fiery cataract had been arrested in its progress, and congealed as it flowed from the lesser rents of the principal crater. On [illegible] parts of the rock, 500 feet above the level of the sea, to the level of Shum-Shum, [illegible] masses of volcanic ashes are strewed [illegible] the crevices of the rocks; these [illegible] abounding, as does the surface all [illegible]

with sea shells in a state of great decay, to all appearance borne up by the volcano on its last emergence from the deep.

Right across the bay to the eastward, at a distance of five miles, are the magnificent remains of another crater, called Jab'l Hassan. It is nearly of the same size and form as Aden, but rests on the mainland. The centre peak attains an altitude of 1237 feet, and on sailing round, in certain aspects, it presents the appearance of a stupendous Gothic cathedral ; two peaks of 700 feet, close beside each other, have obtained the very unpicturesque name of the Ass' Ears, from the appearance presented by them far out at sea. Seven miles beyond this, and seventeen from Aden, another fragment of a cone of smaller size but considerable beauty rises up to the altitude of 700 feet and projects about three miles into the sea, while half-way betwixt this and the strait, Jab'l Kurruz or St. Antony, apparently a volcano, reaches an elevation of 1772 feet. Barren Peak and the high range of Jab'l Arrar, or the Chimney Peaks, just opposite the strait, have been all set down by the surveyors as hills of volcanic origin. The range from this bends northward and follows the line of the shore of the Red Sea. From Aden to Bab-el-mandeb, indeed, the rocks along the Arabian shore seem to be wholly volcanic for a distance of above 100 miles. On the African shore a singular cove at the upper end of the Bay of Tadjoura, called Joobul Khareb, seems the crater of an old volcano ; it is connected with the Bay of Tadjoura by two narrow channels, the whole width across from coast to coast being about three quarters of a mile, with a small island near the middle. One of the channels is forty yards wide, with sixteen fathoms water ; the other 250, with three fathoms. The cove inside is about thirteen miles in diameter by six, the western portion is volcanic. At its extremity is a basin, or crater, 300 yards in diameter, surrounded by precipitous volcanic cliffs through which the sea makes its way to the water inside ; the entrance is dry at low water. Lava and scoriæ abound everywhere around. The waters of the cove are said occasionally to be violently agitated and disturbed without apparent cause, probably by the emission of gas from below, the volcano being scarcely yet asleep. Off the outer bay, the hills are of limestone, and rise to the height of 2000 feet.

The rocks around the Salt Lake Assal, whose waters are now nearly dried up and encrusted with salt, are all volcanic on the eastern side. A bed of lava, containing several deep fissures, separates the waters of the lake from those at Joobul, or Guba-el Kherab, of which it appears to have been a continuation. The lake is in 11° 38′ 12″ N., and 42°30′ 6″ E., it is about seven miles across in its larger diameter and 570 feet below the level of the sea. For about 300 miles westward into the interior the whole country seems volcanic.

To the south-westward of this, near Shoa, is the volcano of Jab'l Abida, about 4000 feet high, its crater opening to the N. W., and about two and half miles in diameter, and further on the still higher peak of Aiullo. Here, there is an even plain about thirty miles in diameter, studded with small cones, of which as many as twenty may be counted at once, each exhibiting a distinct and well formed crater. The lava everywhere around is fresh and glossy, but no tradition exists of any eruption having occurred within the memory of man.

The volcanic peaks of the High Brothers are just outside the gut of the Strait of Bab-el-mandeb on the African shores. The island of Perim, which occupies a portion of the strait near the Arabian side, with the Bab-el-mandeb Peak on the mainland close by are masses of lava. Along the African shore, from lat. 11° to lat. 14° and from long. 42° to long. 44° the series of volcanoes is uninterrupted for the space of 400 miles, running into the interior about 10° N. towards Ankobar, long. 40° E. How far the volcanic district extends into the interior along the African shore within the Strait of Bab-el-mandeb does not appear. A range of hills above fourteen miles from the sea to which it is nearly parallel is set down on the chart as mostly volcanic. There is a second chain of very high mountains parallel to this again, about fifty miles further to the west, but its character does not appear to have been ascertained.

On the Arabian shore, from lat. 30° to lat. 15°40′, for a distance of nearly 200 miles, a range of hills of volcanic origin is set down on the map about twenty miles from the shore, with a second range behind them, like that on the African side, undescribed. The lower range is a continuation of the Aden volcanoes, thus extending in a continuous line for above 300 miles along shore. There can be no reasonable doubt that the whole basin of the Red Sea, here about 100 miles across, from the Arabian to the African chain of peaks, is volcanic, studded as the intermediate channel is with cones now in a state of activity, so that the ascertained area of this region from Aden to near Ankobar, and from this to Jab'l Teir is about 350 miles from E. to W. and 450 from S. to N. Within the channel of the Red Sea the most conspicuous peaks are the Harnish Islands, and Jab'l Googur, betwixt lat. 13° 40′ and 14°, the Zebeyar Islands in lat. 15° and

Jab'l Teir in lat. 15° 30'. A violent eruption of short continuance occurred in the Zebeyar Islands on the 6th August 1846. Jab'l Teir has for nearly a century been known to be in a state of constant activity. It was visited by Bruce in 1774; it then gave out smoke, and was said occasionally to emit flame and stones; he describes the masses of lava as having shells embedded in them, a circumstance that has not, so far as has been observed, been noticed by any other traveller. It was visited by Capt. Elman when engaged in survey in 1838, and by Dr. Kirk in 1841.

The island is circular, about seven and a half miles round, and estimated variously from 300, 500 and 900 feet high, resembling on being approached, a hill of considerable elevation rising from a plain terminating in a bluff steep on the eastern extremity. The summit of the hill is about 300 feet above the sea level, there are no soundings close in shore, at 150 fathoms, so that the visible portion is merely the summit of a hill the base of which is hid by the water, in all probability 1,109 feet high, or 1,900, if the altitude of 900 feet assigned it by the chart be correct. The whole surface is covered with ashes, lava, and cinders; near the summit there are about fifteen small open craters, from several of which steam and hot air are continually issuing and occasionally smoke. Streams of indurated lava are seen to proceed from these chiefly towards the east side of the island. It is said to have been on fire about 1828 or 1830. One of the peaks in which it terminates exhibits the remains of two craters of about twenty-five feet in diameter; both have fallen in. A single crater of much more recent formation than the others appears in the northern peak of Jab'l Teir, it seems the northernmost of the volcanoes in the Red Sea, and probably limits the band.

The following letters from Commander J. W. Barker, Indian Navy will set the question as to the Zebayer eruption completely at rest. The smoke was first pointed out to him by Assistant Surgeon Nicolson, and seen by all on board the Victoria not at one moment, but at different periods; and at the time it was first seen, the Hindostan was to N. N. W. of the Quoin Rock, the northernmost of the Zebayer group, and distant from the Victoria at least 16 or 18 miles in a contrary direction.

14th August 1846, 8 A. M.—Passed Jibbel Teir all sail set with a light breeze from N.

9 A. M.—A heavy black cloud, rising rapidly from the S. W. which in half an hour formed into about a dozen large water spouts.

10 A. M.—Saw the Quoin Rock.

10-30 A. M.—The squall burst upon us with heavy rain and blowing furiously, with much lightning and a continuous roll of thunder, which had a very peculiar sound, as if close upon the water. Hauled out S. by W. ship steering previously S. S. E. At 11-30 the rain abated a little: saw the Zebayer islands bearing easterly, distant about seven miles and a steamer between us and the islands distant from about four miles. The weather continued thick and squally, with much lightning, till we got as far as Mocha. Barometer was very slightly affected by it. Mr. Henry P. Lovell, Acting Commander Steamer Hindostan, was on board the steam vessel Victoria at the time that Commander Barker alludes to, and he noted down at the time all the circumstances relating to this sudden outbreak of Saddle Island, and gives the substance of his notes, from which will at once be seen the facts of the case:—He adds '14th August 1846, off Zebayer Islands, lat. 15° 7' long. 42° 12', on the voyage to Suez. The whole forenoon has been calm and excessively sultry. Skies overcast; particularly dark and threatening towards the N. W. Thermometer 95°. Sighted the Peninsular and Oriental Steamer bound for Aden; she passed about four miles to the west of us as we were closing in with the group of islands. Soon after she passed a violent squall from the N. W. burst upon us. It was accompanied by a drenching shower of rain, heavy peals of thunder, and vivid flashes of lightning. Ship going about eight knots during the forenoon—reduced to three knots when the squall came on; temperature brought down to 80 degrees. Passed along the western side of the Zebayer group of islands. When opposite to Saddle Island (one of the Zebayer group), and only about three miles distant from it, observed a column of smoke issuing from the summit of one of its cones. The squall was then at its height. The column gradually increased in size, while at the same time, distinct jets of smoke issued, as if from numerous small apertures round the outer margin of the cone. Before the squall burst, the summit of the island was perfectly clear. After passing the island, and while it continued in sight, we observed the smoke.

The above furnishes one more illustration of the intimate connection betwixt earthquake, volcanic, and meteorological phenomena so well adverted to by Captain Baird Smith. During the Cleopatra's hurricane of the 19th April 1847, and again at the period of the land squall on the 6th April 1848, the magnetic instruments at Bombay continued in a state of great disturbance for upwards of two days.

An eruption of a volcano occurred near Edd on the African shore of the Red Sea, about

half way between Massowah and the Strait of Bab-el-mandeb. A native of that village stated that "on the night of the 7th, or morning of the 8th instant, the people of Edd were awakened by the shock of an earthquake followed by others, which continued with little intermission. For about an hour at sunrise, a quantity of fine white dust fell over the village like rain. About noon the character of the dust appeared to change, and then resembled red earth; shortly afterwards it increased to such an extent that the air was perfectly darkened, and we had to light lamps in our houses. It was darker than the darkest night and the whole place was covered with this dust nearly knee deep. On the 9th the dust somewhat abated, and we were able to see a little in our houses without lights. At night we saw fire and dense smoke issuing from a mountain named Jab'l Debbesh, situated about a day's journey inland, and this continued all the time I remained at Edd. The ashes only fell for two days, and sounds like the firing of guns issued from the mountain. This mountain is inhabited, but no one had reached Edd thence, when I left; nothing of the kind had ever been heard of before, and the people are exceedingly frightened." This account was afterwards amply confirmed from other sources, and the most remarkable feature of the case is the immense extent affected by the disturbance. The officer commanding the detachment at Perim heard the sounds emitted by the volcano distinctly, and attributed them to a bombardment. He reported that the firing commenced about 2 A. M. on the 8th instant, and continued with long intervals up to the 10th or 11th. The general idea at Perim was that the sound proceeded from the African coast. The firing on the 8th was very heavy and continued for 9 or 10 hours. Both the steamers Candia and Ottawa reported having had two very hot days in the lower part of the Red Sea, and on the 10th instant they encountered what appeared to be like a London fog, which continued for several hours. The captain of the latter vessel described this fog as consisting of very fine dust, so thick that he could not see the length of the ship, and during its continuance the weather was perfectly calm. On the 8th of the month several shocks of an earthquake were felt at Mocha and Hodeida; and there, as well as along the entire coast of Yemen and inland as far as the mountain range, the dust described as white ashes fell for several days. The noises were also heard, and as usual, were attributed to artillery. The Nacoda of a boat which brought a letter from Mr. Barrow was detained ten days in the Dhalac Archipelago unable to continue his voyage owing to dense clouds of dust which darkened the air; many other Nacodas reported the same thing, and one brought a specimen of this dust, which he said had fallen on his ship in such quantities that he could not keep his proof clear by continual sweeping. The dust appears like very finely powdered pumice containing minute particles of mica.

Although the greater part of the shores of the Red Sea are undoubtedly of igneous origin, no active volcano has been known in modern times save in the Zebair Islands, one of which was observed in a state of activity by the commander of the I. N. steamer Victoria in August 1860.

There is no information whatever as to any volcanoes in the interior of Arabia, or to the northward.

An extinct volcano, called Mount Nimrod, is described by Mr. Chancourtois as existing near the Salt Lake Van in Armenistan, on the frontiers of Persia, between the 38th and 39th degrees of latitude.

On the banks of the Euphrates, near the city of Hit, in the region of the petroleum wells, Dr. Winchester found scoria on the summit of a detached hill about eighty feet above the level of the plain; no other volcanic appearances were observed.

Lyell in his Principles of Geology, 1832-1851, remarks that the city of Oujein was, about fifty years before the christian era, the seat of empire, of art, and of learning, but in the time of the rajah Vicramaditya, it was overwhelmed, together, as tradition reports, with more than eighty other large towns in the provinces of Malwa and Bagur, 'by a shower of earth.' The city which now bears the name is situated a mile to the southward of the ancient town. On digging on the spot where the latter is supposed to have stood, to the depth of fifteen or eighteen feet, there are frequently discovered entire brick walls, pillars of stone, and pieces of wood of an extraordinary hardness, besides utensils of various kinds, and ancient coins. Many coins are also found in the channels cut by the periodcal rains, or in the beds of torrents into which they have been washed. A large quantity of wheat was found by a man digging for bricks. It was almost entirely consumed, and in a state resembling charcoal. In a ravine cut by the rains, from which several stone pillars had been dug, Mr. Hunter saw a space from twelve to fifteen feet long and seven or eight feet high, composed of earthen vessels, broken and closely compacted together. It was conjectured, with great appearance of probability, to have been a potter's kiln. Between this place and the new town is a hollow, in which, tradition says, the river Sipparah formerly ran. It

changed its course at the time the city was buried, and now runs to the westward. The soil which covers Oujein is described as being of an ash grey colour, with minute specks of black sand. That the shower of earth which is reported to have fallen from heaven, was produced by a volcanic eruption, we cannot doubt, although no information has been obtained respecting the site of the event, and the nearest volcano of which we read is that which was in eruption during the Cutch earthquake in 1819, at the distance of about thirty miles from Bhooj, the capital of Cutch, and at least three hundred geographical miles from the town of Oujein.

Captain F. Dangerfield, who accompanied Sir John Malcolm in his military expedition into Central India, states that the river Nerbudda, in Malwa, has its channel excavated through columnar basalt, on which rest beds of marl impregnated with salt. The upper of these beds is of a light colour, and from thirty to forty feet thick, and rests horizontally on the lower bed, which is of a reddish colour. Both appear from the description to be tuffa composed of the materials of volcanic ejections, and forming a covering from sixty to seventy feet deep overlying the basalt, which seems to resemble some of the currents of prismatic lava in Auvergne and the Vivarais. Near the middle of this tufaceous mass, and therefore at the depth of thirty feet or more from the surface, just where the two beds of tuff meet, Captain Dangerfield was shown, near the city of Mhysir, buried bricks and large earthen vessels, said to have belonged to the ancient city of Mhysir destroyed by the catastrophe of Oujein. But Capt. Dangerfield in reference to Mhysir, seems to have believed the earthy mass on the banks of the Nerbudda alluvial, not volcanic. Mr. Hunter seems to have written as to the volcanic action from hearsay. Conolly, on the other hand, speaks from careful and minute personal observation, he being one of the most exact and observant writers of his time; but another writer says the theories which account for the change of site of Oujein appear to him all equally unsatisfactory. He neither believes with Hunter that a shower of earth nor with Malcolm that a flood, overwhelmed the old city, nor with the natives that it was turned topsy turvy. The tales of old bricks, and of wood of surprising hardness, &c. dug up at depths of fifteen feet seem exaggeration. Several people were interrogated who had been twenty and thirty years at the place, none of them had ever positively seen such things though all believed most religiously both these and much more wonderful curiosities to be found. The theory of an inundation is principally supported by a tradition that the river has changed its bed.

Capt. R. L. Playfair, officiating Political Resident, Aden, wrote an account of the outburst of the volcano near Edd on the African coast of the Red Sea. At Edd, lat. 13°57′ N, long. 41°4′ E, about half-way between Massouah and the Strait of Bab-el-Mandeb, earthquake shocks occurred on the night of the 7th of May or the morning of the 8th during about an hour. At sunrise fine dust fell, at first white afterwards red; the day was pitch-dark and the dust was nearly knee-deep. On the 9th the fall of dust abated, and at night fire and smoke were seen issuing from Jab'l Dubbeh, a mountain about a day's journey inland, and sounds like the firing of cannon were heard. At Perim the sounds were heard at about 2 A. M. on the 8th, and at long intervals up to the 10th or 11th. The dust was also met with at sea; and along the entire coast of Yemen the dust fell for several days. Several shocks were felt on the 8th at Mokha and Hodaida.

Further to the east the region of recent direct volcanic action seems to terminate with the extremity of the delta of the Ganges [Col. Causeley, Bl. As. Trans. vol. XVII. p. 1.] A few hot springs are all we have to indicate the agency of a subterranean fire for nearly 1000 miles across the peninsula. There are hot springs in the Damoodah valley, 23° 10′ N., in Gangetic India, in Kunawar, in the lower Himalaya, and near Lohunkund on the Sutlej. The most notable of these is that at Sargunga, near Chota Nagpore, in Central India, where the temperature of the water is 184°: it smells strongly, and seems to be a Harrowgate.

Indications of active volcanic action are numerous, and in the valley of Kashmir, Dr. Falconer reports that a singular 'field of fire' exists in the valley, of considerable dimensions, and through crevices in which flames continually issue. The outlines of this volcanic tract are distinctly defined, and the action appears to be strictly local; the soil is completely burnt, and in some spots has been vitrified. The igneous action has continued now for upwards of two centuries, as the existence of this remarkable spot is certified by Abul Fazil, the learned minister of the Emperor Akber. [Second Report on Geology of Hyderabad.] Dr. Vosey describes a hot saline spring near Hyderabad in the Deccan, and hot springs occur in four places in Ceylon, in the Tannah collectorate of Bombay, in Sindh, in Kattyawar, at Barman in Beluchistan, in Bheerbhoom, near the Parbutti or Poorub river in Ladak, and other places. (See Hot springs.)

[M]r. Moorcroft in his Travels in the Himalayan Provinces, vol. ii. p. 277, mentions [a] hill within three days' journey of the city [o]f Cashmere, from which loud explosions are [h]eard at intervals, accompanied by the escape [o]f gaseous matter, with force sufficient to tear [o]ff the doors and windows of buildings situat[e]d upon it. There was nothing on the hill [r]esembling a crater, but the inhabitants on [t]he spot asserted a distinct recollection of the [e]xplosions.—[Bl. As. Trans. vol. XII, part II [f]or 1843, p. 1046.] In the Concan there are [n]o fewer than twelve hot springs betwixt [D]asgaum and South Rajpore, and they are [s]upposed to follow the line of the great Ghaut [c]hain southward to Ceylon: the majority oc[c]ur near the great lines of dislocation. There [a]re two hot springs in Candeish and several [i]n Katiawar, and lower Sind, as we shall [p]resently see, abounds with them.

Lake Loonar, in the Sichal Hills, is the [o]nly instance of a volcanic outburst obser[v]able in this immense volcanic region. [Mal[c]olmson, London Geological Transactions, [1]839.] It was first described by Lieut. Alex[a]nder in the Madras Literary Transactions, [s]ubsequently by Mr. Orlebar in the Bombay [G]eographical Transactions. It is a nearly [c]ircular or oval depression in a country com[p]osed entirely of tabular and nodular basalt; [i]t is 500 feet in depth, and three or four miles [i]n circumference. In the bottom of the hol[l]ow is a lake five feet deep, the waters of [w]hich are impregnated with muriate and [s]ulphate of soda, and sulphate of lime; sub[c]arbonate of soda prevails in the neighbour[h]ood. In 1851 it was examined by Dr. [B]radley, who met with abundance of scoriæ [i]n the neighbourhood, and was able to trace [a] vast stream of lava to the east and west[w]ard. The great intervals betwixt the points [o]f volcanic activity in this part of India, even [w]hen connected by hot springs, prevents them [f]rom being associated as groups anywhere [b]etwixt Arracan and Cutch.

On the 27th May 1846, a hill on the Ner[b]udda, called Dumoh Phar, or smoking moun[t]ain, about 500 feet high above the plain, [g]ave out alarming moans, to the terror of the [n]eighbourhood, and then an enormous out[b]urst in it occurred. The appearance this [p]resented when examined shortly afterwards [b]y Col. Skene and Lieut. Briggs was such [a]s might have been produced by the explosion [o]f a mine, making a rent in the hill from top [t]o bottom about thirty feet across, and six [f]eet deep. Great trees were upset by it, and [t]he rocks rent twenty to thirty feet in pieces, [a]s if blasted by gunpowder, and thrown to [t]he opposite sides of the fissure. The appearance presented in no way resembled that of a landslip, the bursting force had obviously been from the interior. It was not stated that any erupted matter had been thrown out; there was no appearance of any volcanic vent in the neighbourhood, and no tradition of volcanoes ever having existed. [Bl. As. Trans. vol. XVI.]

In the end of October 1849, something like an ebulition of pestilential gas, the discharge probably of a submarine volcano, occurred off Porebunder in Kattiawar, and was manifest for thirty or forty miles out at sea; the fish were poisoned by it, and for days lay floating in myriads on the surface of the water. [Report of 1850, Bomb. Geog. S.] An incident similar to this had occurred at Berhampore in May 1810; the water in a large tank, usually pure, and which for a period of thirty four years had never exhibited any thing extraordinary, suddenly became of a dark green colour, and an immense quantity of fish, many of them weighing from eight to fourteen pounds, floated dead on the surface, and were afterwards removed in cart loads, and made use of as manure; the people ascribed it to an earthquake which then visited Calcutta.

There is no record of the Cutch volcanoes having ever been in a state of permanent activity, and they seem rather to have played the part of spiracles to the gases of earthquakes, when "the earth seemed with a kind of colic, pinched and vexed," with fits of vomiting of lava or of flame. On the border of the chain of mountains, and eighteen miles from Lukput, the most westerly town in Cutch, is a hill believed by the hindus at one time to have been a volcano. It has long ceased to emit flame or smoke, but is still an object of worship amongst the hindus. It does not appear to exhibit any vestige of lava, scoriæ or ashes; a bituminous earth, with a strong disagreeable odour, is dug out of the side of it and used as incense in the worship of Assapoora: it is found in small pieces imbedded in the common soil, from which it is separated without difficulty.

On the occurrence of the great earthquake shock of June 1819, vast clouds of dust were seen to ascend from almost every hill or range of hills in Goozerat and Cutch; smoke was in many cases visible, and some flame was perceived. Dr. Thomson, in his account of the Geology of Bombay, published in the Madras Literary Transactions for 1837, after describing the hurricane and earthquake which occurred all along the coast on the 15th and 16th May, (the 26th and 27th new style, exactly 200 years to a day before the occurrence of similar events in 1848,) says:—Besides the appear-

ance of a violent commotion in the atmosphere, and a perceptible concussion in the earth, volcanic action seems to have occurred, if we may be allowed to deduce such an inference from the highly embellished representations of the historian, of giants seen in the air throwing great globes of fire at each other, confusion of human voices in the atmosphere, the trampling of horses, and the sound of warlike instruments. It is added that much of this nature occurred in Salsette and other places. "The metaphorical figures," concludes Dr. Thomson, "expressed in the latter part of the description, are strikingly similar to those employed by Dion Cassius in his account of the eruption which destroyed Herculaneum and Pompei, where we are told giants were seen, and the sounds of trumpets heard in the vicinity." There is so little appearance of any recent volcanic eruption near Bombay, that Dr. Thomson is disposed to ascribe the appearance, probably in both cases, to the meteorological phenomena always coincident with earthquakes and volcanic action. At a place twenty-six miles west from Bhooj, fire was seen in considerable volume to burst forth, a blazing ball was projected into the air and fell to the ground, where it was broken into four or five pieces, on which it became extinguished and invisible. No fragments could be discovered, but the vegetation was found scorched where it fell. On being examined next day, the hill was found rent and shattered, as if something within had sunk. Fire, to a certain extent, was said to have issued from a bituminous hill from which alum is made, near Merv: the height of the hill was considered to have been reduced, and it was rent and shattered into ravines. Near the town of Sinderee situated where a branch the Indus joins the Runn, and which was permanently submerged on the occasion, a number of small cones, six or eight feet in height, burst up from the ground, and continued for many days to emit bubbles of air and mud from their summits. The first and greatest shock occurred about seven p. m. on the 16th June; lesser shocks continued till the 20th, when the volcano called Denodour, about twenty miles N. W. of Bhooj, burst into action, and the movements of the earth immediately stopped; but the authority on which this statement is made is not stated. Vestiges of recent outbursts, though of unknown date, appear at the village of Wage-ke Pudda. A high table land of volcanic matter, about two miles square, has been blown out into a flat basin, the sides being broken into fissures, with craters, ravines, and hollows; and the interior, or bed of the basin, interspersed with hillocks and cones of every variety of colour, black, red, yellow, and white, and with patches of cinders similar to the refuse of a furnace, the whole looking as fresh as if the igneous agents were still in operation. The surface of the table land immediately surrounding the blown out space is covered with burnt iron-stone, similar to septaria, divided into irregular cells. On other parts of the table land, craters of some fifteen or twenty feet in depth have been blown out: they are composed of the materials just described, and are covered with patches of sulphur. [Grants, Geology of Cutch. London Geol. Trans.]

The rocks around the hot springs of Peer Muggen, ten miles west of Kurrachee, consist of nummulite limestone, in some cases highly crystalised, and where the fossils, according to Captain Viccary, occasionally are extensively altered. Two miles further to the westward, occurs the group of Minora hills, about 800 feet above the sea, and 500 above the plain surrounding. On the eastern side a crater has been blown out,—the ruins are scattered around. It is oval in form, about 150 feet in length, and fifty across. The explosion has burst away one of the sides and blown through the strata adjoining. It seems as if a vast deluge of water had for a short time been discharged from it: there is no tradition in existence regarding it, nor is anything known of the date when it was in action. It has clearly been subject to the great changes which have taken place around, though it is probable it preceded the deposit of the post pliocene clays found at its base, as these bear no appearance of disturbance and have most likely been deposited by the sea subsequent to the explosion. There are several other craters of lesser size and more imperfect structure round Minora.

Capt. Carless, who gives by far the best account of this district yet published, speaks of a celebrated hill called Jibel Pubb twenty miles N. W. of the hot springs, of which wonderful stories are related all over the country, but he does not tell us what these stories are.

Capt. Viccary describes the clays as post pliocene. He makes no mention of the crater. I visited it, he writes, and took careful drawings and measurements of it in March 1850. The highly crystaline state of the rock is conspicuous. I confess I could discover no evidence of any material diminution of its fossils around the springs or near the crater. The rocks, which everywhere around are one mass of shells and zoophytes, the corals being often in the most beautifully perfect state that can be imagined, have been in some places highly crystalised, the organic remains being in part obliterated. The crystals are occasionally arranged in

beautiful star-like forms, like many members of the zeolite family.

The rocks at the hot springs of the Lukkee Pass appear to be of exactly the same description as those at Peer Muggen, their position in all likelihood due to volcanic influences of comparatively recent existence. The hot springs of Peer Muggen attain a temperature of from 100 to 160, and yield a very copious discharge. The water is perfectly pure, and fertilises the soil around. The hot spring takes its name from Peer Muggen, a mahomedan saint, whose shrine is close by. The coincidence of the sound with the designation given to the long snouted crocodile (muggur) has led to the inference that it means Peer Muggur, the Crocodile Saint. The crocodiles in the tank are of the kind called garial: they are precisely similar to those of the Nile and Ganges. One of the tanks contains nearly 200 crocodiles; there is a spring at no great distance which affords large deposits of sea salt.

The next volcanic group to be met with in this direction is that of Hinglaj, a series of mud volcanoes along the sea board of Lus and now in great activity, very similar in point of form to those of Chedooba. Here there is no appearance whatever of there ever having been any eruption of lava. The first of these are called the koop of Chundra. They are believed to be of divine origin, and to be possessed of miraculous virtues. They are within two days' sail of the port of Kurrachee, and within a hundred yards of the sea; the group of mud volcanoes are known by the name of the Koop of Rajah Rama Chundra. Three of these were visited by Captain Hart: a fourth was seen by him at a distance, and they are said to be very numerous, and to extend some way along the shore, and far into the interior.—[*Extracted from the Reports of the Bo. Geo. Society for May* 1850.]

About two miles from the wells of Tilook Pooree, three hills of extremely light-coloured earth, rise abruptly from the plain. The centre hill is conical, slightly flattened, and divided at the top: it is about 400 feet high: its southern and western sides are more precipitous than the others. The second of the group is about half the height of the first; the two are connected by a causeway about fifty yards in length. The third covers a greater area than either; its apex seems destroyed or broken off, otherwise the characteristics of the three closely resemble each other. They are all indented at the base with numerous chasms and fissures, which run into the interior, and their sides are streaked from the summit down as if with sluices of mud or water overflowing from the crater. A basin of liquid mud about thirty yards in diameter occupies the whole summit of the largest of the three. Air bubbles and jets of mud arise from the basin continually, the semi-fluid mass within being constantly disturbed by them. The whole summit of the hill is crusted over with caked mud. Almost exactly the same appearances are presented by the craters of the two other hills,—with this difference, that in the case of one of them the mud was said to rise and fall, occasionally overflowing the crater, sometimes sinking in it above 15 feet. A fourth hill, similar to those just described, was seen at some six miles off, but 'was not visited.' The water and mud all around is salt. The ground at the base of the hills is full of cracks and rents. It is the same volcanic agency, most probably, which gives rise to the hot springs of Peer Muggen, that supply the famous crocodile tank, which feeds or stimulates the mud volcanoes. Abundance of brimstone is found at no great distance, and one eminence some twelve miles off is known by the name of the sulphur mountain." Capt. Robertson describes the whole district, for an area of probably not less than 1000 square miles, from the Hara range westward, as covered with mud cones, active or quiescent. He spent a fortnight amongst them in 1849 and could discover no particular day on which they were unusually affected: Captain Hart had been told that on Monday they were more active than they were on other days. The native tradition regarding them is, that on the abduction of the goddess Sita by Rawun, Sedashew, a form of Mahadeo, was, amongst others, occupied in endeavouring to discover the place of her concealment. For twelve years he prosecuted his search unceasingly, but without effect. Worn out with exertion, and enraged at the fruitlessness of the task he had imposed on himself, he dashed his sacred cake on the ground. It broke into eighteen pieces, and from every fragment a koop arose. The goddess instantly appeared, and chid his wrath and impieties, assuring him that throughout his wanderings she had accompanied him in the shape of a fly which generally sat on his holy cake. In commemoration of his exertions on her behalf, she ordered that every pilgrim should pay his devotions to one of the koop before visiting her temple. The koop are called by the name of her husband Rama Chandra. On nearing the crater, the holy man who precedes the pilgrims continually cries out, speak Oh! Rama Chandra!—and to their astonishment, accordingly, they find on their arrival the mud at the top in a state of commotion,—evidence to them sufficient that the invocation has been listened to, and the deity is present. A more minute and copious account of the mud craters of Higlaj than

VOLCANOES.

that given by Captain Hart is published in the 13th number of the Transactions of the Bom. Br. of the Roy. As. So. for 1850, written by Capt. Robertson of H. M.'s 8th, and it confirms the perfect accuracy of Capt. Hart's account, so far as it goes.

Turning back on the Indus, to the hot springs in the Lukkee Pass, the range of hills in this neighbourhood is composed of little ridges not exceeding 400 feet above the plain of the Indus, their apices with nearly horizontal strata, their sides abrupt and precipitous, and non-nummulitic. The valleys, or intervening spaces between the hills, have been much disturbed. A variegated clay, abounding with gypsum, but containing no fossils, is of common occurrence. A brown, rust-coloured rock is abundantly distributed on the surface in the shape of rounded boulders, the most promising specimens of which are manufactured by the natives at Kotree into iron. Between this and the Indus are numerous low hillocks of aluminiferous clay used for the manufacture of alum by the Sind'hi. The hot springs issue from the bottom from what appears an external crater, of the same general character as those already described near Peer Muggen. There are here several hot springs near each other—they are all salt and sulphureous, the whole valley smells strongly of sulphuretted hydrogen gas which rises in bubbles from the well, and a scum is constantly gathering on the water, which the natives remove and use as sulphur. Near one of the hot springs is an aperture in the rock three inches in diameter, from which, until of late years, a jet of flame used to issue; it was called the peri's fire by the natives, and is believed to have become extinguished on some infidel having bathed in the neighbouring well.—*Transactions of the Bom. Br. of the Roy. As. So. No.* xiii. *for* 1850, *by Capt. Robertson of H. M.'s 8th. Capt. V. Hart's Pilgrimage to Higlaj, Bom. Geo. Trans.* 1839, *and Reports* 1850, *p.* cviii.

There is a very copious hot and sulphurous spring at Gurmab (i. e., hot well) in the Bolan Pass, about 200 miles to the northward, but the writer is not aware of any between this and Lukhee.—*Col. Campbell's Map.*

The area of the volcanic field of Beila has never been precisely determined: it extends some fifty or sixty miles inland, and at least three times as much along shore.—*Dr Thomson on the Geology of Bombay; Mad. Lit. Trans. Bartolomeo's Voyage to the East Indies, Rome* 1796; *Translation* 1800.

"The island of Vaypi, on the north side of Cochin, rose from out the sea in the year 1341: the date of its appearance is determined by its having given rise to a new era amongst the hindoos called Puduvepa, or the new introduction. Contemporaneously with the appearance of Vaypi the waters which during the rainy season were discharged from the ghaut, broke through the banks of the channel which usually confined them, overwhelmed a village, and formed a lake and a harbour so spacious that light ships could anchor where dry land formerly prevailed."—*Asiatic Researches, vol. III. p.* 396. *Physical Geography, vol. I. p.* 257, *Ed.* 1851.

One of the most terrible and active group of volcanoes in the world begins with the Banda group of islands, and extends through the Sunda group of Timor, Sumbawa, Bali, Java, and Sumatra, separated only by narrow channels, and altogether forming a gently curved line 2000 miles long; but as the volcanic zone is continued through Barren Island and Narcandam in the Bay of Bengal, (lat. 12° 15') and northward along the entire coast of Arracan, the entire length of the volcanic range is a great deal more. The band is not limited to Arracan, but extends northward to Chittagong, lat. 22° or 600 miles beyond Barren Island. Lieutenant Colebrook visited Barren Island in 1787, when it was in a state of violent activity; he does not seem to have landed on it, and he quotes entire the account of it given by Capt. Blair in his survey of the Andaman Islands. The cone which springs from near the level of the sea, rises at an average of 32° 17' to 1800 feet nearly. Later authorities make it 500 feet, and this is probably its true altitude. Mr. Lyell gives the following account of it quoting Von Buch as his authority, "Barren Island is in the Bay of Bengal, and as an illustration of the phenomena of ancient craters, of elevation, as contrasted with modern craters of eruption, permitting a contrast of the ancient crater of elevation with the cone and crater of eruption in its centre. When seen from the ocean this island presents on almost all sides a surface of bare rocks, which rise up with a moderate declivity towards the interior: but at one point there is a narrow cleft, by which we can penetrate into the centre and then discover that it is occupied by a great circular basin, filled by the waters of the sea, bounded all round by steep rocks, in the midst of which rises a volcanic cone, very frequently a source of eruption. The summit of this cone is 1690 French feet in height, corresponding to that of the circular border which encircles the basin, so that it can only be seen from the sea through the ravines. This seems to be taken from Capt. Blair's estimate of 1800, since upset, as already stated, by Captain Miller, Dr. Adam,

V
114

and others. Barren Island was visited by Dr. John Adam in 1831. The water close in shore was hot and steamy, while steam and smoke issued from the crater, but no lava or flame. He estimates the diameter of the base at about 800 or 1000 yards, and the orifice of the crater, which occupies the entire summit of the cone, at about 30. Captain Miller visited it in 1834. His account of it is the same in its general features as that of Lyell, but he estimates the altitude of the cone at no higher than 500 feet; and considering the limited distance to which it is visible at sea, this seems to be more correct than other estimates. He sets down the slope of the cone at 45, which would give an altitude of above 1,000 feet, were Dr. Adam correct as to the diameter of the base. He states that it could only be ascended by climbing, and it is probable that Captain Blair's assumption of 32·17, which was determined by measurement, may be near the truth. The volcano, like the others along the bay, is chiefly active during the S. W. monsoon.

Next to Barren Island is the volcanic island of Narcandam, in lat. 13°22′. The cone is about 300 feet high, no soundings are to be had within half a mile of the shore.

Crossing over to the other side of the bay where perfect tranquillity seems for nearly a century to have reigned, we find a period when the Coromandel Coast was as much moved by volcanic agency as that of Arracan itself.—*Report of Calcutta Coal Committee.*

The earliest account we possess of any actual eruption in the Bay of Bengal is that contained in the 1st vol. of the Annual Register, 1776, reprinted in the Bengal Asiatic Transactions of 1847. [Bengal Asiatic Transactions 1847, vol. xvi. p. 499, Reports and Asiatic Researches, vol. i p. 175.] It was written by an officer on board a French East Indiaman, and addressed to his friend at the Hague: there seems no reason to question its perfect accuracy. In July 1757, fires were seen from Pondicherry to break out on the surface of the sea three or four leagues from shore. These blazed out with the greatest fury, throwing up pumice stone and combustible matter. This was accompanied by a noise like thunder, or the discharge of heavy ordnance. An island, a league in length and about the same in breadth, with a cone and crater in the centre, then appeared. A vast quantity of dead fish were afterwards seen floating on the surface of the water, destroyed by the eruption. The sea was some days afterwards so covered with pumice stone that vessels found it difficult to make their way through it, while they ran the risk of being burnt from the showers of hot ashes with which the air was darkened. The island seems speedily to have subsided again as we hear no further mention made of it.

A shoal, called the Goris Bank, was seen by H. M. S. "Melville" in a line joining Pondicherry and Chittagong, and a shoal is noted on an old chart as having been met with by an American ship in the line betwixt Pondicherry and Chedooba: both these have since then disappeared.

The volcanic region in the Bay of Bengal seems, about the year 1750, to have been in a state of general activity. Off the coast of Arracan, the island of Chedooba, situated in lat. 18° 50′ N. and long. 90°40′, is fifteen miles in length and seventeen in breadth or of about 200 square miles in area. Its general appearance is that of a fertile, well wooded island, of moderate height and irregular outline. A band of level land, covered with fragments of coral shells, and gravel, and but a little way elevated above the sea surrounds it: three distinct terraces are visible, the result of so many separate upheavals.—*Captain Baird Smith on Indian Earthquakes, in Bl. As. Trans. vol.* xii. 1842.*Madras Lit.Trans.* 1837 *quoted from Gower's Portuguese India tome* iii. *Capt. Halsted's Report on the Island of Chedooba, Bl. As. Trans.* 1841 *vol.* x. *p.* 434.

Captain Baird Smith gives an account from the "Gentleman's Magazine" of a violent earthquake which occurred at Calcutta in 1737. Twenty thousand vessels of various sizes are said to have been destroyed by the inundation which accompanied it, and 30,000 lives are said to have been lost on the occasion. No volcanic phenomena, strictly so called, seem to have attended it. It took place during a furious hurricane.

The earliest Indian earthquake, of which particulars are given, is that which accompanied the hurricane of 26th May 1618, by which 2,000 lives and 60 vessels are said to have been lost at Bombay.

There are four large volcanoes in Chedooba, detached mounds rather than cones, varying from 100 to 1000 feet above the level of the sea. They are composed of stiff grey clay, with large quantities of singular fragments of stone: their sides are much cut up with rain; their summits, which are from 50 to 240 yards in diameter, are quite bare. Capt. Halsted gives maps of the island of Chedooba and of Regwan, adjoining to it. On the summits of these are numerous well formed cones, from a few inches to four feet in height, and about the same in diameter. On the outside they are hard, within they are filled up with a thick, uniform, well-mixed mud, which every now and then runs out at the side or over the edge of the crater, bubbles of gas rising at intervals of three or four

minutes; there is no appearance of eruptions of lava scoria, or vestige of the agency of actual fire: some of the volcanoes throw out hot sea water in place of mud: they are most active during the rains, and then occasionally emit flame and stones, as well as mud, throwing these to a considerable height: the stones are obviously torn from the beds through which the water passes; portions of copper occasionally adhere to them. Petroleum wells abound here, as they do all round the neighbourhood. Capt. Halsted visited Chedooba in 1841, and his survey in the "Childers" extended above 100 miles along the coast. The shore here is marked by three well-defined terraces, or raised beaches, covered with coral and shells, and manifestly the result of three distinct upheavals, with considerable intervals—of just a century, the natives believe, betwixt them. (*Mrs. Somerville Physical Geography, vol. I. p.* 254.) The uppermost of these is less conspicuous and distinct than the two lower, but on the western coast a remarkable column of rock stands out on the beach, about 40 feet high, with oyster shells still attaching to it, showing the second line of beach, just thirteen feet above the first. The last of these was said by an old man of 106, who remembered it when he was a lad of 16, to have occurred about the year 1750. Mrs. Somerville speaks of these as the result of gradual upheavals going on within the last hundred years, but it appears to have been the effect of sudden and instantaneous elevation. There is no evidence of any subsequent change of level having occurred within this period along the shores of the Bay of Bengal. Mr. Piddington suggests that it is not unlikely that it may have occurred simultaneously with the eruption at Pondicherry in 1757—natives being proverbially inaccurate as to dates—during the occurrence of violent earthquakes, when the sea washed several times over the lower part of the island, and then permanently retired as the land emerged. Captain B. Smith thinks it likely to have occurred during the Chittagong earthquake of 1762. Immense quantities of fish were found on the recovered land, and the feasting which occurred on these is still a favourite tradition in the islands: no rent occurred in the earth, and no lives were lost, or mischief occasioned: for more than half a century much of the soil remained salt. The elevation has been greatest towards the centre of the line examined, where it is twenty-two feet; at the termination it is thirteen, and at Foul Island nine. Regwan, lat. 18° 37′ 49″ just to the north of Chedooba, is marked by three distinct risings, each about eight feet. The outer portion of the island was said to have been raised about 1760, most likely as Mr. Piddington supposes, in 1757. The original island contains two terraces, about nine feet high—the outer margin is as yet barren; it consists generally of corals, shells, and gravel; the rest is a level plain of rice fields. In the adjoining island of Ramree, or Rumbree, off Kyouk Phyoo, there are some beautiful mud volcanoes, the cones of which are almost all covered with luxuriant casuarina trees—the only places where they are found in the neighbourhood. The craters and expelled matter possess the same general characteristics as those of Chedooba. This was first described by Lieut. Foley in vol. 4th of the Asiatic Journal: the cones are said by him to vary from five to 1500 feet, one peak, called Teaka, reaching the altitude of 3000. Vapour and flame were seen to issue from one of the peaks during the earthquake of 26th August 1833.—*Lieut. McVolloth, R. N. Map of Ragwan. Bl. As. Trans.; Johnston's Physical Atlas. Dr. Spry. Bl. As. Trans.* 1851, *vol.* x. *p.* 1245. *Lieut. Foley vol.* 4 *of the Asiatic Journal.*

There are various hot springs at Chittagong subject to periodical eruption, and which constantly emit gas and flame.

There is a small volcano near Kyouk Phyoo in a state of constant activity, and which frequently emits smoke and flame. Cottages at the distance of four miles from it were on the occasion of the eruption of 1842 brightly illuminated, yet so little was the heat that the specimens from the crater were no where melted.

Within little more than ten years of the elevation of the island off Arracan a catastrophe, precisely the opposite of that from which Chedooba suffered, overtook Chittagong. During the great earthquake of April 1672, sixty square miles of the lowlands along shore were permanently submerged: Ces-lung-toom, one of the Mug Mountains, entirely disappeared, and another sunk so low that its summit only remained visible.—(*Phil. Transactions* 1763, *given entire in Capt. Smith's paper on Earthquakes, Bl. As. Trans. vol.* xii. *p.* 1047, *quoted in Report of Coal Committee, republished in the India Review,* 1839, *p.* 71.)

Four hills are described as having been violently rent asunder, leaving open chasms, varying from thirty to sixty feet in width. Other mountains and hills were variously disturbed; some were partially thrown down so as partly to disturb the courses of rivers. One eminence became degraded by little and little till it returned to the level of the plain. In the plain, the earth opened in several places, throwing up water and mud of a sulphurous smell. At Barcharra 200 lives were lost on a track of ground that sunk

suddenly. It is said that at Arracan the effects of the earthquake of 1752 were not less fatal to human life and property than those of the Lisbon one in 1755; while at Dacca the waters rose so suddenly as to throw all the boats on shore, on its retirement sweeping multitudes of human beings away. From the notices of islands now no longer to be found on the western shore of the Bay of Bengal, in the accounts of Arab navigators, there can be no doubt whatever that numbers of these have been from time to time submerged.—(*Mr. Torrens, Bengal Asiatic Journal Reports, Feb.* 1845, *p.* xxvi; *Ibid p.* xxii. *Ibid Dec.* 1843, *vol.* xii. *Ibid, vol.* ii. p. 1117.)

About an hour after sunrise on the 26th July 1843, the inhabitants of Chedooba and Flat Island heard a great noise, and saw fire rising out of the sea; an earthquake had been felt just before; this continued for four days, when, on the 29th, a small island seemed to arise above the surface of the waters. It continued visible for about a month, but it was now the monsoon, and the weather was too boisterous to permit its being approached. In October, on the return of the fine season, search was made for it but no trace of it could be found. A careful survey of the spot was afterwards instituted by order of Government, but no indication of commotion, and no change in the aspect of the shore, or bottom of the sea was discoverable.

On the 2nd January 1845, between the hours of six and seven p. m., about an hour after sunset, the people of Kyouk Phyoo, on the coast of Arracan, were astonished to see the eastern horizon to seaward become brightly illuminated: it continued flickering, like the reflection of distant flame from a ship on fire, for about half an hour, when suddenly immense volumes of flame were seen to burst as if from the depths of the ocean, presenting a most sublime and awful spectacle to beholders. It was accompanied by a low continuous rumbling sound, which seemed to ascend from the bowels of the earth, and was re-echoed from the hills around. The duration of the exhibition is not mentioned, though it was seen by many witnesses: it seems to have been very transient. A vessel was sent out to sea immediately under the impression of its being a conflagration, but saw nothing. Government, on being applied to by the Asiatic Society, instituted a careful survey of the coast, but no change in the depth of the soundings or character of the bottom could be discovered. There can, at the same time, remain on reasonable doubt that the exhibition was volcanic—probably a sudden emission of gas through an aperture or crevice not detected by the sounding line. Three accounts of this most singular occurrence are given with minuteness. The best account is that of Lieut. Hawkins.—(*Reports of Proceeding of the Bengal Asiatic Society for February* 1845, *p.* 24, 28, *not indexed. Topography of Assam, by Dr. McCosh. Calcutta* 1837.)

The extreme frequency of earthquakes in Assam would lead to the inference that it was the theatre of lively volcanic action. No fewer than twelve of these occurred betwixt May 1834 and May 1835. "About twenty years ago," says Dr. McCosh, writing in 1837 —that is, about 1817, "the natives inhabiting a small knoll near the hill of Goalpara were so terrified by the unusual shaking of their little hill, that they fled from it for safety, and ran to a distance: on their return their houses and hill had disappeared, and a large pool of water, thirty or forty feet deep, occupied its place.

The whole coast from Cape Negrais to Akyab on the eastern side of the Bay of Bengal, the island of Regwan or Flat Island, as well as all the other islets and rocks on that part of the coast of Arracan, are now undergoing the process of upheaval. This fact was brought to notice in 1840, by means of the nautical surveys of the Brig "Childers." The coast from Akyab to Cape Negrais is indented by deep and narrow gulfs similar to the fiords of Scandinavia, and lies within the prolongation of the great volcanic band of the Sunda Islands, which extends from Java to Sumatra, Barren Island and Narcondam: and indeed all the islands on the coast of Arracan bear evident marks of subterranean fire. In the island of Cheduba, 300 miles south-east from the Sandheads, in latitude 18° 51′ N., longitude 93° 28′ East, there are two mud volcanoes which rise to a height of from one hundred to two hundred feet. This line of upheaval is in the direction of N. W. by N. to S. E. by S. It is one hundred geographical miles in length, and varies in breadth from twenty miles to a very narrow strip of islets and rocks. The upheaval has been greatest in the middle of the line. At the Terribles it was 13 feet; at different parts of the N. W. reefs of Cheduba, 22 feet; at the north point of the island 16 feet; in the middle or the west coast 13 feet; at the south end 12 feet; and the islands south of Cheduba to Foul Island, 9 to 12 feet. The first symptoms of upheaval appeared about the year 1750 or 1760, on the occurrence of a great earthquake by which the sea was driven over the land and the effects of which were felt as far as the city of Ava. An earthquake is said to have occurred one hundred years earlier, and the inhabi-

tants believe that a similar phenomenon occurs every century. (*Johnston's Physical Atlas.*) In the island of Kyouk Phyoo, 35 geographical miles north, or nearer the Soonderbuns, a volcanic eruption took place suddenly east of the station.

In Burmah, mud volcanoes, the highest about 15 feet, are situated close to the village of Memboo, nearly opposite to Maghwe on the Irawadi. At little more than a mile from the village, the view opens on a great sea of blue mud, with a few projecting humps in various parts, while several conical hills rise boldly from the great swelling to various heights. From these, inradiating lines, flows of the mud can readily be traced, and at short irregular in tervals a hollow gurgling sound is heard, followed by a kind of flop in the mud. On examination, the centre or conical hollow or crater of one of these volcanoes, which was not exactly at the summit, but a little below at one side, was found filled nearly to the brim with bluish gray oily looking mud—liquid mud—about the consistency of heated pitch, although, of course, less adherent. The whole surface of the liquid mud within was observed to heave and swell upwards, till suddenly a great bladder like expansion of the mud was thrown up, and breaking, fell back into the cauldron below with a sudden flop. At each successive throw a portion was ejected, and issuing by a narrow opening, came flowing down the side of the cone in a regular channel which it had made for itself, its surface marked by thin filmy flakes of the earth oil with which it is partly associated. The mud and muddy water thus thrown out are only slightly salt to the taste, but are used largely in the preparation of salt close by, by lixiviating the mud, collecting the water thus passed over it, and concentrating it to crystallization over slow fires.

At Grobagan, at the centre, on the limestone district, is a mud volcano 16 feet in diameter. The black mud every two to five seconds bubbles up and subsides; it rises to a height of 20 to 30 feet, then explodes with a dull noise, scattering a shower of warm brine springs from which salt is extracted. Its eruptions are most frequent in the rainy season. It is called kuwu, "the place of abode," and an old legend is that it is the residence of a monster snake whose writhings cause the eruptions. Similar mud volcanoes occur in the Taman peninsula of the Crimea.—*Oldham in Yule's Embassy, p.* 341.

With such violent but subterranean forces in operation, even at the present day, it is easy to apprehend how numerous must have been the uprisings and subsidings of the solid matter of the earth during by-gone ages. According to the views which have been adopted from Sir Charles Lyell's prolonged investigations, it is little probable that all these changes occurred at one time but they must have resulted from a series of great up-pourings from the interior during by-gone ages, identical with those still in operation, though perhaps all in the lines which we observe in the direction of the existing mountain ranges. One of these, prolonged through Arracan, halts at Point Negrais, to reappear through the Andamans and Nicobars; and this Eastern Asiatic range, after extending along the S. W. coast of Sumatra, terminates at its S. E. point. Another runs along the Malay Peninsula, is lost for a time, but appears again in the high peak of Lingga and terminates in Banca and Billiton; and a branch from this separates at Pulo Tinggi on the east coast of the peninsula, and ends at Carimata, in the strait between Billiton and Borneo. Two ranges traverse Cambodia and Cochin-China in the same direction, and these will be found to extend to, and, perhaps, to traverse Borneo. Between the Cambodian range and the mountains at Sarawak, on the north-west extremity of Borneo, the Natunas islands and Pulo Condor form the connecting link; and as the Sarawak hills run to the south-east, the range is probably continued, either by a connected line, or by isolated mountains, until it terminates in the Gunung Ratos, near Cape Selatan. More recent data shew that this range, after traversing the western part of Borneo, terminates on the south coast, a little to the eastward of Kotaringin. The Gunung Ratos would therefore appear to have been formerly connected with the primary range which shows at Bintulu, on the north-west coast of Borneo, and which may be a continuation of one of the Indo-Chinese ranges. The Anam or Cochin-Chinese Range is that which can be traced most distinctly across the Archipelago to Australia at the present day. There seems no doubt that the multitude of islands which are now to be seen are merely plutonic masses upraised by subsequent volcanic action: or the tops of great volcanic outbursts which have appeared above the ocean. There are innumerable coral reefs and coral islands, but Mr. Darwin's essay on the "Structure and Distribution of Coral reefs," has satisfactorily shown that "Atolls" or annular reefs were originally fringing reefs constructed around islands that have since subsided. The depth of water on these banks averages about 30 fathoms, depending rapidly as the edge is approached, and shoaling gradually towards the land. And where the earth has not risen above the surface water, great submarine banks are to be traced from

island to another. One of these is term- the great Asiatic Bank, and the countries ing on it may be noticed first. The mountain nges in the south-eastern part of Asia in- riably run in a direction nearly N. N. W. d S. S. E., and are all of the primary for- ation. The chain which extends along the alay peninsula is the most conspicuous of ese ranges, and is continued at intervals to nca and Billiton, and perhaps may be traced far as the north coast of Java. It is this nge that most abounds in metals, or, at all ents, in which mining operations are pur- ed with greatest success, probably from the ata, owing to its central position, having en little disturbed by the convulsions which ve shaken the countries on either hand. The oductiveness of the gold mines of the Malay eninsula and of the tin mines of Banca is ll known. This range may be considered the backbone of the great Asiatic Bank ich extends into the Archipelago from the uth-eastern extreme of Asia to a distance of arly 1000 miles, in fact to within 50 miles Celebes, perhaps to the south-western ex- emity of that island also; but there is a space nearly 30 miles, across which no soundings ve been carried. Sumatra, which lies on its stern verge, has been subjected to volcanic tion, but not to so great an extent as to dis- rb the direction of its mountain range, which ns parallel to that of the Malay Peninsula. he third and last range that can be traced to the Indian Archipelago is the one that averses Laos and Camboja, at the southern tremity of which it disappears for a time, owing itself only at Pulo Condor and Na- nas, until it emerges near the north-west treme of Borneo, and is continued along e entire west coast of that island. Here it ain disappears, and only shows itself again the north-coast of Java, where it ceases tirely; the remaining portion of this is- nd, with, perhaps, a part of the north-west tremity being either of volcanic formation of alluvial deposit. The celebrated teak- ee which abounds on the Cambojan part of is range, but is not found in Borneo, is again et with here, the projecting part of the north de of Java, between Samarang and Surabaya, ing a vast teak forest, from the timber of hich the greater portion of the shipping em- oyed in the Archipelago is constructed. Java the only island in the eastern seas in which e teak-tree is indigenous, nor will it thrive the volcanic parts of the island where its ltivation has been attempted. This, which e may call the Cambojan Range, is also rich minerals, especially the Bornean part of it, here large quantities of gold and many dia- onds are obtained by the miners. The vol- canic islands of the Archipelago also contain metals, gold-dust being found at the bottoms of many of the mountain streams, but it does not exist in veins, as in the Malayan Penin- sula and on the west coast of Borneo, these having apparently been broken up by the vio- lent convulsions to which these islands have been subjected. The metal is therefore only obtained from the bottoms of the mountain streams, where it has been deposited when the earth in which it had been contained was washed away.

The limits of the volcanic band which cross- es the Archipelago are distinctly defined by the active volcanoes with which it is studded. There appears a great volcanic stream in the neighbourhood of Kamtschatka, from which it can be traced in a south-west direction through the Kurile Islands, Japan, and Loo- Choo, skirting the coast of Asia, to Formosa, where it meets another coming from the south and south-west through the Philippines and Mindanao to the Moluccas, embracing the eastern extreme of Celebes and the western peninsula of New Guinea, and then another curve from the westward along the Trans- Javan Chain to the Strait of Sunda, when it meets that one which comes from a north- westerly direction through Cheduba island, in the northern part of the Bay of Bengal through the Andamans and Sumatra. From the west- ern extreme of New Guinea, however, along the north coast of that island to New Britain, although its volcanic character has been decid- ed by recent French navigators, there remains a tract, including thirteen degrees of longi- tude, in which no active volcano has been seen. Indeed, it is by no means improbable that the band which takes a southerly direction from Japan through Fatzima, the Bonin and Mari- ana Islands, may prove to be continued to New Ireland; in which case the chain of active volcanoes which extends through the Solo- mon Islands, and the New Hebrides to New Zealand, and perhaps further to the south, may indicate the course of an independent stream.

The Eastern Archipelago from the Nicobars by the Malay Peninsula to the east, is 4,000 miles long from east to west, and 1,300 broad from north to south. The volcanic belt of the Archipelago is marked by a chain of active and extinct volcanoes through the whole length of Sumatra and Java, and thence by the islands of Bali, Lombok, Sum- bawa, Floras, the Servatty islands, Banda, Amboyna, Batchian, Makian, Tidore, Ternate and Gilolo to Morty island. Here the belt is broken and shifted 200 miles to the west, to north Celebes, from which it passes on to Siau and Sanguir, to the Philippine islands,

along the eastern side of which it continues in a curving line to their northern extremity. From the extreme eastern bend of this belt at Banda, for 1,000 miles, to the N. E. coast of New Guinea, is a non-volcanic district. But there, on the N. E. coast of New Guinea, another volcanic belt can be traced through New Britain, New Ireland, and the Solomon islands to the farthest eastern limits of the Archipelago. The united length of these volcanic belts is 90 degrees, their width about 50 miles, but, for about two hundred miles on either side of them, evidences of subterranean action are to be seen in recently elevated coral rock or in the barrier coral reefs which indicate recent submergence. In some part or other of all the line, earthquakes are felt every few weeks or months, varying from a slight tremor to great movements, shaking down villages and destroying life and property, and some of them devastating the adjacent lands. Java has nearly 45 volcanoes, active or extinct, many of them with volcanic cones, and averaging 10,000 feet high. In Java, in 1772, the volcano of Papan-dayang was blown up by repeated explosions and a large lake left in its place. In Sumbawa in 1815, 12,000 people were destroyed by the great eruption of Tomboro. Makian, an island of the Moluccas, was rent open in 1646, by a violent eruption. On the 29th December, 1862, it again suddenly burst forth, blowing up and altering its face and destroying the greater part of the inhabitants and sending forth such quantities of ashes as to darken the air at Ternate forty miles off and destroying almost the entire crops of that and neighbouring islands.

Sumatra, in reference to its extent, has few volcanoes, and a considerable portion has probably a non-volcanic origin. Sumatra, the uncultivated parts of Java and Celebes, Borneo, the Philippines and New Guinea are all forest countries, but on Timor and on all the islands around it, there is absolutely no forest, and this character extends to Flores, Sumbawa, Lombok and Bali.

Mr. George Windsor Earl, in a pamphlet on the Physical Geography of South Eastern Asia and Australia (1855), pointed out that the islands of Sumatra, Java, and Borneo are connected with the Asiatic continent by a shallow sea, and that a similar shallow sea connects New Guinea and all the adjacent islands with Australia, these last being all characterized by the presence of marsupial animals : and, carrying out Mr. Earl's suggestion, Mr. Wallace maintains that some of the islands had long been connected with the Asiatic continent, and others equally long with that of Australia, and that a line of separation can be drawn between them, and he designates the Asiatic portion Indo-Malayan and the Australian division Austro-Malayan. The seas between Sumatra, Java and Borneo are so shallow that ships find anchorage in any part of it, as it rarely exceeds forty fathoms. And the seas eastward to Java rarely exceed one hundred fathoms.

The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra, and the allied species of Java, the wild cattle of Borneo, and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia ; and, of the birds and insects, every family and every genus of the groups found in any of the islands occurs also on the Asiatic Continent, and in a great number of cases the species are also identical. The great islands of Java, Sumatra and Borneo, even yet resemble in their natural productions the adjacent parts of the continent almost as much as such widely separated districts could be expected to do, even if they formed part of the Asiatic Continent. The Philippine islands agree in many respects with Asia and the western islands, but present some anomalies.

The eastern portion, on the other hand, from Celebes and Lombok eastward, exhibit as close a resemblance to Australia and New Guinea, as the western islands do to Asia. Australia has no apes, monkeys, cats, tigers, wolves, bears, hyænas, no deer or antelopes, sheep or oxen, no elephant, horse, squirrel or rabbit. In lieu it has kangaroos, opposums, wambats and the duck-billed palypus. It has no woodpeckers or pheasants, but has in lieu the mound-making brush turkeys, honey-suckers, cockatoos, the brush-tongued loris, which are found nowhere else in the globe, and all these peculiarities are found in the islands which form the Austro-Malayan division of the Archipelago. The islands eastward from Java and Borneo form a part of a previous Australian or Pacific Continent, although some of them may never have actually been joined to it.

The Aru islands, Mysol, Waigyou and Jo[illegible] agree with New Guinea in their spe[illegible] mammalia and birds, and they are all [illegible] to New Guinea by a narrow sea. The [illegible] fathom line around New Guinea marks [illegible] range of the paradise birds.

This separation has no relation to [illegible] geological character. The Indo-Malayan [illegible] Austro-Malayan divisions hold two [illegible] types of the human race, the Malay and [illegible] Papuan, who differ radically in their phy[illegible] mental and moral characters, and under [illegible] other of these two forms, as types, the [illegible] of the people of the Eastern Archipelago [illegible] Polynesia can be classed; and the line sep[illegible] ing these two types comes near but some[illegible] eastward of that part of the zoological [illegible]

his easterly jutting of the Malay line has ɔen caused by the maritime enterprise and igher civilization of the Malay races, who ive overrun the nearer part of the Austro-alayan region, and have supplanted the ori-nal inhabitants and spread much of their nguage, their domestic inhabitants and their istoms far over the Pacific. To the Malay pe and to the Papuan type, respectively, all e people of the various islands can be group-. The Asiatic races include the Indo-Malay d all have a continental origin, while the ıcific races, including all to the east of the alay (except perhaps some in the northern ıcific) are derived not from any existing ntinent, but from lands that now exist or ıve recently existed in the Pacific Ocean.

The volcanoes of Java are in two lines, one mmencing near Cape St. Nicholas, its N. W. tremity passes diagonally across the island its south east headland on the Strait of di. The other line runs parallel, and extends ɔm Cheribon on the sea coast to the Strait Sunda. The volcanoes are in two sepa-te fissures in the earth's crust, and the lcanoes in it are cones of elevation, each dis-ıct and separate, their number being 38, and me of them of immense size. They throw it volcanic ashes, sand and scoriæ, and metimes trachytic lava. White clouds of lphuric acid gas continually wreath their ıaks and are destructive to life. Large quan-ies of sulphur are dug out.—*Bikmore*.

A severe earthquake was experienced in ıtavia, and over an extensive region in Java the 16th of November 1847. In the Courant the 27th October 1847, it was mentioned at a shower of ashes had fallen at Buitenzorg the night of the 17th, which came from the ıntur mountain, in the district of Limban-n, residency of Preangar. On Sunday the th October, at 11 o'clock P. M., the earthquake ɔcks, following each other in quick succes-n, were felt at Tijandjur, the first of which s very strong, and lasted for fully ten conds. The shower of ashes began to fall e same night, and on the following morning d already clothed the earth, grass, trees, and ildings with a brown covering. The fall of hes and sand lasted the whole day, and made very inconvenient to be in the open air. ıe eyes of travellers suffered. The earth-ıakes had not wholly stopped at Tijandjur the 29th October. The mountain had, wever, fortunately begun to be at rest, and damage had been caused by the eruption. ıe shower of ashes had reached as far as e frontiers of the residency of Bantam, a stance of more than 80 miles to the west.

The Tenger mountains of Java, mean the de or spacious mountains. There is here an old volcano with its trachyte crater 7500 feet above the sea, in diameter 3½ and 4½ miles. It is the largest crater in Java, and one of the largest in the world. Its bottom is a level floor of sand, which in some places is drifted by the wind like the sea, and is called by the Malays the Laut Pasar or Sandy Sea. Four cones of elevation rise from this sand floor, the smallest of which, called Bromo, in 1866 was active, throwing out ashes. It rises like Monte Somma in the crater of Vesuvius. But trachyte, obsidian and pumice have been thrown out in succession.—(*Bikmore* 74.)

Papandayang, another volcano in the island of Java, in 1772, in a single night, threw out scoriæ and ashes, which Dr. Junghuhn thinks made a layer 50 feet thick for seven miles around. In Dr. Horsfield's account of it, drawn up from the native testimony, it is stated that an extent of ground of the moun-tains and its environs 15 miles long and full 6 broad, was by this commotion swallowed up within the bowels of the earth; but this sink-ing, according to Professor Bikmore (p. 75), does not seem to have occurred.

Mount Galung-gong, a few miles north-east of Papandayang, is also a Java volcano. On the 8th July 1822, at noon, not a cloud was seen in the sky, when suddenly at half-past one a frightful thundering was heard in the earth, and from the top of this old volcano a dark dense mass was seen rising higher and higher into the air, and spreading itself out over the clear sky with such an appalling rapidity that in a few moments the whole landscape was shrouded in the darkness of night. Through this darkness flashes of lightning gleamed in a hundred lines, and many natives were struck down by falling stones. Then a deluge of hotwater and flowing mud rose over the rim of the old crater and poured down the mountain side, sweeping away trees and beasts, and human bodies. At the same moment, stones and ashes and sand were projected high into the air, and as they fell destroyed nearly every thing within a radius of more than 20 miles. A few villages being built on eminences on the lower declivities of the mountains, escaped as they were above the streams of hot water and mud, and the stones thrown out fell beyond them, destroying villages at a greater distance. By 4 P. M. the extreme violence of the erup-tion had passed; by sunset the sky was again clear and the sun shining on a scene of desola-tion. A second eruption occurred five days after-wards, and by that time more than 20,000 per-sons had perished. Tenger mountains are occupied by a peculiar people who speak a dialect of Javanese, and despite the zealous efforts of the mahomedans, they still follow the hindu religion.—(*Bikmore, pp.* 75, 76.)

Volcanoes in Java are usually bare of foliage alike on their summits as on their base, owing to the large quantities of sulphur that are washed down their sides. (*Bikmore, p.* 87.) Mount Slamat Peak is 11,330 feet above the sea, and is an active volcano; it is next to the highest in the island. Ungarung Peak is about 5,000 feet. The north coast of Java is low. Further inland from Ungarung are Mount Prabu, Mount Sumbing, and Mount Sindoro. At Boro-Boro hill in Java, which is terraced, is a buddhist temple built A. D. 1384, and many buddhist images remain, and at Brambanan are 296 hindu temples, erected A. D. 1266-1296. The Telaga-bodas,

White Lake, in Java, is the old crater of the volcano of Papandayang. Java coast towards the south is bold, and its rocks consist of hard volcanic basalts and trachytes.—(*Bikmore*, 79.)

The volcano of Tael is in the island of Luconia in Manilla. The island is formed by a mountain from three hundred and fifty to four hundred yards above the level of the Laguna de Bombon, is about three leagues in circumference and has a crater about two miles at its circumference on its summit. The lining walls of the interior are fifty to seventy-five yards in perpendicular height, and five cones of eruption covered with sulphur rise from the centre of the crater, a lake of green water which boils in several places. The Laguna de Bombon itself has a circumference of thirty leagues; its waters are brackish and bituminous, and of great depth; in some parts no soundings at 125 fathoms. The great eruptions occurred in the years 1716, 1746, and 1754.—(*Elder's Biography of Dr. Elisha Kent Kane*, 1858.)

North of Batchian is Makian, a volcano of which in 1646 there was an eruption.

North of Makian is Motir, a trachytic cone. —(*Bikmore, p.* 299.)

Gold has been washed for in the island of Batchian ever since 1774.

Makian is an island 50 miles from Ternate, consisting of a single grand volcano. In 1646 there was a violent eruption, which blew up the whole top of the mountain, leaving a truncated jagged summit, and vast gloomy crater valley. It was said to have been as lofty as Tidore before this calamity. On the 29th December. 1862, another eruption of this vast mountain took place, in which all the villages and crops were destroyed and many of the inhabitants killed. The sand and ashes fell so far that crops 50 miles off at Ternate were destroyed, and it was so dark at Ternate that lamps had to be lighted at noon. —(*Wall.* 9.)

Ternate is merely a high volcano, wi[th] base beneath the ocean. Its circumfe[rence] around its shore is six miles and its heig[ht] 5,400 feet. Severe and destructive e[rup]tions took place in 1608, 1635, 165[3], 16[..] and next on the 26th February 1838, the[n] the 25th March 1839, and on 2nd Febru[ary] 1840. In that of 1673, a consider[able] quantity of ashes was carried to Amb[oyna]. In that of 2nd February 1840, for fi[ve] hours, the solid ground rolled like the s[ea] but the heaviest ground wave was at 10 A. [M.] of the 15th February, and the people a[ll] took to their boats. In this interval t[wo] great eruptions of ashes and hot stones wh[ich] fell like hail. Lava poured from the crater to the sea. For ten days clouds of bl[ack] smoke poured out. About midnight of t[he] 14th, the shocks were more violent, and [be]fore half past three A. M. every house [was] levelled. Fissures formed in the earth, [out] of which hot water rose for a moment, [and] then the earth closed again to re-open [in] another place, nearly every house was [de]stroyed. Its population in 1865 was 9,[...] The lower part of the mountain behind t[he] town is covered with fruit trees, and hund[reds] of men, women and children go daily [up] the mountain to bring in the fruit, the mango, lansat and mangustin. When Dr[ake] visited Ternate in A. D. 1579, the Portugu[ese] had been driven out of the island by the [Sul]tan. Ternate with Batchian constit[ute] the ancient Moluccas. The people are three well marked races, the Ternate Ma[lays], the Orang Sirani and the Dutch. The f[irst] are the descendants of the intruding Ma[lays] who drove out the indigenes (who were [no] doubt the same as those of the adjacent m[ain]land of Gillolo) and established a monarch[y]; their language is quite unintelligible. T[he] Sirani are the Christian descendants of Por[tu]guese. Ternate town is at the foot of t[he] mountains. Ternate, Tidore, Motir a[nd] Makian are only cones standing on the s[ame] great fissure of the earth.—*Bikmore*, 306-3[..] *Wallace*, i. 300, 311.

Goram is a group of three islands in t[he] East Archipelago. S. E. of Goram is a li[ttle] group composed of raised coral reefs 30[0] 400 feet, with a volcano on the island of B[...] which broke forth in 1659. In the Go[ram] group, at Manowolko, east of Ceram, a sl[ight] infusion of Papuan on a mixture of Ma[lay] and Bugi, has produced a good looking peo[ple]. The Goram people are wholly traders, e[very] year they visit the Tenimber, Ke and A[ru] islands, the whole N. W. coast of N. Gui[nea] from Oetanata to Salwatty and the island[s] Waigiou and Mysol. They also extend the[ir] voyages to Tidore, Ternate, Banda and B[...]

boyna. Their prahu are all built by the Ke islanders, who annually turn out hundreds of neat boats. The Goram people trade in tripang, medicinal Mussoi bark, wild nutmegs and tortoise shell, which they sell to the Bugi traders at Ceram Laut and Aru.—*Bikmore*, 243. *Wall.* ii. 53, 60. *Mr. Piddington on the subject of Eruptions in Bengal Asiatic Soc. Transactions. Lyell's Elements, vol.* i. *p.* 440, *edition* 1850. *Dr. Bird's Notes to Capt. Foster's Account of Cape Aden, in Bombay Geographical Trans.* 1840, *referred to in Report of the Society for* 1850, *vol.* ix. *Report of the Society of Civil Engineers, May* 1851, *copied into Bombay Times, July* 9. *Miss Fanny Corbeaux's Letters in Athenæum, June* 28 *and July* 5, 1851. *Capt. Barker's paper in Lond. Royal Geograph. Trans.*, 1848. *Harris' Highlands of Ethiopia, vol.* i. *p.* 17. *Dr. Kirk's Journey from Tadjoura to Ankobar,* 1841. *Geolog. Trans.* 1841, *Bombay Geogl. Trans. vol.* vi. 1841 *to* 1846. *Bruce's Travels, quoted in Geographical Society's Report for* 1850. *Mr. Chancourtois in Report of the Academy of Sciences,* 17*th Nov.* 1845. *Edinburgh Philosophical Journal, April* 1846, *p.* 377. *Bombay Geographical Transactions, vol.* ii. *p.* 30. *Lyell's Principles of Geology,* 1832 *and* 1851. *Narrative of a Journey from Agra to Oujein in Asiatic Researches, vol.* vi. *p.* 36. *Asiatic Journal, vol.* ix. *p.*35. *Sir J. Malcolm's Cent Ind. Geol. of Malwa, by Captain F. Dangerfield, App. No.* ii. *to Sir J. Malcolm's Memoir of Central India, p.* 324-325. *Journ. Beng. As. Soc. pp.* 851-854. *Dr. Buist in Journ. Bomb. Geogr. Soc. pp.* 139 *to* 7. *Quarterly Journal of the Geological Society, p.* 552-3. *Huc. Chinese Empire, vol.* i. *pp.* ii. 16. *Bruce's Travels. Lands of the Bible by the Rev. Dr. Wilson, vol.* i. *p.* 9-25. *London Geog. Tran. vol.* ix. *and* xv. *Salt's Account of Travels Bombay Times, January* 16, 1839. *Cor. Ind. Rev. vol.* iii. *Bombay Med. Trans., p.* 666. *Med. and Phy. Science. Bombay Geog. Trans.* 1839. *Rev. Dr. Duff in Home and Foreign Missionary Record,* 1840. *Bombay Times* 1840, *p.* 467. *Lieut. Colonel Mignan in Almanac,* 1842. *Mr. F. Burr's account of Aden in Lond. Geol. Trans.* 1841. *vol.* vi. *p.* 80. *Bombay As. Soc. Trans. vol.* I., *p.* 84. *Ind. Rev., vol.* vi. 1842. *Dr. Malcolmson, Geology of Aden in Bombay Times,* 1843. *Dr. Arbuckle's in Bombay Geo. Trans. vol.* i. *p.* 302. *Lieut. Wellsted's Memoir on the coast N. of Aden, p.* 19. *M. D'bba's account of, p.* 12. *Dr. Buist. on specimens of lava from Aden, in Bombay. As. Trans. vol.* i. *p.* 345. *Captain Haines on Remarkable Currents betwixt the Arabian, and African shores, in Lond. Geog. Trans.* 1848. *Dr. Buist, on Volcanoes of India in Edin. Phil. Journal* 1852 ; *Bom. Geo. Trans.* 1852. *vol.* x.

VOLKAMERIA FRAGANS.

Irun, HIND.

A large common shrub with ovate cordate dentate leaves, white fragrant flowers (in the cold weather), terminal panicles.—*Riddell.*

VOLKAMERIA INERMIS. LINN. syn. of Clerodendron inerme, *Gært.*

VOLKAMERIA INFORTUNATA. ROXB. syn. of Clerodendron viscosum, *Vent.*

VOLKAMERIA KÆMPFERII. WILLD. Clerodendron squamatum, *Vahl.*

VOLKAMERIA MULTIFLORA. BURM. syn. of Clerodendron phlomoides, *Linn.*

VOLKAMERIA SERRATA. LINN. syn. of Clerodendron serratum, *Blume.*

VOLOGESES, a Parthian king, successor to Gotarzes. Josephus tells us that, on his accession, he made over the province of Media (which, of course, would include Khorasan and as much of Ariana as belonged at that time to Parthia,) to his younger brother Pakores and Armenia to Tiridates, a younger brother. The Vologeses of the Greeks is however supposed by Lassen to be the Abagasus or Abalgasius, one of the Greek successors to Alexander in Arian Abakhafasa, A. D. 70 or 80. See Abagasus, Greeks of Asia, Kabul.

VOLUTA, a genus of molluscs of the family Volutidæ.

GENERA. Voluta. Volute. *rec.* 70 sp. *fossil*, 80 sp.
Sub-genera. Volutilithes. *rec.* 1 sp. also *fossil.*
Scaphella. *rec.* and *fossil.*
Melo. *rec.* 8. sp.
Cymba. Boat-shell. *rec* 10 sp.
Mitra. Mitre-shell, *rec.* 350 sp. *fossil,* 90 sp.
Sub-genera. Imbricaria.
Cylindra.
Volvaria. *fossil*, 5 ? sp.
Marginella. *rec.* 90 sp. *fossil.*
Sub-genus. Hyalina. *rec.*

VOLVARIA. See Voluta. Vespertilio.

VOMIT NUT. ENG. syn. of Strychnos nux vomica, *Linn.*

VON HANEN. See Neibuhr.

VONONES, B. C. 100, called Balahara, supposed to have been a Parthian satrap who asserted independence, and created a kingdom for himself out of the dominions of Azilises. See Greeks of Asia, Kabul.

VOOCH. See Khyber, p. 514.

VOODAGA WOOD. A wood of the Northern Circars.

VOODHARUM. See Hindoo.

VOOGHAPALA. SANS. Cynanchum extensum.

VOOPOO-CAREE-NEER-MOOLLEE. Dilivaria ilicifolia.

VORDIKAS. See Brahman.

VORI, or Vuri. TEL. Oryza sativa, *Linn.*

VOROKHTHA. See Kishm Island.

VORUKU GADDI, at Simhachalam, not identified.

VATTE HULLY. CAN. A wood of S. Canara.—*Mad. Cat. Ex. of* 1862.

VORKAY, an island of great importance for the pearl fishery lying exposed to the ocean. At a distance of eight miles to the eastward, lie several small islands, between which and Vorkay the trepang banks are situated. At low water, hundreds of men, with their wives and children, may be seen wading from Vorkay towards these isles (the water being only two or three feet deep), carrying a basket at their backs, and having in their hands a stick provided with an iron point. When the water is deeper than this they make use of canoes. For fishing on the banks situated at a greater distance, the Alfoer race use a prahu constructed for the purpose, in which they embark their entire families. These vessels have a very strange appearance. They have agreat beam,andthe stern runs up into a high curve, while two planks project forward from the bows. The family reside in three or four huts composed of atap, or Nipa fruticans leaves, erected within the vessel, and a railing runs entirely round it, apparently to prevent the children from falling over board. The prahu is propelled by a large sail made of rushes, which folds up like a fan (in a similar manner to the sails of a Chinese junk), set upon a tripod mast of bamboos, while it is steered with two rudders. Two other masts are also erected, which answer no purpose but that of displaying several small flags. The pearl fishery is thus carried on. The trader makes an agreement (for the oysters) for so much a hundred, paying in advance a certain quantity of arrack, cloth, &c. When the price is agreed on, the fisher goes to the bank and dives for the oysters, which are mostly small and black, in from twenty-four to thirty feet water, selecting the best he can find. The diving is attended with much difficulty and danger, as, from the time he remains under water, the blood often bursts from the nose and mouth of the diver, while he is also liable to be destroyed by the numerous sharks which are to be found there. In engaging these people, it is necessary to pay off their debts, and, free from this incumbrance, they will readily proceed to any part of the Archipelago.—*Mr. G. W. Earl Indian Archipelago and Papuans.*

VOWS. Luke v. 14. "Offer for thy cleansing, according as Moses commanded." A hindu, after recovering from sickness, presents the offerings he had vowed when in distress; as a goat, or sweetmeats, milk, or any thing directed by the shastras.

VRASH. HIND. Rhus buckiamela.

VRI-HASPATI. The founder of the atheistical school of the hindus. He asserted that the whole of the hindu system is a contrivance of the priesthood to secure a means of livelihood for themselves.

VRIHASPATI, or Varahspati, one of the most common names of the planet Jupiter. Vrihaspiti chacra, the cycle of 60 years, which gives a specific name to all the Solar and Luni solar year. Vrihaspati mana, the year of Jupiter, during which he describes one sign of his orbit. The Telugu astronomers make no difference between this and the common solar year. Vrihaspati, the planet Jupiter, is the guru or priest of the Devas, whom he once deprived of his blessing, in consequence of which they suffered greatly. The word is from vrihat, great, and pati, lord. See Graha, Inscriptions.

VRIHI. SANS. Rice.

VRIJ, the Suraseni of the Greeks. Nothing presents so great a contrast as the poor, slovenly appearance of the Vrij-bashi men, and the delicate features and the brilliantly fair complexion of the Vrij-bashini or ladies of Vrij. Though brought up in poverty and destitution, the women possess a grace and dignity which would warm the coldest heart to admiration. Nearly all that has been said about the Chowbay sect, might apply to the Vrijbashi of the same race, manners, and pursuits. But the Vrij-bashi are a more pastoral people than their richer brotherhood of Muttra. There are about 5,000 Vrij-bashi, out of which 200 families follow the profession of Panda. The Vrij-bashi are dobay—their brethren of Muttra are Chowbay. The principal business of a Panda is to keep a look out for pilgrims. In the midst of the town of Vrij is the handsome tomb of Runjeet Sing, who defended Bhurtpore so bravely against Lord Lake's army. Inside the dome of Runjeet Sing's tomb, the siege of Bhurtpore is represented. Lord Lake is dismounted, and standing before his white horse giving orders to his soldiers. On the opposite side of the dome, Runjeet Sing, in a plain white dress, is standing erect before his idol, at his devotions, with his ministers behind him. On the other two sides he is at his favourite field sports.—*Tr. Hind. vol.* ii. *pp.* 95, 96, 111, 112.

VRIKSHA. CAN. Acacia serissa, also Dalbergia latifolia, *W. & A. Roxb.*

VRINDA. SANS. Ocimum sanctum.

VRINDA-VANA. SANS. From vrinda, thick, and vana, a forest, a village on the right bank of the Jumna, the original country of the Yadu,—Bindraban, or Vrindavana, signifying a grove of "Toolsee" trees. It is a holy hindoo town situated on the right bank of the

river Jumna, from over which, in a boat, a most picturesque view may be obtained of it, presenting a panorama of great beauty. The circumstance which imparts most to the sacredness of Bindraban, is its having been the seat of the early revels of Krishna, the Apollo of the hindoos; Mutra having been his birth place. While many a hindoo Anacreon courts the muses with lays dedicated to this youth, prominent in hindoo mythology, minstrels and maids join in soft strains to his praise. Bindraban, among other things, is now noted for the manufacture of pretty toys made of a composition that may be mistaken for a mineral. Indeed the vendors pass them off as such, and to enhance their value declare that they are brought from Jeypoor, where articles of this description and marble toys especially receive a fine finish. The Valabba Charya sect of the vaishnava hindu have many hundreds of their temples at Mathura and Bindraban. At Benares and Bindraban, the annual dances constituting the Ras-Yatra, in commemoration of Krishna and the sixteen Gopi, are performed with much display.—*Tour of India by French, p.* 214. See Rad'ha, Vallabhi, Ras Yatra, Rudra Sampradayi.

VRISHA. See Nandi, Vrishala.

VRISHALA. SANS. In the hindu religion, a bad man who slays a bull. Nandi is the sacred bull of Mahadeva, or Siva: it is his vahan, and by some described as the emblem of justice. In the institutes of Menu, c. 8, v. 16, the divine form of justice is represented as Vrisha, or a bull; and the gods consider him who violates justice as a Vrishala, or one who slays a bull. Nandi is the epithet always given to the vehicle of Siva; and it may be applied also to the vehicles of other deities. We sometimes find it used in speaking of Garuda, the vehicle of Vishnu, and of the goose or swan, Hanasa, the vahan of Brahma.—*Moor.* See Chandragupta, Nandi, Siva.

VRITRA, otherwise called Ahi, in hindu mythology, the personification of the raincloud; with whom Indra, the lord of thunder, had a contest.—*Thomas' Prinsep's Antiquities.* See Vedas.

VRUKCHUM. SANS. See Tree.

VRUTES are unconditional vows to perform certain religious ceremonies, Mununu is a conditional vow, promising to present offerings on condition that the god bestow such or such a benefit.—*Ward's View of the Hindoos, vol.* ii. *p.* 75. See Vows.

VUCCA. TAM. a thick rope made of the Crotalaria juncea fibre, for dragging timber, made in Travancore.—*Simmond's Dict.*

VUCKANA MARAM. TAM. Diospyros cordifolia.

VUCKU-NAR. TAM.? MAL.? Crotalaria juncea.

VUDA GADDI, or Udagadi. TEL. Panicum flavidum, *Retz.*

VUDAH. ARAB. Ficus religiosa.

VUDAM. TEL. Terminalia catappa, *Linn.*

VUDAM VITTULU. Terminalia catappa, *L. R.* ii. 430. *Rheede.* iv. 3.

VUDAPA ALLAM. TEL. Poa bifaria, *Roxb.*

VUDAPA CHETTU, or Gatrinta. TEL. Hugonia mystax, *Linn.*

VUDATA CHETTU, or Balikomma. Opilia tomentacea, *Roxb.*

VUDA TALLAM. Poa bifaria, *R.* i. 331.

VUDATA TOKA GADDI. Lit. Squirrel's tail grass. Eleusine calycina, *Roxb.*

VUDDAMBA. A Travancore wood of a brown colour, specific gravity 0·750, used in building common houses.—*Colonel Frith.*

VUDGE. PERS.? Sweet Flag, properly Vaj or Vuj.

VUDYA, or Vudza. TEL. Acorus calamus aromaticus. Sweet Flag.

VUGEPALA. SANS. Cynanchum extensum.

VUGEN. DUT. Figs.

VUJ. PERS. Acorus calamus aromaticus, *Linn.*

VUJRAKANTAKA. SANS. Euphorbium.

VUKKA. TEL. Nut of Areca catechu, Betel nut.

VUKKU-NAR. TAM. Fibre of Crotalaria juncea, *Linn.*

VUL-VAYLUM, or Vel-vaylum. TAM. Acacia ferruginea.

VULA. TEL. Cadaba Indica, *Lam.*

VUL-ADAMBU. TAM. Calonyction grandiflorum, *Choisy.*

VULA-MARAM. TAM. Feronia elephantum.

VULA POLUMORINIKA. TEL. Cadaba Indica, *Lam.*; *W. and A.*

VULCAN. See Saraswati, Kartikeya, Yavana, Viswakarma; the last named is the Vulcan of the hindus.

VULISI. TEL. Guizotia oleifera, *D.C.*

VULLA, properly Velli pundu. TAM. Garlic.

VULLAK, properly Vilak yennai. TAM. Ricinus communis. Lamp oil.

VULLAR, a lake of Kashmir, from which the Jhelum issues.

VULLAR, or Vullai tutam. TAM. White copperas, Sulphate of zinc.

VULLARI, or Vullari kire. TAM. Hydrocotyle Asiatica, *Linn.*

VULLAY, or Vellai kungillam. TAM. Dammer.

VULLAY NAWEL PALLAM. TAM. Calyptranthes caryophyllifolia.

VULLAY PASHANAM. TAM. Arsenic.

VULLAY KALANGU. TAM. Batatas edulis.

VULLERI-KAI. TAM. Cucumis sativus.

VULLERI VIRAI. TAM. Seeds of Cucumis sativus.

VULLI KEERAY. TAM. Convolvulus repens, *Linn.*

VULLI GADDA. TEL. Allum cepa, *Linn.*

VULLI KANIRAM. MALEAL. Cocculus acuminatus, *D.C.*

VULOCAL, or Vulvaylum maram. TAM. A strong wood of Ceylon which is used by the natives in making farming utensils. It grows to twenty inches in diameter, and twelve feet in height. The bark of this tree, with the Maradum bark and ginger, is used by the natives for cleaning and preserving the teeth.—*Edye, Ceylon.*

VULPES. the Fox.

Taaleb,	AR.	Nomri,	HIND.
Shual,	HEB.	Kokri,	MAHR.
Lomri,	HIND.	Robur of	CANDAHAR.

In India, three foxes are met with, and may be noticed separately :

Vulpes Bengalensis. *Shaw.*

Canis Bengalensis,	*Gray.*	V. corsac,	*Gray.*
„ kokree,	*Sykes.*	V. Bengalensis.	„
„ rufescens,	*Gray.*	V. Indicus et Kokree,	*Blyth.*
Vulpes Indicus,	*Gray.*		
Lomri, Loomri,	DUK.	Bengal fox,	ENG.
Noomri,	„	Common fox,	„
Bengal dog,	ENG.		

Lives in the entire of India and the adjacent countries, but varies both in size and colour in different localities ; generally of a greyish brown with a fulvous cast, passing in some cases to Isabella : it is always variegated above with the intermixture of whitish hairs. It is a very pretty animal, but much smaller than the European fox, with a short head, very sharp muzzle, oblique eyes, nut-brown irides, very slender legs and very bushy tail trailing on the ground. Its principal food is rats, land crabs, grasshoppers, beetles, and fruit, the mango and custard apple are largely eaten. It always burrows in open plains, runs with great speed, doubling like a hare ; but instead of stretching out at first like the hare, and trusting to its turns as a last resource, the fox turns more at first, and if it can fatigue the dogs it then goes straight away.

Vulpes flavescens. *Gray.* Silver Fox.

Vulpes montanus, *Hodg.* | Bobur of CANDAHAR.

This species is numerous in the valleys around Candahar, hiding in burrows and holes in the rock. It is about two feet long from the nose to the insertion of the tail, and the tail is about seventeen inches, height at shoulder about fifteen inches. Its tail is yellowish, back rather darker inclining to brown, face and outer side of fore legs and base of the tail pale fulvous, spot on the side of the face just before the eyes, the chin (breast), the front of the fore legs, a round spot on the upper part of the hind foot, and the tips of the hairs of the tail blackish, end of tail white and ears externally black. The skins are sold and are made into the reemchah and postea. One night, says Adams, we were disturbed by the barking of a fox, and at daybreak on the following morning, I shot a female and cub of the silver fox, Vulpes flavescens, both within a few yards of my resting place, where they had been devouring the refuse of my previous night's dinner.

Vulpes montanus. *Pearson.* Hill Fox.

Canis vulpes montanus,	*Pears.*	Vulpes nepalensis,	*Gray.*
		Mountain Fox	ENG.
„ himalaicus,	*Ogilby.*	Hill	„ „
Vulpes montanus,	*Gray.*	Red	„ „

The hill fox of India dwells in the Himalaya, ranging up to the snow limit ; and in winter, when the snow is on the ground, they are very numerous about Simla, coming down to the houses in search of offal. Its fur is exceedingly rich, dense and fine, the longer sort measuring fully two inches upon the back and the inner every where of considerable length and woolly character. General colour pale fulvous, head mixed with white, tail bushy and white tipped. V. montanus was not seen by Dr. Adams beyond the wooded regions of Cashmere, and is evidently replaced by the silver fox, V. flavescens, which is not however partial to the barren regions of Ladak, but is also to be met with on the tops of the southern Punjab. Vulpes montanus is generally distributed over the lower and middle regions of the Himalaya, up even to the limits of forest. Although often seen during the day, its depredations are chiefly at night, when it prowls about houses after poultry ; and in the jungles when it preys on kalij pheasants and other birds. This handsome species is readily recognised by the rufous on the back and pale fulvous on the legs.—*Adams. Jerdon. Herbert.*

VULR. HIND. Verbascum thapsus.

VULTURE.

FAMILY Vulturidæ.

Sub-Fam. Vulturinæ, 2 gen. 2 sp. viz., 1 Vultur ; 1 Otogyps calvus.

Sub-Fam. Gypinæ, 1 gen. 3 sp. viz., 3 Gyps.

Sub-Fam. Sarcorhamphinæ, 2 gen. 2 sp. viz., 1 Sarcorhamphus : 1 Neophron percnopterus.

Sub-Fam. Gypætinæ, 1 gen. 1 sp. viz., 1 Gypaetos barbatus.

The Egyptian vulture is a native of southern Europe, Asia, and Africa. On the temperate regions of the Himalaya it follows man wherever he congregates ; and on the plains of India its gaunt forbidding figure is seen stalking among all animal refuse. It is the smallest of the tribe found in the East ; its total length seldom exceeding 26 inches. The vultures ... crane, which soar high in the heavens ...

ıetimes called garuda, and geed. Vultur nachus has been met with at Umballa. ɔ shot there in 1866, weighed lbs. 17, and ı 8 feet 2 in wing measurement.

VULULUVI. TAM. Celastrus paniculatus.

VUL-VAYLUM. Acacia ferruginea.

VUM-MAAI. TAM. Chloroxylon swiete- Roxb. W. & A. DC., also Vum-madi. TAM. oroxylon swietenia, DC.

VUM-PARATI. Gossypium herbaceum.

VUNGALA-PATCHEI. TAM. Verdigris.

VUNI. TEL. Acacia ferruginea, DC.

VUNKI. TAM. An article of jewellery.

VUNNY —? Prosopis spicigera.

VUNU-DEVI. SANS. From vana, a forest, devi, a goddess.

VUPANAYANAM. See Upanayanam, Hin- .

VURAITCH. See Jat.

VURKI-ZUKKUM. ARAB. Euphorbia lfolia, Linn.

VURNU-SUNKURU. SANS, from varna, ɔe or profession, and sankara, mixed.

VURTULI. HIND. Dichrostachys cinerea, & A.

VUSALAI KIRAI. TAM. Spinacea ole- ıa.

VUSHIRA. SANS. Potentilla officinalis.

VUTTA-KELOO-KELOOPAY. Crotalaria ucosa.

VUTTA TAMARE. TAM. Macaranga In- ı, R. W. A simple pure gum of a crimson ɔur from Travancore is obtained from this ɔ, it has been used for taking impressions eaves, coins, medallions, &c. When the gum ure and carefully prepared, the impressions as sharp as those of sulphur, without its ıtleness, the exudation so far as known is entirely unknown production.—M. E. of 7.

VUTTI-KHILLO-KILLUPI. TAM. Cro- ria verrucosa, Linn.

VUTTOM. In Southern India, pieces of t steel, as they come from the crucible.

VUTTY MARITHY. TAM. A Travancore ɔd of a brown colour, specific gravity 95, used in building common houses.— onel Frith.

VWI—? Dioscorea, species.

VWIR. HIND. Salix alba.

VYA-KARANA. SANS. In Sanskrit, gram- r is called vyakarana, which means analysis taking to pieces.—Muller's Lectures, p. 107.

VYAMBU, or Vashampu, or Wussumbu. ıL. Acorus calamus aromaticus.

VYANA. MAL. Cinnamomum iners.

VYAN MATA. The kula-devi, or tutelary ldess of the house of Esupgol of Bunder- ra, whose daughter married Bappa.

VYASA, son of Satyavati, his specific name was Krishna Dvaipayana.

VYASA. Son of a rishi by the daughter of a fisherman, author of the Mahabharata, and arranged the Vedas. The Vedanta of Vyasa considered all existing beings and things to be an evolution of the deity in and through- out all beings and things. Sankaracharya went further and declared that the soul of man is a part of the deity, not different, but confined in the body as a temporary pri- son, and on the death of the body flowing back to the deity. Vyasa, the author of the Maha- barata, was son of Santana, of the race of Heri, sovereign of Delhi, but by Yojnaganda, a fisherman's daughter, consequently illegiti- mate; he became the spiritual father, or precep- tor, of his nieces, the daughters of Vichitravi- ra, the son and successor of Santana. Vichitra- vira had no male offspring. Of his three daugh- ters, one was named Pandea; and Vyasa, being the sole remaining male branch of the house of Santana, took his niece, and spiritual daugh- ter, Pandea, to wife, and became the father of Pandu, afterwards sovereign of Indraprestha. Arrian gives the story thus. He (Hercules) had a daughter when he was advanced in years, and being unable to find a husband worthy of her, he married her himself, that he might supply the throne of India with monarchs. Her name was Pandea, and he caused the whole province in which she was born to receive its name from her. Vyasa is reputed to have arranged the Vedas as they now are. In the Vishnu Purana is a list of 28 Vyasa. In Sanscrit, Vyasa means distri- butor, in this, Vyasa is kindred to the Greek Homeros, ἁμ and ἀρ.—Tod's Rajasthan, vol. i. p. 80. Rev. William Taylor. See Inscriptions, Nyaya, Pandu, Polyandry, Vidya, Advaitam, Veda, Vyasa.

VYASA'S SUTRA. See Vallabha Acharya.

VYAS RISHI, a sacred pool at the Rotang pass, the source of the Beas river. Vyas Rishi pool is 13,000 feet above the sea. Endrasa is at the site of the confluence of the Beas and Sutlej rivers.

VYGAH, a river in Madura, lat. 10° 17′ lon. 71° 37′ runs S. E. into the Bay of Ben- gal, after a length of 130 miles. The large anicuts upon it are Conoor, diverting a stream of same name, Parea, Ausi, and Chittanaik.

VYGEN. DUT. Figs.

VYHRITIS. SANS. These are the mysteri- ous words Bhur, Bhuva and Swaha. See Gaitri. Hindu.

VYLEN. DUT. File.

VYUHA. See Sri Sampradaya.

W, the twenty-third letter of the English alphabet, takes its shape from a repetition of the letter v. Most of the modern languages of Europe do not have the letter w. In the English language it is a consonant when at the beginning of words and syllables, as wail, forward; but is a vowel when at the end of words, as in new, row. Many races have a difficulty in pronouncing the consonantal w, and others interchange it with the letter v. In all the dialects and tongues of the East Indies, there is a perpetual tendency to interchange the sounds of v and w, or to substitute the latter entirely. The mis-use of these two sounds is, in India, like that of London. In Tamil, this often occurs, so that varam becomes waram, and in the Persian wao, used in Hindustani words derived from the Arabic, it has the sound of v and w, as vakil, wakil; vazir, wazir. In Mahrati, for the same letter, are the two sounds of wau and vau, the latter especially occurring when before i or e, or when combined with ri or r. In Malayalam it has usually the sound of v, but in composition that of w, as in swarga. In Guzerati, the uneducated people pronounce the sound as w the educated as v̈.

WA. Burm.

Wass,	Singh.	Varsh or Warsh,	Sans.
Barish,	Hind.		

Wa is the three months of the Burmese rainy season. During these three months the wandering buddhist mendicants were enjoined to remain in a fixed habitation. The monks are expected during this season to be doubly particular in abstraction from secular affairs, in abstinence and meditation: it is the great season for preaching to the laity.—*Yule, p.* 120.

WA. Burm. Mouth of a river.

WA. See Myen-mo.

WA. Burm. Amorphophallus campanulatus, *Bl.*

WA. Burm. Bambusa arundinacea, *Roxb.* The bamboo.

WA. Burm. Gossypium Indicum, *Lam.* Gossypium herbaceum, *Linn.* Native cotton.

WA-BO. Burm. Bambusa gigantea, *Wall.*

WACHES. Ger. Wax.

WACHOLDER-BEEREN. Ger. Juniper berries.

WACHOLI. Hind. of Bunnoo, same as Barani, or rain irrigated land.

WACSH. Dut. Wax.

WADA-GALLAI, a sect amongst the Tamil sudra, commonly known as the right-hand caste, to distinguish them from the Tengalai, or the left-hand caste. The literal meaning of these words are northern sect and southern sect, but the points of difference are very obscure. See Left Hand Castes, Right Hand Castes, Tengalai.

WADALEE. Singh. Inspissated juice of Acacia catechu.—*Sim. Dict.*

WADANG, or "Bayur," a light and tolerably durable wood of Java, employed for masts and spars of small vessels; but the surface must be covered with resinous substances to prevent it splitting.

WADARA, or Waddar, the Wadara [illegible] loo of the Tiling people, are to be seen all through the Hyderabad dominions. They are migratory, dwell in little huts of reed or [illegible] grass, and move to any place where they can find employment. They are spread across the peninsula of India from the valley of the Nerbudda to the south, all speaking Telugu. They are road-makers, tank-diggers, and labourers. The men and women vary greatly in size, though some of the men are stout and athletic. They all drink heavily. Wadara have two castes, one of them earth diggers who eat rats, the other quarriers and stone-cutters.

WADDA-KAHA. Sing. Sweet flag, Acorus calamus, *Linn.*

WADERS, an order of birds known to naturalists as the Grallatores. In India the small waders are particularly common, including most of those found in Britain, in greater or less abundance.

WADIAR, Waddiwara, the Waddara [illegible] speaking Telugu, who are road-makers, tank-diggers. See Wadara.

WADI-ARABAH. The valley connecting the Gulf of Akaba with Palestine, is in length 105 miles, its summit level is 495 feet, [illegible] Dead Sea extremity 1446 feet below [illegible] Mediterranean.—*Petterman in Lond.* [illegible] *Trans.* 1848, *vol.* xviii. 89. *Dr. Buist's Catalogue.*

WADI BUTI. Hind. See Ajuga br[illegible]

WADI TOR, or Bell Mountain in the peninsula of Mount Sinai. During certain [illegible] of the wind, its sands, when put in [illegible] give out sounds like a bell. A similar [illegible] tain occurs near Cabool, described by [illegible] in Bl. As. Trans. 1838, as Reg R[illegible] Moving Sand.—*Newbold in Lond. As.* [illegible] *vol.* vii. *p.* 78. *Dr. Buist's Catalogue.*

WADI ZEBID. ARAB. See Ficus religiosa?

WADURANEA. SINGH. A carpenter's measure, composed of 24 angula, which is divided into four parts. The angula is equal in length to a grain of rice.—*Simmond's Dict.*

WAE KOOMBHA. MAHR. Careya arborea, *Roxb.*

WÆLA. SINGH. Artocarpus integrifolia, *Linn.*

WAEL-KOLUNDU. SINGH. Wormwood.

WAFKAN. Bokhara town is in L. 39° 27′ N., L. 80° 19′. It is surrounded by a desert, but is watered by the little river Wafkan, which flows between forests of fruit trees and gardens.

WAGA. Acacia odoratissima.

WAGHER, a race who occupy Dwarika. They and the Badhail were long the terror of the neighbouring seas. See Badhail, Dwaraka, India, Kattyawar, Jhareja, Kutch.

WAGHERI, a race of hunters in western India, considered outcasts from society. Hindoos regard their flesh-devouring propensities with horror, and mohamedans, however poor, loath the men who track the wild boar to his reedy bed, and voraciously devour his unclean carcass. The Wagheri has a bright, restless eye, and a wild and independent bearing; the expression of his features is strongly marked, evidencing the existence of more powerful passions in the individual than is common to the general character of the Hindoo races. European sportsmen frequently retain them at a hunting establishment, and habit has enabled these Wagheri to trace the wild boar and other large game. In character, the Wagheri is daring and revengeful, ready to commit any act of violence for reward.—*Postan's Western India, vol. I., p.* 103-4.

WAGHIA, also Wagoba, the tiger deity worshipped by the Bhil and Naikude Gond races, and under the name of Bag Deo, by the Kurku. Waghia is worshipped by the Bhil in the form of a rude stone, at the edge of a forest or jungle, and sometimes in the form of a tiger. A recent writer says he overhead two village Bhil, Gopaji and Devaji by name, reviling their idol at the edge of the jungle in round terms. "You fellow!" cried Gopaji, "I gave you pulse and broth, and a chicken, yet you killed my buffalo!" "Broth and a chicken!" screamed Devaji; "I gave you three chickens and a goat, yet you carried off my child! What more do you want, you rascal?" The forest races of the Gondoor valley style the tiger their brother, and allege that their brother never hurts them.

WAGHORN, a Lieutenant of the Royal Navy, the first who advocated the Red Sea line for communication with India, and made great efforts to promote its success. He devoted several years of his life to the establishment of overland communication with India. He died 8th January 1850, neglected and in poverty, but his widow was granted a small pension from the Royal Funds.

WAGHUTTI. MAHR. Capparis grandis and Capparis brevispina.

WAGHYZ. HIND. PUSHT. Juglans regia. Walnut.

WAG-NAK. MALAY. The Bag-nak or Tiger-claw weapon of the Mahrattas, worn on the fingers.

WAG-NA-KHYAT. BURM. Bambusa spinosa, *Roxb.*

WAGTAIL. Several kinds of wagtail occur in India. The gray wagtail is the Motacilla boarula; the lark-toed wagtail, Budytes citreola, occurs in the irrigated fields; the spotted hill-wagtail, Enicurus maculatus, is one of the most handsome denizens of the mountain streams. It is larger than the pied wagtail, and nearly 11 inches in length.—*Adams.* See Birds.

WAGU. JAV. Gnemium gnetum.

WAGUR, the most eastern part of Kutch, inhabited by the Wagila rajputs.

WAH! Amongst mahomedans and Sikhs, an exclamation, used like the English Bravo! Well done! Hear! Hear! Hurrah! The usual war cry of the Sikhs is "Wah! wah! Guru ji ke fattah!" Hurrah for the victory of the guru.—*History of the Sikhs, p.* 143.

WAHABI. Mahomed ibn Abd-el Wahab, a native of the province of Nejd, belonged to the pastoral tribe of Temin. He was born at El-Ayneh in 1691, and from him sprung a sect which assumed the name of Wahabee. The doctrines which they adopted were severe and puritanical. They acknowledged one God, and believed that the Koran was an inspired writing; they also acknowledged Mahomed to be the prophet of God, but deprecated any peculiar homage being paid to him, as they considered him a mortal like themselves, though gifted with a divine mission. These doctrines spread with amazing rapidity through the various tribes of Nejd, and the reformers soon obtained a preponderating influence in the north-east part of Arabia; while by his powerful servant, sheikh Mekrani of Nerjan, Abd-el-Wahab carried his victorious arms into Yemen. On his death he was peaceably succeeded in his temporal and spiritual power by his son Abdool-Azees, during whose reign the doctrines of the new sect were received through the greater part of the peninsula. Mecca and Medina were added to their conquests in 1803 and 1804,

the treasuries were plundered, and all the holy tombs, which were an abomination to these reformers, were destroyed. The southern Wahabees began their career in 1834, when Abd-el-Hakal, chief of the Beni Hasseu, commenced striving for conquest. The power of the Wahabees continued to increase until 1813, when Mahomed Ali, pasha, took up arms against them and restored the holy cities of Medina and Mecca, to the nominal protection of the Porte, but virtually made himself master of the Hejaz: and during the years 1814-1815, conducted operations with varied success. On his return to Cairo, he sent his son Ibrahim Pasha, and the campaign which followed, characterized by a series of the most barbarous cruelties, resulted in the complete downfall of the Wahabee power, the conquest of Deria, and the capture of Abdulla-ibn-Saood, the Wahabi chief. Ibrahim returned to Cairo, embarking from Jedda for Cossier on the 16th November 1819, but under another leader progress was made in bringing the rulers in Yemen, and particularly the Imam of Senaa, under the yoke of Mahomed Ali. The doctrines of the Wahabi sect spread into India and other mahomedan countries. In India the followers are undoubtedly the most intelligent of the mahomedan races and sects, but the Wahabi are still numerous in northern and eastern Arabia.

Muhammad-ibn Abul-l-Wahhab was not an innovator but a reformer, whose aim was the restoration of islam to its primitive purity and simplicity, by insisting that its fundamental dogma, "there is no deity but God," absolutely forbade all veneration to man, prophet or apostle, living or dead, however highly distinguished by the divine favour. There can be no doubt that beyond this utter exclusion of human merit the formula, as originally proclaimed by Mahomed, implied the doctrine of the absolute sovereignty of God in a sense which reduced all created beings to a mass of unconditional passiveness. Palgrave gives a splendid dissertation on the full import of this symbol of islam. The great Wahhabi appears to have grasped this theory, but it is highly probable that his efforts to explain it only added to its abstruseness, thereby giving some colour to the charge brought against his writings by the orthodox, that they consisted chiefly of "sophisms and speculations." It is equally reasonable to suppose that a very limited number of his disciples were capable of appreciating the more recondite views which his power of abstraction enabled him individually to entertain of the nature and attributes of the supreme being; less difficult of general comprehension, however, was that part of his system which denounced all honours paid to saints and tombs as heretical innovations, detracting from the worship due solely to the Creator, and therefore to be regarded and dealt with as idolatrous. To say nothing of pagans and christians, whom all mahomedans hold to be polytheists, the doctrine thus revived placed Sunni and Shiah, Ibadhiyah and Raffi hi, alike in the same category, and moreover sanctioned their being dealt with as su... despite their negation of any deity save ... by a strict adherence to the orthodox formul... Hence it was that "they legalized the despoil ing of the mahomedans, taking their wives i... marriage before they are legally divorced from their husbands, and without observing the *Iddh*, and also the enslavement of their children." All these outrages, from the Wahhabi stand point, were solemn duties imposed upon them by their obligations to God and islam, which they could not forego without risking their own salvation. Wahhabism in fact, apart from certain speculative notions respecting the supreme being,—in the m... perfectly in accordance with the theology of the Koran,—may be defined as a politi... religious confederacy, which legalizes the i... discriminate plunder and thraldom of ... peoples beyond its own pale.

Towards the latter part of the 18th century the sect became very numerous, powerful, and fanatical. In 1803 they laid siege to Mecca and Medina and took them, slaughtering all who would not embrace their doctrines. They held these holy cities until the year 1809, when the legions of Eygpt and Turkey were poured against them. After many sanguinary engagements the Wahabees were defeated, but not exterminated. It was against the political power of this sect that the Indo-British army and navy fought the battles of Ras-ul-Khyma and Beni-bu-Ali in 1819and 1821. This sect got adherents throughout all India, and some of its members seem early to have organised a conspiracy against the British Government. Mr. William Tayler, in 1857, was the Commissioner of Patna at the very outset of the ... and he placed the leading moulvies (among whom was the notorious Ahmed-oola) under precautionary surveillance, thereby paralysing the entire body. Dewan Mowla Buksh, ... deputy magistrate, devoted himself to his co-operation with him and seven years afterwards received the Star of India. Wi... Ali Khan, the most influential citizen of Patna, cast in his lot from the very first with the British authorities, and did inestimable service, for which he received neither commendation nor reward. Case Ramzan Ali and many others behaved well. In the middle of the century, acting from Patna as their head

quarters, the Wahabees engaged for many years in treasonable practices, sending men and arms and treasures beyond the frontiers for the purpose of raising and waging a jehad or religious war against the British. Notwithstanding the events of the mutiny, the Wahabee moulvies or preachers in Patna redoubled their exertions to collect recruits and money for a jehad. Emissaries were sent to all parts of the country to preach and induce ignorant men to join in the undertaking. Thousands of quiet villagers from Lower and Eastern Bengal flocked to Patna, where they were entertained for a few days at Sadikpore and thence sent forward in bands of eight or ten through Umballa to the Mulka Sittana Hills. Then followed the Frontier War in 1863, under Brigadier Chamberlain, which cost the British Government much trouble, no small amount of treasure and many valuable lives, there having fallen in that short campaign 847 European and Native officers and men. Even whilst the war was being waged, the Wahabee moulvies at Patna were sending, in large quantities, gold mohurs and hoondies for the support of the rebels, and although the rebellion was crushed, temporary failure but stimulated them to renewed exertions, openly preaching sedition in every village of the most populous districts, unsettling the minds of the mahomedan population, and obtaining an influence for evil as extraordinary as it was certain. It is one of the leading principles of the Wahabees, that it is their duty whenever the occasion offers to commence a jehad or holy war for the extirpation of all infidels, in which class they regard not only christians, but also mahomedans of other sects. For this purpose they monthly and yearly lay bye part of their incomes; and through their moulvies or teachers they are continually fomenting discords. They are in numbers wherever there is a mahomedan population. Madras, Vellore, Bangalore, and the Mysore country have got their goodly quota. Generally they repudiate the name of Wahabee, but they virtually belong to this powerful mahomedan sect and their itinerating moulvies travel through the country. The influence which these men exert on the sect is extraordinary, whether under the appellation of Wahabees, Ferazi, Hidayeti, Mahomedi or Nya Mussulman, and is evinced by their blind obedience to their moulvies, teachers, and leaders, and the pertinacity with which they adhere to the duty of jehad. Most of the beef-butchers of Hyderabad, Madras and Bangalore are of this sect, and from Madras, as a centre, there is sent out a moulvi and a pesh-imam to itinerate amongst the towns and native regiments. The mahomedans, in so acting, are watching their opportunity. Undoubtedly however, there is great room for reform in the tenets of the mahomedans, all over the world. Contrasting the practice of islam in these days with the pure deism inculcated by the Koran, Sir John Malcolm justly remarks :—"The followers of the prophet of Arabia have relaxed from the principles of their religion, and have granted a species of adoration not only to him and his immediate descendants, but to a number of learned or pious men who have been canonized as saints. The feelings of gratitude and veneration which the conduct of individuals first created have grown by excessive indulgence and by the ardour of passions excited by contrary opinions—into sacred reverence and devotion. Their very garments have become relics of inestimable value; and in the course of time the same properties have been assigned to them as are supposed to have belonged to their possessors." From this common progress of superstition hardly one of the numerous sects into which the mahomedan religion is divided can be deemed exempt. By way of illustration, the author in an appended note refers to the "incredible veneration paid to the early martyrs and confessors by their pious contemporaries" as having been the cause of many evils in the Christian Church. The parallel holds good still.—*History of Persia, vol.* ii. *pp.* 377-8. *Niebuhr's Travels, v.* ii. *p.* 131. *Jahan Numa, p.* 523. *Wellsted's Travels, v.* i. *p.* 5. *Burton's Pilgrimage to Meccah, v.* iii. *p.* 272. *Playfair's Aden. Imams* of *Oman by R. G. P. Badger, F. R. G. S. pp.* 63-65. *Palgrave's Central and Eastern Arabia, vol.* i. *pages* 365—373.

WAHAL. Hind. Viscum album.

WAHELSHULLI. Maleal. Asteracantha longifolia, *Nees.*

WAHLEA. Mahr. Basella alba, *Linn.*

WAHSHA. See Masailma and El Aswad.

WAIBHASHICA. See Vidya.

WAID. Ger. Woad.

WAIGIOU, written also Waigyu, an island between New Guinea and Gilolo, in the Eastern Archipelago, and not far from Gilolo. The island is occupied by a Negro race, with nose flat, the lips thick and projecting, the complexion a dark olive, the eyes deep seated, and on an average, the facial angle 77°, but as high as 81°. In Gebbe or Waigyu and in some parts of the coast of New Guinea, the complexion is lighter, and the peculiar texture of the Negro hair is absent.

The inhabitants of Waigyu Islands, lying between New Guinea and Gilolo, are Negroes. They are described by M. Du Perry, who represents them as having more regular features.

The language spoken at Waigiou is entirely Papuan, being that which is used on all the coasts of Mysol, Salwatty, the N. W. of Guinea, and the islands in the Great Geelvink Bay, Waigiou, Guebe, Poppa, Obi. Batcheau between New Guinea and the Moluccas as well as the S. and E. peninsulas of Gilolo, possess no original tribes, but are inhabited by people who are evidently mongrels and wanderers. The Waigiou Islanders barter trepang for cotton and woollen stuffs, brought in the Chinese juncs.—*Wallace, vol.* ii. *p.* 216, 217. See India.

WAI KUMBA. Mar. Careya arborea.

WAILLEE WANEE. See Kush or Cush.

WAIN-GANGA. A river which rises in the Seoni district, a few miles to the east of the Nagpur and Jabalpur road, near the Kurai Ghat. For a short distance it flows in a north-westerly direction, then turning to the north, it skirts the west of the Seoni district, and not far to the west of Chhapara, where it is crossed by a fine bridge with twelve arches of fifty feet span, it turns again and flows towards the east down to its junction with the Thanwar. At this point it changes its course to the south, and after passing through a mountain gorge, enters the open country known as the valley of the Wainganga. For about sixty miles it flows nearly due south, forming the boundary between the Seoni and Balaghat district, it is then joined by the Bagh, and flows in a south-westerly direction through the Bhandara district. At the junction of the rivers Wainganga and Wardha commences that mass of rocks which is known as the Third Barrier of the Godavery. The Wainganga is navigable during the rains for about one hundred miles above the junction with the Kanhan. Its greatest breadth is about three hundred yards. Its length to its junction with the Wardha is about three hundred yards.

WAIRAGARH. The eastern pargana of the Brahmapuri tahsil in the Chanda district. It is bounded on the north by the Bhandara and Raipur districts, on the east by the Raipur district and Bastar, on the south by the A'mbgaon pargana and zemindars, and on the west by the Wainganga. Wairagarh is very unhealthy during the autumn and early winter months, and its trade has consequently been almost wholly diverted to the neighbouring town of Armori, but the zemindars of the north and north-east still look upon it as their capital, and many of the surrounding landholders have residences here. Good sandstone and granite are obtained near the town, and mines of diamonds and rubies were formerly worked in the vicinity. The town contains government schools for boys and girls, a district post-office, a police station-house, and the office of a patrol of customs.

WAISH. See Afghani.

WAIST. See Chaldea.

WAI-WARUNG. Hind. Embelia riba, *Burm.*

WAJ. Ar. Acorus calamus, *Linn.*

WAJEYA. See India.

WAJRI, a race in Okhamundal.

WAK. The supreme being of the Galla race of Shoa. Ateti, the female power of Wak. See Semetic races.

WAKALAH. In Egypt a caravanserai or khan.—*Burton's Pilgrimage to Meccah,* vol. i. *p.* 60.

WAKALU. Karn. Tel. A plural of Wakil or waql, a farmer or agricultural race.

WAKAMBA, a tribe about 70,000 in number on the Eastern Sohaili coast, formerly nomades, but now with some skill as farmers and traders, and have flocks, herds and domestic ornaments. They wear a leather thong round their loins, and allow one end to fall behind like a tail. They have smooth dark skins and slender forms. Their features are not those of the Negro, towards which no they feel a great contempt.

WAKARA. Singh. Artocarpus integrifolia, *Linn.*

WAKE. Tel. Carissa carandas, *Linn.*

WAKHAN, a hill state north of Badakhshan, its chief lays claim to Grecian origin. Wood mentions a torrent in Wakhan called Zerzamen, probably Zar-zamin, "Gold ground." He also says all the tributaries of the Oxus are fertile in gold.—*Wood's Oxus* 382. *Yule Cathay,* I. *p.* 236. *Afghanistan.* See Kabul, Kush or Cush, Tibet.

WAKIDI, a biographer of Mahomed, born at Medina, and died aged 78 in Baghdad A. H. 207 (A. D. 803.) He expended 2000 dinar in buying books and left behind him 600 chests full. His secretary was Ibn Sa'd; and he had two slaves as amanuenses.

WAKKA. Tel. Betel-nut, areca-nut, Penang nut, the nut of Areca catechu.

WAKKOO. Maleal. Tam. Crotalaria juncea. Wakkoo-nar. Tam. Fibre of Crotalaria juncea, *Linn.*

WA-KU-LA. Burm. Gossypium acuminatum, *Roxb.* Peruambuco cotton.

WALA. Hind. Valeriana Wallichiana.

WALA. In the Ferozepore district, the addition of "Wala" is a common term in naming villages, such as Sultan Khan Wala, Bootewala, Akberwala; and probably the name of Ferozshahr may have been Ferozshahwala, and from the length of the word the latter part may have been dropped or shahar (a city) substituted.—*History of the Sikhs, p.* 54.

WALA-JAH. Pers. the title granted by the

mogul emperors of Delhi to Mahomed Ali, nabob of the Carnatic, and the family are styled Walajahi.

WAL-AHATTOO. SINGH. Ficus heterophylla, *Roxb.*

WAL AJWAIN. HIND. Ptychotis sylvestris.

WAL KAHA. SINGH. Curcuma zedoaria *Roxb.*

WALA KHARWALA. HIND. Salix Babylonica.

WALAN, the name of a large but rare and much valued tree in Amboyna, which was first described and figured by Rumphius, in his 'Herbarium Amboinense,' and called by him Ichthyoctonos montana. The inhabitants of Amboyna use the bark of the roots for catching fish. It is powdered, and when it is collected for fishing, a large party attends. It is powdered by a single individual with a large stone, and whilst this process is going on, the rest lie round the stone in a circle; when all is over, a signal is given by one of them crowing like a cock; they then arise and collect the powder into little baskets which is reserved for use. In catching the fish the party goes in the morning early, and after throwing the powder upon the water and mixing it till it foams, they cast a net over the river, and then retire from the river, maintaining silence till the poison has acted on the fish. In the course of an hour the net is generally found full of half-dead fish. The fish will recover from the effect of the poison if thrown into fresh-water and are quite wholesome as food, although they will not keep so long as fish caught by other means. Rumphius procured some of the bark, and, omitting the ceremonies, found it a very successful mode of fishing.—*Eng. Cyc.*

WALA PALLAM. TAM. Plantain fruit, Banana.

WAL BAMBOO. SINGH. Eugenia laurina.

WAL'D. AR. He was born; son: walid. father, therefore maulud, AR. born, birth. a mauludi.

WALDOMBE. SINGH. Calophyllum acuminatum.

WALE. See Karang Bollang.

WAL EKA WERIYA. SINGH. Ophiorrhiza mungos.

WALERANG. JAV. Sulphur.

WALER, a term used by the British in India to designate N. S. Wales horses. The supplies from British India itself and the neighbouring inland countries have been insufficient to meet the demands and wants of India, and since A.D. 1840 small batches have been received from the Cape of Good Hope. These are horses of good figure and good temper, suitable for riding horses and for draft, but like the Arab horse higher priced than can easily be afforded. Australia however, has taken a hold on the Madras and Calcutta markets, and its horses are termed "Walers." What number of new horses of all sorts are needed for British India annually, is not known, but the town of Madras alone takes about sixty every month, and the following have been the numbers of Walers imported into Calcutta since 1863-64.

1863-64	1,020	1867-68	899
1864-65	469	1868-69	1,198
1865-66	667		
1866-67	1,025		5,278

WAL-GONA-GASS, SINGH. Ficus cinerascens, *Thw.*

WALGU-MERIS, SINGH. Cubebs.

WALI. There were formerly four Wali or tributary princes in Persia, viz., the prince of Georgia, Sinna, Loristan, and Haweiza; but the Wali of Sinna is the only one remaining. The prince of Haweiza was called Moula, or holy, and was a syed or supposed descendant of Mahomed. Kalb Ali Khan, the murderer of Messrs. Grant and Fotheringham, was descended from the Wali of Loristan, who was of the Feili tribe.—*Rich's Residence in Koordistan, vol.* i. *p.* 211.

WALID, Khalif of Bagdad, the 6th of the Ummiad khalifs, ascended the khalifat in A. D. 708. He conquered Sind, and carried his arms to the Ganges. Three years thereafter in A. D. 718, his general Mahomed bin Kassim overran Guzerat and spread devastation in his progress. He advanced on Chittore, but he was met and completely defeated by Bappa, a descendant, of Goho who had founded Edur.—*Elliot Hist. of India.*

WALI KUKUN, a wood of Java, equal to the kusambi in weight, and exceeds in hardness: it is employed for anchors, naves of wheels, machinery, &c.

WALKERA SERRATA. WILLD. Gomphia angustifolia, *Vahl*, a native of Malabar and Ceylon, has serrate crenate leaves, racemes of flowers somewhat corymbose, and the lobes of the calyx lanceolate yellowish flowers and reddish fruit. The roots and leaves are very bitter, and are used in decoction by the inhabitants of Malabar as a tonic and anthelmintic.

WALKER ERDE. GER. Fuller's earth.

WALKESHWAR, near Bombay, has a tank called Ban Ganga, fabled to have been produced by Krishna firing an arrow at the spot.

WALKING-STICK, a staff or cane carried in the hand for ornament or support. There are numerous kinds, as Malacca-cane, Penang-lawyers, Wanghee, Supple-jacks, and other fancy varieties. The bamboo furnishes useful walking-sticks, as also the various palm trees, the Licuala, cocoanut tree, sago palm, betel

palm, palmyra palm, also the kumb'ha wood of the Gmelina arborea, and the Chittunkoodoo wood of the N. Circars, perhaps Chitankaloo or Wrightia tinctoria.

WALKO-GUNDO. SIND. Artemisia Indica, *Willd.*

WAL-KURUNDA. SINGH. Cassia bark.

WALLA. See Rajpoots, Wala.

WALLACE, Alfred Russell, a naturalist of England, author of a work in two volumes on the Eastern Archipelago. Mr. Wallace (ii. 250) believes that the numerous intermediate forms which occur among the countless islands of the Pacific are not merely the result of an intermixture of their races, but are to some extent truly intermediate or transitional, and that the brown and the black, the Papuan, the natives of Gilolo and Ceram, the Fijian, the native inhabitants of the Sandwich islands, and those of New Zealand, are all varying forms of one great Oceanic or Polynesian race. Professor Huxley however is of opinion that the Papuans are more nearly allied to the negroes of Africa than to any other race. Mr. Wallace has given to Europe a very full knowledge of the birds of that extensive region. Livistonia rotundifolia is supposed by Mr. Wallace to be the fan-palm, of the leaf of which the people of Celebes make water buckets and baskets.

WALLAEEL. TAM. Bangles.

WALLANCHOON, a pass in Nepal in Lat. 27°52′ long. 87° 14′. The crest of the pass is 16,775 feet above the sea. The path leading up the pass for eight miles is a narrow, stony, and steep gorge. The top is a low saddle, between two ridges of rock.

WALLARAI KALENGU. TAM Potato.

WALLAS. JAV. Aristolochia Indica.

WALL-BAT. See Cheiroptera.

WALLEEBHIPUR. See Kattyawar.

WALLEE—— ? Cinnamon.

WALLEH. See Kattyawar.

WALLEPANE. See Rhodia.

WALLEROO. A Dhangar tribe in the northern division of the Madras Presidency. They are also styled Yerra-walleroo.

WALL FLOWER. Cheiranthus cheiri.

WALLICH, Nathaniel, a medical officer of the Bengal Army, an eminent botanist. In 1828, he arrived in England with an enormous number of specimens of plants, which he had been accumulating for several years, collections made by himself and those along with him, in the Calcutta garden, in Nepaul, in Singapore and Penang, in Oude, Rohilcund, the Valley of Deyra, Martaban, Ava, &c., collections made in Silhet by Francis de Silva, in Kumaon by Robert Blinkworth, in Srinaghur by Kamroop, in Tavoy and the Tenasserim coast by William Gomez, plant collectors under Dr. Wallich: in addition were specimens collected by Heyne in the Peninsula generally, by Noton in the Neilgherries, also by Moorcroft in the more elevated mountains bounding India on the north, in the Himalayan range by Dr. Royle, in Sirmor by Mr. S. Webb and Dr. Govan, in Silhet and Chittagong by Bruce, in Pundua by Smith, and in Penang by Porter.

His book, the Plantæ Asiaticæ Rariores, consists of three volumes folio, and contains 295 coloured lithographic plates with a map of India, on which are delineated the different routes of the principal botanists : the letter-press contains some admirable monographs by Professor Nees Von Esenbeck on Indian Laurinæ and Acanthaceæ, by Mr. Bentham on the Labiatæ, Professor Meisner on the genus Polygonum, and Von Martius on Restiaceæ. This book was his magnum opus, and that on which Dr. Wallich's fame as a botanist may safely rest. Dr. N. Wallich, of the Bengal Medical Service, was a distinguished botanist, and long in charge of the Government Gardens at Calcutta, having succeeded Dr. Roxburgh. He was the author of Plantæ Asiaticæ Rariores, or description and figures of a select number of unpublished Indian plants, Lond. 3 vol. 8vo. Wrote on Indian woods, in Bl. As. Trans. 1833, vol. ii. 77. On two new species of Saccolobus and other plants, in As. Res. vol. xiii. 369. On some rare Indian plants, Ibid, vol. xii. 566. On a new species of wild Nepaul camelia. Ibid. 428. Dr. N. Wallich also collected birds in Nepaul, and besides editing his portion of the 'Flora Indica' of Dr. Roxburgh, commenced, in India, an illustrated work on Nepal plants, Tentamen Floræ Nepaulensis, which was the first specimen of lithography ever produced in India ; and after his return to England, he published a series of 296 plates of plants in the Plantæ Asiaticæ Rariores. The history of the great Wallichian Herbarium is given in detail in the lithographed list of its contents which was distributed with it, also in the 'Plantæ Asiaticæ Rariores,' and in the introduction to Wight and Arnott's Prodromus. It is not easy to say how many species are contained in the Wallichian collection, but the 9,000 numbers may, we think, be diminished by at least one-fourth, as Dr. Wallich, being obliged to distribute without describing, very judiciously avoided uniting apparently distinct forms. Drs. Hooker and Thomson therefore estimate this great collection at between 6,500 and 7,000 species.—*Hooker and Thomson. Dr. Buist's Catalogue. Wight's Prodromus Floræ, vol. i. p. 18. List of East Indian Plants.*

WALLICHIA OBLONGIFOLIA, the Ooh of the Lepcha, a palm which grows in Sikkim. It affords an admirable fodder for horses, who prefer it to any other green food to be had in those mountains.—*Hooker, vol.* . *p.* 143.

WALLI GADDA, also Chella-gadda, or Genasu-gadda. TEL. Batatas edulis, *Choisy.*

WALLRATH. GER. Spermaceti.

WALLURSI. TEL. Walsura piscidia.

WALNUTS.

Akrot; Jowz, Khusif	AR.	Okher,	NEP.
Than-than,	CHENAB.	Char-mughz,	PERS.
Khor; Ka; Darga,	,,	Girdighan,	,,
Hu-t'au,	CHIN.	Jouz-i-rumi,	,,
Heh-t'au,	,,	Khor; Akhori,	RAVI.
Kiang-t'au,	,,	Krot,	RAVI. SUTLEJ.
Noix,	FR.	Ka-botang,	,,
Akrot,	GUZ. HIND. PERS.	Ughz,	TRANS-INDUS.
Dun,	KANGRA.	Waghz,	,,
Starga,	LADAK.		

The walnut tree, Juglans regia, grows wild in the N. W. Himalaya at heights from 3,000, to 10,000 and 11,000 feet; but it does not ripen its fruit above 9,000. It has long been cultivated in Persia and Turkistan, and has been taken westward to England and eastward to China. Honigberger states that a twig of the walnut tree, Juglans regia, is kept in a room as a means of dispelling flies. The same author mentions that bitter almonds are poisonous to wild beasts. The Persian walnuts are most esteemed. The kernels are eaten, or are made into pickles or ketsup. —*Faulkner. McCulloch. St. John's Forest Trees of Britain, v.* i. *p.* 66. *Dr. J. L. Stewart, Punjab Plants. Honigberger, Smith Chinese Mat. Medica.*

WALNUT of Belgaum, also Indian Walnut, Aleurites triloba.

WALNUT OIL, a bland and useful oil obtained by expression from the walnut.—*Simmond's Dict.*

WALSURA. TAM. Walsura piscidia.

WALSURA GARDNERI. THW. A small tree growing in the central province of Ceylon, at an elevation of 2000 to 4000 feet.—*Thw. En. Pl. Zeyl. vol.* i. *p.* 61.

WALSURA PISCIDIA. ROXB.; *W. & A.*; *W. Ill.*

oe-bon,	BURM.	Valarasi,	TEL.
Valsura,	TAM.	Wallurasi,	,,

This tree grows in the Circars, is very plentiful in the Pegu, Tounghoo, and Tharawaddy forests. Its timber is large, heavy and strong, white coloured and adapted for every purpose of house building. In India the bark is thrown into ponds to stupify fish, which, coming to the surface, are easily taken, and are not considered injurious to be eaten.—*Royle, Ill. Him. Bot., p.* 143, *Voigt, Dr. McClelland.*

WALSURA ROBUSTA. A tree of Sylhet, the bark is not employed as a fish poison.—*O'Shaughnessy, page* 247.

WALSURA TERNATA. ROXB.; *W. & A* is the Vada-valasa or chinna-valasa of the Teling races.

WALSURA VILLOSA. *W. & A.*, is a tree of Moulmein.

WALTJEDDE. SINGH. Cyclea burmanni, *Arnott.*

WALUKENE. SINGH. A tree growing in the western and southern districts of Ceylon; it weighs 39 lbs. per cubic foot, and lasts about 10 years. It is used for masts of dhonies.—*Mr. Mendis.*

WALU-LUWAY. SINGH. Amygdalus communis, *Linn.*

WAMAN-DUADASI. From waman, a dwarf, and duadasi, the 12th day of the month Paksh, about the 10th September. It is a hindoo ceremonial in commemoration of the fifth incarnation of Vishnu, who assumed the form of a dwarf to prevent Bali by his austerities acquiring dominion over three worlds. The dwarf put his foot on Bali's head and crushed him to Patali.

WAMPEE. CHIN. Cookia punctata, the Chinese wampee tree.

WAN. JAP. Pease.

WAN, also Wanna. HIND. A shrub, or plant; hence,

Spera Wan, Populus Euphratica.

Pastu Wanna, Grewia oppositifolia.

Pa Wanne, Clematis Nepalensis, also Boucerosia aucheri.

Pastu Wanne, Grewia villosa.

Perei Pastu Wanne, Fluggea virosa.

Ple Wanne, Flacourtia sepiaria.

Spera Wanne, Flacourtia sepiaria, also Ærua Bovii.

Wara Wanne, Ribes rubrum.

Khara wanne, Ehretia aspera, also Solanum verbascifolium.

WANA. Divinities of the air in opposition to Asa, pl. Asen, which according to Bunsen, means "existent," "living ones."

WANA-GANA-KALOO. Curraganica, Punchunganigaloo. These are dealers or shopkeepers of Telingana and called, in common parlance, by the Hindi word "Teli" or Oilman. They are petty traders and shopmen.

WANDA, a river near Chichundra in Baitool.

WANDAK. HIND. Clematis Nepalensis.

WANDEROO. SINGH, is the name in Ceylon for the Presbytes ursinus, the P. thersites, P. cephalopterus, and other species. The name has also been applied, though erroneously, to the Silenus veter, *Linn.*, of the Malabar coast. The low country Wanderoo, P. cephalopterus, is replaced in the hills by the larger species, P. ursinus, which

inhabits the mountain zone of Kandy, P. thersites is chiefly distinguished from the others by wanting the head tuft; is so rare that it was for some time doubtful whether the single specimen procured by Dr. Templeton from the Nuerakalawa, west of Trincomalie, and on which Mr. Blyth conferred this new name, was in reality native; but the occurrence of a second, since identified by Dr. Kelaart, has established its existence as a separate species. Some are as large as an English spaniel dog, are of a darkish grey colour, and black faces with great white beards round from ear to ear, which make them show just like old men. This sort does but little mischief, keeping in the woods, eating only leaves and buds of trees, but when they are caught they will eat anything. Knox, whose experience during his long captivity was confined almost exclusively to the hill country around Kandy, spoke in all probability of one large and comparatively powerful species, Presbytes ursinus, which inhabits the lofty forests, and which as well as another of the same group, P. thersites, was, till recently, unknown to European naturalists. In Ceylon there are five species, four of which belong to one group, the Wanderoo, and the other is the little graceful grimacing Rilawa, which is the universal pet and favourite of both natives and Europeans. The Tamil conjurors teach it to dance, and in their wanderings carry it from village to village, clad in a grotesque dress, to exhibit its lively performances. It does not object to smoke tobacco. The Wanderoo is too grave and melancholy to be trained to these drolleries.—*Tennent, Skets. Nat. Hist. p.* 10.

WANDIWASH, a fort 20 miles north of Gingee, was stormed in October 1752, by the sepoy soldiers under Major Lawrence.

WANEDILE. A rather hard, fine, close, even-grained, heavy, Ceylon wood.

WANGIWANI. See Token Bessey.

WANGLO——? Gingelly seed.

WANGPO. See Kunawar.

WANGTONG, north and south, two islands, about a third of a mile apart, North Wangtong forming one side of the Booca Tigris.

WANGTU. The breadth of the Sutlej at Wangtu is about ninety feet, the height of its bed, as determined by Gerard, 5,200 feet.—*Cleg. Punjab Reports, p.* 56.

WANI, a lingaet or jungum sect numerous in the Canarese speaking country and extending in the direction of Poonah and Bombay. They arrange themselves into the four sections Rasot, Diksot, Melwant and Tailwant, who eat together but do not intermarry. The Tailwant drink only tank water, which is first strained and carefully covered with a cloth to prevent injury to animal life. The Rasot have no guru, which the other three have. The Wani are shopkeepers and agriculturists. They marry girls when five to eight years old. The couple are placed sitting on a mat or bullock saddle, to which they are lifted on the crossed hands of four men, who put betel leaf in their mouths and complete the ceremony. Widows are remarried. They inter their dead in a sitting posture, and on the third day, sprinkle rice and milk on the grave. See Bania, Jain, Jungum, Lingaet.

WANIA, also Vania, pronunciations of the Bania name.

WANIKA, the general name given to the African tribes near the Suhaili coast. They fear an imaginary being called Muansa, which they suppose to be a wild beast in the woods, and an imaginary spiritual shade called Koma.

WANKAI. TEL. Solanum melongena, *Linn.*

WANTE VENTRUKULU. TEL. Camel's hair.

WANWANGAN. HIND. Podophyllum emodi.

WANWAR, of Punjab and Sind, the cotton plant.

WAPACHA. See Somal, Beer-us-somal.

WAR. SYRIAC, the general term for a stony district. War-ed-djamous, "the war or district of the buffaloes."—*Robinson's Travels, vol.* ii. *p.* 127.

WAR. HIND. Ficus venosa.

WARA. HIND. a field, a common termination to towns and portions of towns, as Anhilwara, Dherwara, Bahmanwara.

WARA, a town in the Konkan near Bombay from which was obtained a sculptured slab. The character used in its inscription is that of the Saurashtra coins, and long-tailed Deva-Nagari. No gods are mentioned, but there is a trisula on the slab. The inscription is a fragment, and cannot be fully translated; but Mr. Prinsep says it may be as old as the Gujerat coins with Greek heads upon them. The trisula, without the mention of hindu gods, would seem to indicate that it is not necessarily an exclusive emblem of Siva.—*Prinsep's Antiq. vol.* v. *p.* 340.

WARA GUDU. TEL. Cycas circinalis, *Linn.*

WARAHI MUSALI. SANS. Mooslie.

WARALA. TEL. SINGH. Clove oil.

WARALI. See Berar, India.

WARANGAL, about 90 miles N. East of Hyderabad in the Dekhan, the capital of the ancient Andhra kingdom, ruled over by the Adeva Raja dynasty. Warangal was taken A. D. 1309 by Kafoor, the general of Alla-ud-

lin. It is said also to have borne the name of Arnabunda. A sculpture slab obtained there had an inscription in Telugu and Oorya, with Sanskrit slokas. Its date was Saka 1054, or A.D. 1132, being the year Chetrabhanu of the Vrihaspati Chakar, or sixty years' cycle of Jupiter. Kari, Ganesa, Saraswati, Siva, Maheswara Ravi, Souri (or Vishnu) are mentioned, also Raja Rudra Deva. Rudra Deva is the raja mentioned in the Jagannath temple annals as Churang or Chorgunga, and was the founder of the Gunga-Vansa dynasty. He was a benefactor to Jagannath, adorned it, and populated its neighbourhood. The inscription contains a long account of Rudra Deva's genealogy and of his battles. There are not any praises of brahmans, or even mention of them! From the mention of Ganesa, his worship must have been used in the twelfth century. —*J. B. As. Soc. vol.* vii. *p.* 901.

WARANGAN. MALAY. Ficus benjamina, *Linn. Rumph.*

WARANGAN or Barangan. MALAY. Red sulphuret of arsenic. See Arsenic.

WARANGAN PUTEH. MALAY. White oxide of arsenic.

WARANGARI. See Aidumia, Triton's bay.

WARAN SANKAR or Varna Sankara, SANS. The mixed castes of the hindoos, other than the four pure ones.

WARA TARA. TAM. Dichrostachys cinerea, *W. & A.*

WARA-WANE. HIND. Ribes rubrum.

WARBLER. A name applied to several genera and species of birds. The pretty bluethroated warbler Cyanecula suecica, of the N. W. Himalaya frequents the mustard-fields and low scrub, frisking about like the robin redbreast. All specimens examined in India had the spot on the breast rufous. On bleak situations in the Himalaya Mr. Adams met with the black-breasted warbler, Calliope pectoralis. It is a solitary bird, and affects the stunted juniper-bushes at high altitudes; it is about the size of the redstart, which in habits it much resembles.—*Adams, Naturalist.*

WARCH——? Acorus calamus.

WARCHE CHUNAI. HIND. Asparagus Punjabensis.

WARD, WILLIAM, the colleague of Carey, in the Serampore Mission, was born at Derby in 1769 and learned the trade of a carpenter. He arrived at Serampore on the 13th October 1799. He was fearless, fond of work, somewhat democratic, slightly opinionated, with a capacity for organization, and with that marvellous control over Asiatics which belongs to that temperament. The book he wrote on the Hindoos is a View of the History, Literature, and Religion of the Hindoos, a book which with all its exaggerations and affected prudery, is still most valuable as illustrating the popular habits, manners, and religious belief of the masses, and as giving the manners and customs of the E. I. Company's servants at the beginning of the 19th century.

WARD, SIR HENRY, a Civil Servant of Britain, Governor of Ceylon, and who died of cholera while Governor of Madras in 1860. Ceylon was struggling against difficulties which ended in destruction to nearly the entire planting and mercantile community. The dissentions of Lord Torrington's administration had occasioned distress, which continued during the languid rule of his successor. With Sir Henry Ward new vigor returned to the colony. He gave encouragement to settlers, removed the many difficulties which beset them, he constructed great trunk roads throughout the length and breadth of the island, and opened up the districts by admirable branch communications. Rivers and streams were provided with temporary bridges until the finances increased, when they were replaced with permanent structures, and ere he left the colony, he had the satisfaction of opening the suspension bridge at Gampola and the new bridges at Katugastatuty, magnificent structures, which will remain lasting monuments of his rule and will bear his name to posterity. Sir Edward Barnes may be said to have founded the colony, and Sir Henry Ward to have formed it.

WARDHA. A river which rises in the Satpura hills between Nagpur and Betul. It is a river of importance in the central Dekhan. It flows south-east, separating the Nagpur, Wardha, and Chanda districts of the Central Provinces from the Berars and the Nizam's dominions. Its first great affluent is the Pain-Ganga, which it receives on the Nizam's or right bank, about 190 miles from its source; 64 miles lower down (a little above Chanda) it joins the Wainganga, and the united stream, thenceforward known as the Pranhita, flows on in the same direction to join the Godavery at Seroncha. It is at the junction of the Wardha with the Wain-Ganga that the great obstacle to the Godavery navigation scheme, known as the "Third Barrier" occurs. The bed of the Wardha is throughout rocky and deep, in the monsoon it becomes a furious torrent, and carries a considerable body of water. The railway bridge which crosses it at Pulgaon is of iron, and consists of fourteen sixty-foot girders, resting on masonry piers. In the hot months, however, the stream is everywhere fordable. Timber rafts can be floated down this river. The valley of the Wardha is a rich tract of country lying between the river and a range of hills, which, receding as the Wardha district is entered, leave a considerable open

space, which widens gradually to the south. In general the country is well wooded, and in the eastern portion of the Hinganghat subdivision the jungle predominates over the cleared and cultivated tracts. The plain of Hinganghat and the plain and hill of Girar are spots of great geological interest. At the former place a fresh-water stratum may be traced, and silicified wood picked up in abundance at the latter, the hillside exposes the fresh-water stratum in all its varieties, while the plain is strewn with curious zeolitic concretions resembling betel-nuts or nutmegs, which have issued from the soft subjacent rock. The geologic formation is interesting. The trotting bullock of this part of the Central Provinces is famous. The breeding of horned cattle generally is carried on on a large scale in the northern and hilly part of the district, which affords excellent pasture in the cold season, but in summer most of the herds are taken to the jungles of Mandla and Chanda. The breed of buffaloes too is very fine. The central tahsil or revenue subdivision of the district is of the same name, having an area of 801 square miles, with 468 villages, and a population of 139,210 souls according to the census of 1866. The land revenue for 1860-70 was Rs. 2,08,119.—*Madras Conservator's Reports, p. 4. Central Provinces Gazetteer.*

WARDE-MAJOR. The title of a native military officer of the British Indian Army.

WAREALEE. GUZ. Fœniculum panmori, *D. C.* Fennel seed.

WARI. MALEAL. Asparagus racemosus.

WARING, EDWARD JOHN, a medical officer of the Madras army from 1849 to 1859 author of Bazaar Medicines, Pharmacopœia of India, Manual of Practical Therapeutics, an Enquiry into the Pathology and Statistics of Abscess in the Liver. Medical Notes on the Burmese. The Vital Statistics of the Madras Army. Statistical Notes on Tropical Diseases.

WARING TREE. See Java.

WARINGIN-TREE, is the Ficus benjamina, very closely resembling the banyan tree of the continent of India; spreading in like manner over a large space of ground, the lateral branches sending down shoots, which take root, and become a supplementary trunk. The circumstance of the wilder Papuans taking delight in residing among the branches of the waringin-trees, whose dense foliage and horizontally spreading branches render them well adapted for the purpose, has been repeatedly noticed by travellers. This tree is of peculiar interest in connection with the earlier history of the native races of the far East, as it is regarded with a superstitious veneration by all the aboriginal tribes of the Archipelago, as well as by those of the northern coasts of Australia, and by the lower classes, at least, of the Chinese.—*Mr. Earl. p.* 116.

WARK. HIND. a leaf of a book, a leaf of a tree. Wark-i-nukra, silver leaf. Wark-i-tila, gold leaf, &c

WARMANDE. HIND. Vitex negundo.

WARNA. See Dyes.

WARRALA. SINGH. Cloves. Caryophyllus aromaticus, *Linn.*

WARREE. HIND. A field.

WARREE —— ? A grain dealer.

WARREN HASTINGS, the first Governor General of British India. On his return to England, he was impeached for his conduct, but after a prolonged trial, he was acquitted on the 23rd April 1795.

WARROGOO KOLI, or Warrugu koli. TAM. Sypheotides auritus, *Latham.* Florikin.

WARRUGU. TAM. Paspalum frumentaceum.

WARRY—— ? in India the sedimentary deposit from cornelian in grinding the stone which is used for polishing the beads.—*Simmond's Dict.*

WARRYATO.—— ? See Capreæ.

WARTY CHAMELEON. Chamæleo verrucosus,

WARUMBA. HIND. Solanum xanthocarpum.

WASALA SUTTAN. See Wijao.

WA-SAWAHILI. See Somal: Beer-u-somal.

WASHEER. See Khash Rud.

WASHERMAN'S WELL, deemed in the East, the most impure of all receptacles. These wells are dug at the sides of streams, and give a supply of pure water filtering through the sand.—*Tod's Rajasthan, vol. i. p.* 223.

WASHING OF FEET, in John xiii. 10, "He that is washed, needeth not save to wash his feet." The hindoos walk home from bathing bare-foot, and on entering the house wash their feet again.

WASHING OF HANDS. See Bathing.

WASHISTEE, a river of the W. Ghauts lat. 17° 50′, lon. 73° 36′, runs S. W. S. E., W. into Indian Ocean, length 55 miles.

WASH LEATHER. See Hides.

WASHO. HIND. Rhus buckiamela. Kath wassal is Urginia Indica, Pad-Wassal is Allium cepa.

WASI, the native name of Bassein, an island near Bombay.

WASMA. HIND. Indigofera tinctoria.

WASP. Salvolatile applied immediately is a specific for the sting of a wasp.

The Mason wasp is a name given to several genera and species of Hymenopterous insects of the family Sphegidæ. One of these, Pelopæus Spinolæ of St. Fargeau, is distinguished by its metallic lustre, introduces its eggs into the body of the pupa of some other insect, which it thrusts into keyholes and other apertures of Indian houses, and encloses the whole with moistened earth. The young parasite, after undergoing its transformations, gnaws its way into light and emerges a four winged fly. The Ampulex compressa which drags about cockroaches into which it has implantedits eggs, belongs to the same family. —*Sir J. E. Tennant's Ceylon, p.* 257.

WASS, Wassa, Wasitali, also Wassawassi. SING. Mace oil.

WASSO, in buddhism, the season of sacred rest. It is still celebrated at Bhilsa, by the illumination of the shrine of Lohangi Pir, at his zearat, on the full moon of Asarh.

WASSUMBU. MALEAL. Acorus calamus, *Linn.*

WASTE LANDS are abundant in British India, but owing to the prevalence of the village rights, the family rights and those of copartnery, it is not easy for a stranger to purchase portions. Lord Stanley in his despatch of 22nd December 1858, ordered such to be sold in fee simple, and this was agreed upon in Resolution of 17th October 1861.

The population of British India is about 150 to the square mile, while that of England is 350. This one fact, if we remember the small holdings of the peasantry and the absence of machinery and improved agriculture, will give us some idea of the vast extent of uncultivated land. Colonisation of the plains, in the ordinary sense of that term, is impossible for a white race. But so far as extent of land is concerned, India could for the next century absorb more settlers than Australia or even Canada. The function of the European in the plains is that of a captain of labour, not of a labourer, and the same is meanwhile true of the hills. Even there the white man, the pensioner or veteran, will not work with his hands in the midst of a black population however sparse. But it is to the capitalist not the labourer, and to the large rather than the small capitalist, that India offers advantages. And there is this fortunate circumstance that wastes abound in the very climate which is adapted for the European. On the plains, wherever they are fertile, especially in the provinces drained or watered by large rivers, the population is as high as 600 and 700 to the square mile. But in the hills the population is too scanty to meet the present labour demand, comparatively trifling as it is. This will be the future difficulty of the settler, and it is one he will be able to overcome only by a familiarity with the language and character of the natives, and by a scrupulously upright treatment of them, to which indeed self-interest, as well as higher motives, will lead all but the uneducated. In compiling a list of the culturable wastes, we divide them into the two classes of those which enjoy hill climates and those which are fitted only for capitalists who, like the indigo planters, will purchase the produce grown by native labour. It is impossible to distinguish accurately in every case between wastes in the hills and in the plains, but the distinction is generally adhered to below. The figures refer to acres.

I.—HILL WASTES.

Madras.

Coimbatore, (Neilgherries.)	1,385,845
Salem, (Shevaroys.)	409,046
Madura, (Pulneys.)	651,921

North West Provinces.

Kumaon—a limited extent suited for tea.

Dehra Doon,	204,526
Mahadeo Hills, Gondwana,	thousands of sq. miles.
Jubbulpore,	25,180 square miles.

Bengal.

Cossiah Hills, Chittagong, Mymensiugh, Garrow Hills, Sylhet, Bhaugulpore, Chota Nagpore, North Cachar,	very large area.	Cachar,	200,000
		Darjeeling,	250,000
	Assam.	Kamroop,	179,560
	Assam.	Nowgong,	1,205,600
	Assam.	Sibsagur,	1,612,636
	Assam.	Luckimpore,	1,471,728
		Akyab,	3,152,000

British Burmah.

Tenasserim,	17,920,000	Pegu about 40,000 square miles.
Martaban,	5,760,000	

Punjab.

Simla,	22,995	Jheelum,	3,279
Kangra,	16.136	Dehra Ismael Khan,	474.880
Dehra Gazee Khan,	24,349	Kohat,	16,479
Sealkote,	67,083	Hoshiarpore,	15,000

Mysore.

Astragram,	816,619	Chittledroog,	1,865,000
Bangalore,	547,139	Nugger,	188,597

II.—WASTES IN THE PLAINS.

Madras.

Ganjam,	12,461	Kurnool,	379,434
Vizagapatam,	3,100	Chingleput,	499,075
Rajamundry,	172,259	North Arcot,	426,128
Masulipatam,	2,419	South Arcot,	949,215
Guntoor,	479,774	Tanjore,	145,316
Nellore,	417,221	Trichinopoly,	620,847
Cuddapah,	2,536,747	Tinnevelly,	785,933
Bellary,	3,458,820		

Bombay.

Sholapore,	414,433	Ahmedabad,	218,415
Rutnagerry,	5,902	Kaira,	73,846
Dharwar,	178,847	Broach,	8,000
Poona,	141,192	Surat,	95.410
Belgaum,	218,542	Tanna,	8,552
Sattara,	331,315	Khandeish,	1,635,666

Sind.

Frontier Districts—all except 2,028 square miles available.

North-west Provinces.

Saharunpore,	12.858	Singrowlee,	34,452
Bijnore,	124,368	Goruckpore,	189,508
Shajehanpore,	56,000		

Bengal.

Baraset	5,289	Hooghly,	139
Soonderbuns,	809,643	Midnapore,	3,247
Bullooah,	2,500	Dinagepore,	25,861
Ramree,	1,200,000	Moorshedabad,	1,189
Sandoway,	8,000	Bogra,	a large tract.
Burdwan,	680		

Punjab.

Umballa,	13,917	Mooltan,	1,510,388
Jullunder,.	1,186	Jhung,	1,737,571
Lahore,	225,057	Googaira,	1,636.242
Goojranwallah,	174 357	Moozufferghur	17,134
		Leiah,	1,750,000
Ferozepore,	399,414	Hissar,	1,902
Umritsur,	16,505	Jhujjur,	11,925
Goojerat,	64,196	Sirsa,	467
Shahpore,	574,309	Rhotuck,	2,375

Oude.

Seetapore,	8,500	Baraitch,	98,800
Durriabad,	5,731	Gondah,	98,340
Hurdui,	29,327	Mahomdee,	188,045

Hyderabad and Nagpore.

West Berar,	544,475	Raepore,	493.384
East Berar,	565,741	Chandah,	32,707
Nagpore,	8	Chindwarrah,	2,000

In addition to these, hundreds of miles in the Punjab are at present locked up by a settlement which allows the neighbouring villagers to keep them for ever waste if they please. Several Europeans have purchased from the natives small patches of five or ten acres, but they complain bitterly of the litigation which the co-parcenary tenure involves. To many, the Punjab will prove most attractive for tea planting. In Cachar on the east, many Europeans have engaged in tea planting, in Kangra and Simla, four joint stock companies and private individuals, have embarked in the tea cultivation. The Government of Oude issued the following notice immediately on the receipt of Lord Canning's Resolution. "Grantees wishing to avail themselves of the terms stated in the Fee-simple Resolution, are requested to intimate their wishes with as little delay as possible to the Deputy Commissioner of the District in which their grants are situated. Rules of Procedure will shortly be issued."

WASSINA PILLU, also Cavatum Pilla, TAM. Andropogon citratum. Lemon grass.

WAT, SINDI, is made of wheat boiled in milk, and seasoned with salt or sugar, and is the nashtah, or morning meal, of the peasantry in Sind, eaten as soon as they rise.—*Masson's Journeys, vol.* i. *p.* 375.

WA-TAI-GA KYOUK. BURM. Tabashir.

WATAN. AR. A native country. In Western India a patrimonial inheritance. Watandar, the holder of a hereditary right, a property or office.

WATCH. The hindoos and mahomedans in India divide the day into four watches, and the night into the same number; the day being considered to extend from sunrise to sunset. The watches are again divided into ghurees, which are 24 minutes each in length and which are usually called an Indian hour. As in the summer the days are longer than the nights, each day watch will then be longer than any watch of the night, though, from the necessity of each watch comprising an exact number of ghuree, there will generally be the difference of one ghuree between two watches of the same day. There is much variation in this respect, and although, in the latitude of India, the difference is not so great as it would be in a country more towards the north, it is still so inconvenient that the natives of India rarely understand their own method of dividing the day, and readily adopt the English mode.

WATCH.

Montres,	FR.	Jam orloji,	MALAY.
Uhren; Taschenuhren.	GER.	Sahut,	PERS.
Gharial,	GUZ. HIND.	Karmanue taschasu,	RUS.
Orinoli da tasca, o da saccoccia,	IT.	Reloges de faltriquera,	SP.

Pocket time pieces.—*Waterstone quoted by Faulkner.*

WATER.

Maa,	ARAB.	Ayar, Ayar-tawar,	MALAY.
Ya,	BURM.	Ab,	PERS.
Yuh-yih,	CHIN.	Tanni,	TAM.
Shwui,	„	Neru,	TEL.
Pani,	HIND.		

Water, with the hindoos, is used as a synonym for climate; Ab-o-howa, or water and air, is applied similarly by the mahomedans.

In every site of early habitation, water appears to have been the mother of society. Water has been the first of the common gifts of nature to all human beings, which has been claimed and appropriated by individuals. Civilization, society, government, law appear

to have originated in those countries which are partly watered, that is, have water only at certain watering-places or great rivers, or at perpetual springs, but have it not at all seasons generally in the land. Nevertheless wells, from the first day of human existence, have led men to congregate at these particular watering spots, and to appropriate them as a society to their own peculiar use. The shepherd and hunter states are the retrograde and not the progressive steps of the human race from one stage of civilization to another, and the wandering uncivilized tribes of mankind, now in the hunter or shepherd state in America and Asia, are the existing remnants of an earlier civilization, are varieties of one species which have originally stood on a far higher material and intellectual grade of social existence than at present. Fountains sacred to the sun and other deities were common to the Persians, Scythians and Hindus, and both the last offered steeds to him in sacrifice. The hindu races of Southern India, familiar only with the tropical countries in which they dwell, use water as the term for describing the effects of a climate on health. In this sense it is more the salubrity of a locality that is alluded to. At the beginning of their religious rites there is a preliminary offering of water called Ankurapa-a. Isaiah xxxii. 20, says, "Blessed are ye that sow beside all waters" and in the East Indies, where the rains fall periodically and where a large quantity of water is essential to the crop, the farmer is anxious to have a pool near the land he has sown, that if the rains be less than usual, he may draw the water out of the pool for his young rice. In Western Goozerat, it is customary for brahmins to use brass or copper vessels belonging to persons of other castes, after they have scrubbed them well with dust and water, and washed them. A leathern bucket need only be washed, because, having come originally from the house of the tanner, who is a person of very low caste, it is supposed that no further defilement can happen to it. Some puritanical brahmins, however, will neither drink water which has been drawn in a leathern bucket, nor even use it for ablutions. In parts of Western Goozerat there is frequently but one well in a village, in which case the outcastes draw water on one side of it, and retire, and the brahmins and other castes, when they are gone, come and draw water from the other side. It is usually the case that there are many wells in a village, and that one is specially set apart for outcastes. The well is defiled if a dog or other animal have fallen into it, and, for its purification, water must be drawn from it five times, and Ganges water, or cow's urine, poured into it. If a brahmin or waneea woman, returning home with water from the well, meet a funeral, she will sometimes throw away the water at once as defiled, sometimes veil herself, and move aside averting her face, and if the corpse be not carried within a few paces of where she stands, the water is preserved from defilement. The dead body of an animal defiles also, and, if one happen to lie on the way to the well, no water is procurable until it has been removed, and the ground has been purified. Some women will throw away the water if a crow alight on the vessel and put his beak into it, but, as the case is rather a common one, other women take no notice of it. The symbols of the three hindoo deities are respectively time, water and fire. The divinity of water, says Dubois, is recognised by all the people of India. Besides the well-known worship of the holy Ganges, the tribes of the Neilgherry hills worship rivers under the name of Gangamma, and in crossing them, it is usual to drop a coin into the water as an offering and the price of a safe passage. In the Deccan and in Ceylon, trees and bushes near springs may often be seen covered with votive offerings. The Khond race also worship rivers and fountains. The people of Sumatra are said to pay a kind of adoration to the sea, and to make it an offering of cakes and sweetmeats on their beholding it for the first time, deprecating its power of doing them harm. The offerings on the Ganges, to Khajah Khizr, are also of this character.

In the Punjab four kinds of water are found in the Rewari wells, all of which are used in irrigation, but the produce of each varies. The first is Shirin or Mitha, *i. e.* sweet water, the irrigation from which in common seasons, does not produce such remarkably fine crops as the other kinds; but this is infinitely more than compensated by the fact that, in drought years, the produce is certain and abundant.

Second, Matwallah, or hard water, the land irrigated by which produces very fine crops except in drought years, when they are rather inferior, though still good and certain.

Third, Malmalla, or brackish water; with which good crops but inferior vegetables are produced in common years, in drought however both are inferior.

Fourth, Khari, shor, or very brackish water; this irrigation is said to bear finer and more abundant produce than the others.—*Lubbock Origin of Civil, p.* 200. *Forbes' Ras Mala or Hindoo Annals, vol.* ii. *p.* 239-40. *Ward.*

WATER CRESS. Nasturtium officinale.

Leaves, Loot putha. | Seeds, Hurufs.

The water cress is a native of Great Britain, is generally raised from slips. It thrives best in running streams, and is to be had all the year round. It is grown from seed in

beds near a water course, and the supply may be kept up for any length of time. A small black caterpillar is very destructive to it: the only remedy is flooding the plants for a short time.—*Jaffrey*. See Nasturtium.

WATER CRINUM. See Crinum.

WATER DILLENIA. See Dillenia.

WATER FLEAS. See Crustacea.

WATER FOWL. Aquatic birds, ducks, teal, &c., are largely brought to the markets of the principal towns of India, at certain seasons of the year, and may be procured in abundance. An enormous quantity of water-fowl breed in Tibet, including many Indian species that migrate no further north. The natives collect their eggs for the markets of Jigatzi, Giantchi, and Lhassa, along the banks of the Yaru river, Ramchoo, and Yarbru and Dachen lakes, amongst other birds, the Saras, or giant crane of India, repairs to these enormous elevations to breed. The fact of birds characteristic of the tropics dwelling for months in such climates is a very instructive one, and should be borne in mind in speculations on the climate supposed to be indicated by the imbedded bones of birds. It may however be remarked, that the Saras (Grus antigone) also breeds south of the Himalaya, and that specimens too young to fly are occasionally brought for sale even to Calcutta. Turner, describing the lake "Ramchoo," remarks, that it is frequented by great abundance of water-fowl, wild geese, ducks, teal, and storks, which, on the approach of winter, take their flight to milder regions. Prodigious numbers of saras, the largest species of the crane kind, are seen there, at certain seasons of the year, and they say that any quantity of eggs may there be collected: they are found deposited near the banks. I had, he says, several of them given to me when I was at Tassisudon, during the rains; they were as large as a turkey's egg, and I remember being told that they came from this place; but whether or not they were those of the saras, I cannot venture to pronounce. Instances have been known of the Saras breeding in captivity, when a pair was allowed the range of a large walled garden (protected from jackals) containing shallow inundated enclosures for the growth of rice: in these the nest was commenced under water, and raised for some inches above the surface; the eggs are two in number, about $3\frac{3}{4}$ inches long by $2\frac{1}{2}$ inches broad, of a bluish-white, with a few distantly placed rufus specks and blotches. The nest of the European crane (Grus cinerea), a common Indian bird, is thus described by Major Lloyd, as observed by himself in Scandinavia. It usually breeds in extended morasses, far away from the haunts of men. It makes its nest, consisting of stalks of plants and the like, on a tussock, and often amongst willow and other bushes. The female lays two eggs, &c. Again, Major Cunningham, in his Ladak, &c., remarks that the water-fowl swarm on the lakes and on the still waters of the Upper Indus. I have, he says, shot the wild goose on the Thogji, Chanmo and Chomoriri lake at 15,000 feet; and Colonel Bates and I shot three teal on the Suraj Dal, a small lake at the head of the Bhaga river, at an elevation of upwards of 16,000 feet: but the time of the year is not mentioned by this author. About two days journey from Delhi is the Nujjufghur jheel, a great marsh covered with water fowl. The method of capturing them there accords with the practice that obtains in other parts of Asia. Earthen vessels, wide enough to admit a man's head into them and perforated with small holes, are allowed to float about for days on the surface of this jheel, until the ducks, teals, and water-fowl in general, seeing them daily, become quite accustomed to the sight and fearlessly swim around and even approach and peck at them. This preparatory step is followed by the fowler supplying himself with a wooden float, strong enough to support him. Using it like a hobby-horse under him he launches himself into the swamp with an earthen vessel over his head of a similar size and kind, and similarly perforated as those indicated above. The float is dispensed with in many parts of the marsh that are shallow. The fowler likewise supplies himself with a bag of net work, which is tied round his waist, and thus equipped he silently paddles himself along with his hands under water until he gets among the earthen vessels and fairly amid the birds. He commences his task by quietly and patiently pulling them down one by one by their legs and putting them into the bag, which is so well adjusted round his person, that the struggles of the birds do not scare away the rest. Some use small baskets of wicker work with a lid of the same material, which answers the purpose better. When the bag or basket is full the fowler recedes to the spot whence he set out on his aquatic expedition, and there empties the contents into a basket large enough to contain about four or five times the number of the small one and then begins anew. Large nets are also laid out on favorable sites towards which the ducks, &c., are driven, and are thus taken in great numbers. Mr. Frere says he is not aware if the decoy-bird is known among the natives, or if they adopt it as a means of entrapping others of its species. In Ceylon may be seen, floating on the surface of the deeper water, fleets of the Anatidæ, the

Coromandel teal, the Indian hooded gull, the Caspian tern, and a countless variety of ducks and smaller fowl—pintails, teal, red-crested pochards, shovellers, and terns. Fuligula rufina, *Pallas*. Spatula clypeata, *Linn.* Sterna minuta, *Linn.* Pelicanus Philippensis, *Gmel.* Pre-eminent in size and beauty, the tall flamingoes, with rose-coloured plumage, line the beach in long files. The Singhalese have been led from their colour and their military order to designate them the "English soldier birds." In China, the fenny margins of lakes and rivers, and the marshes on the sea-coasts, afford both food and shelter to innumerable flocks of water-fowl. The banks along the wide delta of the Pearl river and the islands in it, are frequented by immense flocks of geese, teal, ducks and other birds; and they are likewise very abundant and tame along the inland water-courses. Ducks are sometimes caught by persons who first cover their heads with a gourd pierced with holes, and then wade into the water, where birds are feeding; these, previously accustomed to empty calabashes floating about on the water, allow the fowler to approach and are pulled under without difficulty. The wild goose caught on the shores of the Pearl river, and the common goose of Chinese farm-yards, do not differ much, both of them being a plain ashy grey color, with a large knob at the base of the upper mandible, the domesticated species is almost too gross for the table from the ease with which it fattens. This bird and the mandarin ducks are both considered as emblems of conjugal fidelity, and a pair of one or the other usually form part of wedding processions. The epithet mandarin is applied to this beautiful fowl, and also to a species of orange, simply because of their excellence and beauty over other species of the same genus, and not as some writers have inferred, because they are appropriated by officers of government. The Yuen-yang, as the Chinese call this duck, is a native of the central provinces, and is reared chiefly for its beauty. It is one of the most variegated birds known, vying with the humming birds and parrots in the diversified tints of its plumage, if it does not equal them for brilliancy.—*Williams' Middle Kingdom, p.* 263-64. *Hooker, Him Jour. vol.* ii. *p.* 161. *Tour of India by French, p.* 193. *Tennent Sket. Nat. History, p.* 260, 262.

WATER HEN. The Indian water hen, Parra Sinensis, plumes of inferior kinds are made from its feathers. It is met with in the north of India, running over the leaves of the lotus. The best plumes are however made from the feathers of the heron of the Punjab.

WATER ISLANDS, in lat. 12° 2′ to 12° 4′ N., are of moderate height and lie off the coast of Cochin China.

WATER ISLANDS, or four brothers, 6 or 10 miles S. E. of Malacca Road, are high, small, round islands covered with trees. A fifth or larger one nearer the coast has abundant pure water.

WATER-LILY, the common name for the species of the family Nymphæaceæ. One of the most beautiful and the largest of the tribe is the Victoria regia. See Nelumbium Nymphæa rubra, *Roxb.*

WATER MELON. Cucurbita citrullus. Citrullus cucurbita, *Schræd.* See Melon.

WATERS, MINERAL, waters derive their distinctive characters from the formations or strata through which they flow. Those of the primitive formations are almost all thermal, and generally possess a high temperature. Those of the older secondary formations are generally of a lower temperature. The newer, secondary, and the tertiary strata, give forth cool mineral waters. The chemical contents—sulphuretted hydrogen, free carbonic acid, carbonate of soda, other salts of soda and of lime, silica, sulphate of magnesia, oxide of iron, free sulphuric and muriatic acids—vary in almost every individual case; but there is a general tendency in mineral waters from the primary formations to a sort of similarity of chemical contents, and so likewise in respect to the secondary and tertiary formations. Leaving out thermal waters, which are not designated mineral waters unless for some additional quality besides their high temperature, mineral waters are often classed into saline, alkaline, chalybeat, and sulphureous. Most of the celebrated Spas belong to one or other of these four classes,—the Cheltenham, Leamington, Harrowgate, Carlsbad, Marienbad, Kissingen, Wiesbaden, Seidlitz, and Baden Baden waters are saline-aperient, some hot and some cold; or, rather, it should be said that some of the springs at these places are saline-aperient; for there are other springs at the same towns possessing very different qualities. Alkaline waters are met with at Bath, Cheltenham, Leamington, Harrowgate, Scarborough, Carlsbad, Marienbad, Kissingen, Toplitz, Wiesbaden, Vichy and many other places. Among the places at which chalybeat waters, or water in which the iron is associated with much free carbonic-acid gas, are met with, are Tunbridge, Harrowgate, Brighton, Peterhead, Aix-la-Chapelle, Spa, Pyrmont, Schwalbach, Marienbad, and Seltzer. Sulphureous waters are found at Moffat, Askern, Harrowgate, Aix la Chapelle, and other places. It will be seen that Harrowgate possesses a large variety of these mineralized waters. A small number of springs

contain iodine, and are on that account useful in certain maladies. There are springs of this kind at Tewkesbury, Cheltenham, Gloucester, Leamington, Builth, Llandrindod, and Kreuznach. Some others contain a little bromine, and a few contain both iodine and bromine.—*Tomlinson.* See Hot-springs; Mineral Waters; Springs; Thermal springs.

WATER-OUSEL. The brown water ousel, Cinclus asiaticus, is very generally distributed on the streams of the lower and middle Himalaya regions; its habits and haunts closely resemble the European dipper, likewise found on the Cashmere mountains, from which it differs only in colour, being a snuff brown.

WATER SNAKES. See Reptiles.

WATERSPOUTS are frequent in the Indian Ocean, the Bay of Bengal, and the Arabian Sea. They generally form a double cone. The upper portion with its apex downwards consisting of a dense cloud, while the former cone, the apex of which is pointed to the heavens, consists of water, which is thus sometimes raised to a height of several hundred feet. Water spouts seldom last longer than half an hour. Their course and movements are irregular. They are more frequent near the coasts than in the high seas, yet often the wind prevents the formation of water spouts. In their stead the wind spout shoots up like an arrow, and the sea seems to try in vain to keep it back. The sea, lashed into fury, marks with foam the path along which the conflict rages and roars with the noise of its waterspouts, and woe to the rash mariner who ventures therein! The height of the spouts is usually somewhat less than 200 yards, and their diameter not more than 20 feet, yet they are often taller and thicker. When the opportunity of correctly measuring them has been favourable, however, as it generally is when they pass between islands of the Eastern Archipelago, so that the distance of their bases could be accurately determined, they have never been found higher than 700 yards, nor thicker than 50 yards. In October, in the Archipelago of Rio, they travel from north-west to south-east. They seldom last longer than five minutes, generally they are dissipated in less time. As they are going away, the bulbous tube, which is as palpable as that of a thermometer, becomes broader at the base, and little clouds, like steam from the pipe of a locomotive, are continually thrown off from the circumference of the spout, and gradually the water is released, and the clouds whence the spout came again closes its mouth. There never occur many waterspouts in the Archipelago of Bioun Lingen except during the changing of the monsoon, when almost daily one or more. The air spouts near the equator always appear to be more dangerous than the water-spouts. Mr. Jansen says he has seen water-spouts go up out of the water upon the shore, where they overthrew strong isolated frame houses.

A gentleman, engaged in the Great Trigonometrical Survey, furnished particulars of certain phenomena observed by him during a journey from Dehra Doon to Sealkote in the summer of last year. He attributes the formation of water spouts there to the atmosphere being surcharged with electricity, as for a week previous there had been frequent thunder storms. On the day he took down his notes the temperature had been unusually warm and sultry, rain had fallen after 1 P. M. to the south and north at distances of seven or eight miles, till 5 P. M., when great masses of clouds moving from south to north, accompanied with rain and vivid lightning, accumulated at a short distance to the east of his position. At 5-30 P. M. the great disturbance in the clouds took place; extensive masses being driven together, the waterspouts were first observed descending out of one of the masses from which no rain was falling, and assuming the appearance which they retained for fourteen minutes, after which time the column to the north became small, and the southern one grew larger for about five minutes, when they both assumed the same shape, but got very thin and long; in another six minutes after, they, especially the southern one, lengthened out into a very fine column converging towards each other till the ends nearest to the earth met at a height of two hundred feet from the ground; after this junction the column to the north dissolved, and the southern one assumed gigantic proportions; after which the spout changed its form so rapidly that no correct sketch could be made. When the waterspout attained its largest dimensions it was quickly absorbed up into the cloud with which it was connected, and from which torrents of rain immediately began to fall, accompanied with vivid forked lightning. The ground directly below the water-spouts was greatly agitated, for large and dense columns of vapour or dust—more likely the former, since the soil was still moist with recent rain, rose from the earth till they touched the ends of the waterspouts with which they seemed to mingle. The colour of the waterspouts was exactly alike, viz., light grey with a touch of neutral tint which looked very remarkable against the dark sky beyond. The columns of vapour which rose from the earth followed the same oscillatory and gyratory motion as the waterspouts. The time of

duration of this phenomenon from its first appearance to its ending was exactly forty-two minutes. The length of the columns or water-spouts at time of greatest convergency was 900 and 1,150 feet, and length of the southern spout when it assumed its largest dimensions was nearly 1,800 feet from the cloud to its extreme end, and their distance from the observer's position was a mile and a half.—*Jansen in Maury's Physical Geography, p.* 247, 250, 384.

WATER WAGTAIL. The little piebald Water wagtail, in its season, and the common sparrow, at all seasons, are identical with those of Europe. The common small kingfisher of India differs from the British bird only in its more diminutive size. See Birds.

WATHAMMAN. HIND. of Salt Range. Celtis caucasia, Nettle tree.

WAT'N. ARAB. HIND. MAHR. A native country, amongst the Mahratta, a patrimony.

WATPAN. HIND. Tussilago farfara.

WATPHUTA. HIND. Saxifraga ligulata.

WATSON. Gheriah was the chief town and strongest port of Angria in 1756, it was attacked and taken by a British squadron under Admiral Watson, and on land by an army under Clive; a Mahratta army held aloof.

WATTAL. HIND. Euonymus fimbriata.

WATTAL or Watul, a tribe in Kashmir, a gypsy kind of tribe which supplies dancing girls and prostitutes. The women are among the handsomest of the valley. They have all the manners and appearance of gypsies. They live in tents or rather small huts of thatch, and have no restriction as to food. Their women are very beautiful.—*Campbell, p.* 121. See Watul.

WATTAMAN. PANJ. Celtis Caucasia, *Willde.*

WATTLE BARK. See Mimosa.

WATU-KAJU. SIND. Anacardium occidentale, *Linn.*

WATUKARA-PINCHEE-GASS. SINGH. Bergera Konigii, *Linn.; W. & A.; Roxb.*

WAVE-LEAVED BIGNONIA. Bignonia undulata, *Roxb.*

WA-WE. See Kush.

WA-WEI. A vegetable poison used by natives of the Somali coast and others in the interior of Africa, for poisoning their arrows. It is an inspissated decoction of the root of a tree which is not determined, but is supposed by Dr. Cleghorn to be one of the Loganiaceæ or Apocynaceæ. It is used both in hunting and in war, and is said not to be poisonous if swallowed.—*Madras Museum, Captain Playfair.*

WAX.

Shuma,	AR.	Mom,	HIND. PERS.
H'pa roung,	BURM.	Cera,	IT. SP.
Lah,	CHIN.	Cera-alba,	LAT.
Peh-lah (white,)	„	Lelin,	MALAY.
Hwang-lah (yellow,)	„	Wosh; Wosk,	RUS.
Wasch,	DUT.	Siktha,	SANS.
Cire,	FR.	Miettie,	SINGH.
Wachs,	GER.	Mellugu,	TAM.
Medhmal,	HIND. PERS.	Minum,	TEL.

Wax is obtained from different sources, the chief of which is the bee-hive, where it is made by the bees for the formation of their cells. The insects proceed in a similar manner and with such celerity, that in a new hive, a comb 20 inches long by 7 or 8 inches broad, will be constructed in 24 hours, and in five or six days the hive will be half filled. The wax thus produced is more or less yellow in colour, and has an odour resembling that of honey. The beautiful geometrical form in which it is arranged in the honeycomb is well known. The amount of wax produced in England is very large, but a considerable quantity is likewise imported from abroad. In 1840, nearly 4000 cwts. were imported from the western coast of Africa, nearly 2000 cwts. from Tripoli, Tunis, &c., and more than 1000 cwts. from the East India Company's territories. This was at a time when the very heavy duty of 10*s.* per cwt. was laid upon this article, and in the years 1847, 1848 and 1849, the imports were 510, 432 and 377 tons. In 1842, the duty was reduced to 1*s.* and 2*s.* the cwt. The adulteration of this substance was great during the existence of the heavy duties, and is still practised to a less extent. The adulterants of yellow wax are earth, pease-meal, resin, &c. Those of white wax are white oxide of lead, white tallow, and potato starch. Oxide of lead may be detected by simply melting the wax in water, when the oxide falls to the bottom; tallow is discovered by the dull opaque white which it gives to the wax, and starch is detected by means of sulphuric acid, which carbonizes the starch without acting on the wax. When the wax has served its purpose in the domestic economy of the hive, it is collected for manufacturing purposes by first allowing the honey to drain off or to be pressed out, and then, by repeated boilings and strainings, obtain the product. For obtaining a marketable wax from the combs by a single operation, without either straining or pressing, in an earthen vessel, much narrower at bottom than at top, is placed water and aqua fortis, in the proportion of 1 ounce of the latter to every quart of the former. When these are well blended, as many good waxcombs are put in as will reach, when melted, to within a finger's length of the top of the pan. The pan is then set on a clear fire, and stirred while the wax is

melting, and until it has boiled long enough to liquify the whole completely. It is then removed from the fire, and allowed to cool gradually. The wax then forms into a cake at the top, and the impurities are underneath: these arrange themselves in two layers, the lowest of which consists almost entirely of dross, but the next contains a certain amount of wax. When the cake of wax is turned out of the pan, both these drossy layers are removed, leaving the cake pure; but the upper drossy layer is boiled over again with more combs, and with any scrapings which it may have been necessary to make from the upper surface of the wax in order to leave it quite free from extraneous matters. Old combs that have wax in them or other descriptions of refuse that have been pressed, but yet retain a considerable portion of wax, are pressed down in a close tub or vessel in a house for five weeks. This causes the impurities to ferment and rot, without affecting the wax, which may then be treated as above described, and will yield a fine yellow wax, little inferior to that of the best combs. Where very great purity is required, the best empty virgin combs are put into the same kind of vessel employed in the preceding process, but with only a quarter of a pint of water, to keep the wax from burning. The pan is then set over a clear fire, and stirred until it boils. At this time a clear yellow froth begins to rise up, which froth is to be skimmed off into a pan placed close at hand. The fire must be so managed that this froth shall continue to rise without boiling over, and a succession of skimmings are thus obtained, which form a very pure description of wax. When no more froth will rise, the residue is turned out into a vessel of cold water, and can be boiled up again with other combs. This method is only available with a fine comb. By the above processes, bees-wax is freed from impurities, but is not deprived of its natural yellow colour. For the greater number of uses to which the substance is appropriated, it is, however, necessary that the wax should be rendered perfectly white. This is effected by exposing it in thin ribands on a bleaching ground, where it is subjected to the action of light, air and moisture, and loses both colour and odour. In India, wax is obtained from the West Coast of Africa, Barbary, Malabar, Zanzibar, and in small quantities from the West Indies, United States, Germany, France, &c.—*Waterston quoted by Faulkner. McCulloch Commercial Dictionary. Tomlinson, Smith Chinese Materia Medica. Pople, Statistics of Commerce. Bagster on the Management of Bees, Lond.* 1834.

WAX CANDLES. Various descriptions of wax candles were formerly made in India but the manufacture has been discontinued.

WAXEN CHARRAS. See Cannabis sativa Charras.

WAX FLOWER. Tabernæmontana coronaria, *R. Br.*, also Gardenia florida, *Linn.*

WAX INSECT.

Chung-peh-lah, CHIN.	Shu-lah, CHIN.
Peh-lah, „	

The wax-insect, the Coccus pela, *Westwood*, is of a whitish hue when small, but becomes of a dark brown colour at the close of the season. The male insect has large wings and an elongated anal point. They are found on certain oleaceous plants, Ligustrum japonicum, L. lucidum and L. obtusifolium. It is the secretion of these insects that the Chinese call peh-lah or white-wax. The wax-insect tree of China, erroneously says Mr. Fortune, is no doubt a species of ash (Fraxinus). It grows abundantly on the banks of ponds and canals in the province of Chekiang; and a small quantity of wax is also produced in this province. He was indebted to Dr. Mc-Carter of Ningpo for some beautiful specimens of the fresh insect upon the branches of the tree. This insect, when fully developed on the trees, seems as if covered with flakes of snow. The wax is an article of great value in Chinese commerce, and a small portion is exported. From the time of the Mongolian dynasty white wax is always to be understood in Chinese works as referring to the waxy secretion deposited upon the small branches of several oleaceous trees. The male insect is described in Hanbury's Notes as having large wings and an elongated anal point. The female insect appears to develope its body in such a way as to envelope the twigs of the tree. The Pen Ts'au describes them as about the size of a wood-louse. In the beginning of June they are found upon the small tender branches of the trees, around which they deposit the snow-like wax. In the latter end of August, or thereabouts, the wax, which is an imperial monopoly, is carefully scraped off the trees, is melted in boiling water, strained whilst hot, and poured into cold water, when it immediately congeals into a white, opaque, crystaline mass, very much resembling the best spermaceti. If the collection be delayed the raw wax, called Lah-cha, is inferior. In the autumn the dark chesnut-coloured insect begins to make a nidus, something like that of the mantis. It is at first no larger than a grain of millet, the whole covering the tree something like fruit. As the spring comes on these reddish round receptacles become as large as a fowl's head. Each one of these insects lays several hundred eggs. At the beginning of May

these collections of eggs are gathered, and wrapped in the leaves of a reed called Yoh, the same as the rice-dumplings of the Dragon-boat Festival are wrapped in. They are put upon the proper trees, and by the early or middle part of June, they are hatched and have emerged from the leaves to enter upon their wax-making on the young branches of the trees. The insects have their enemies in the shape of the ants, who climb up the trees and eat their fat friends, unless lime be sprinkled frequently over the trunks of all the wax trees. These trees are planted upon the banks between fields, or in clumps. In the latter case the trees are guarded by soldiers, and a heavy tax is collected, if the wax be not wanted by the government, who claim the right of pre-emption. Lu-chau-fu in Ngaghwui Kia-hing fu, in Cheh-kiang, Hing-hwa-fu in Fuhkien, Li-'ing fu and Hing-i fu in Kweichau, Chang-ih fu, Kwang-chau ting Tsing chau, Yung-iun fu, Haug-chau fu, Kwei-yang chau, and other places in Hunan, with several districts in Yunnan and Sech'uen are known to supply this wax in large quantities. Since the Tai-ing rebellion the price of this article has increased to some five or six times its previous cost, although there is some variation in the price. It is sold in large, flat, round cakes, sometimes carried without any packing; the trade is very extensive in Hankow. The insects and the trees are said to have been, originally, inhabitants of different parts of the country, until attention was directed to the culture of this wax. The wax is beautifully white and crystaline. It melts at about 152°, and is tolerably soluble in alcohol. It dissolves readily in essential oils, but is not much affected by acids or alkalies. There is some difference in the hardness, but it never shows signs of melting in the high summer temperature of Central China. Its composition is that of ceryl cerotate (C27 H53 O, C27 H55). It yields cerotic acid and cerylene by dry distillation. It is used in making candles, when mixed with vegetable tallow, in also very small quantities to harden the outer coat of Chinese candles, is the basis of the black composition used in rubbing off visiting cards, or other simple impressions from small blocks. It is likewise used in making ointments for sores, cuts and porrigo; a kind of it is brought from Canton, called Peh-lah-an, and is much prized as a vulnerary and pectoral dose. White wax is used in internal injuries, after accidents, in much the same way as spermaceti was in European pharmacy to the beginning of the present century. *Fortune. Smith Mat. Med.* See Wax Trees.

WAX OIL. Oleum ceræ. Bees wax submitted to destructive distillation with the addition of a little salt yields an empyreumatic oil which is much used in medicine by native medicinists.—*M. E. J. R.*

WAX PLANT. Hoya carnosa.

WAX TREES. Several species of myrtle, Myrica, yield the product called Myrtle-wax. This is especially obtained from Myrica cerifera, which flourishes in Louisiana, the berries of which are incrusted with wax. By boiling these in water, a quantity of hard brittle wax of a pale green colour is obtained, of the specific gravity 1·015, the fusing point being 110°. A somewhat similar wax is obtained from Myrica cordifolia, a shrub which grows at the Cape of Good Hope. The stems and leaves of palm-trees also secrete the substance called Palm-wax. Such is the hard, brittle, greenish, yellow wax which we obtain from Rio de Janeiro. It is soluble in boiling alcohol and ether; it fuses at about 168°. A white and crystaline wax, resembling spermaceti, is known in commerce as Chinese or Japan wax. It is soluble in naphtha, but scarcely so in alcohol and in boiling ether. It forms a soluble soap when boiled in a solution of caustic potash. It fuses at about 180°. Another wax, having the same fusing point, is found upon a hard and ligneous variety of the sugar-cane, and is known as sugar-cane wax and cerosine. This is soluble in boiling alcohol, but sparingly so in boiling ether. By boiling the bark of the cork-tree, Quercus suber, in alcohol, and distilling off the alcohol, a quantity of yellow crystals are obtained which form cork-tree wax, which may be purified by repeated solution and crystalization. Nitric acid converts this substance into a peculiar acid, called cerinic acid.

The wax tree of China, called Tung-ts'ing or Lah-shu, is the Ligustrum lucidum, on which the wax-insect breeds. It is a handsome evergreen tree with ovate pointed flowers and black capsular fruit. The insect is also raised in Se-ch'uen on the Nu-ching trees, the L. japonicum and L. optusifolium, and on the Shwai-lah-shu or L. ibota, or species of ulmus. Another tree on which the insect harbours is the Shwni-tung-ts'ing, supposed to be a species of Hibiscus, and a tree called Tien-chu, also called Cau-lih and Pentsau, a native of Kiang-nang, supposed to be a species of Ornus or Fraxinus. The Holly tree, Shwni-Kiuh-shu, and the Yuen-chi-hwa tree are also named as affording shelter to the wax-insect.—*Smith Chinese Materia Medica.* See Wax Insect.

WAX, VEGETABLE. This term has recently been applied to solidified oils. Mr. Edward Loarer lately discovered a mode of fabricating a substance which he named ve-

getable wax, from its resemblance to that animal product, and he obtained a Patent for it under Act VI of 1856 of the Government of India. He manufactured about 200 tons, all of which has been sold in Madras, Calcutta, and Europe; it brought various prices, but the latest selling price at Havre was about £43 per ton of one thousand kilogrammes, or 2,200 English pounds.

Candles can be prepared of this material; and the power of bleaching it is possessed in Europe. The vegetable wax is made from the common lamp oil (castor oil) of the country, the plant producing which is grown throughout the length and breadth of the Indian empire, springing luxuriantly even on bare rocky soils, affording, therefore, exhaustless supplies of the raw material for the wax.

By one of Mr. Loarer's processes, about 100 lbs. of oil were congealed in 8 hours; only one ingredient (sulphuric acid) was used, and that only in very small quantity, sixteen ounces sufficing for obtaining 100 lbs. of vegetable wax. This process is admirably adapted to the country, and may be adopted by the ryots without any difficulty.

Another process, in which both nitric and sulphuric acids are used, is the best adapted for manufacture on a large scale; by this process 400 lbs. of oil were congealed in a wooden trough in 4 days, and Mr. Loarer suggested an arrangement, and described an apparatus, which would make this process of preparing vegetable wax on any scale, very simple. The manufacture of vegetable wax can be generally introduced into India; thus enabling the grower of castor and other similar oil seeds to carry oil to market in a solid and consequently more portable state: at present the carriage of fluid oils is not only difficult but costly.

The vegetable wax has the advantage of being easily stored, and transported from the interior on the rudest conveyance and in the simplest and cheapest form; it can be loaded upon carts, on bullocks, or in any way best adapted to the habits of the people, and sufficiently protected from injury and from weather by the ordinary leaves and mats of the country, requiring neither casks, dubbers, nor boxes to convey it. It can further be solidified into any portions or shapes, and on board ship can be stowed in any convenient corner; requiring no protection against leakage or bilge water, and by its nature it can be packed so close, that no danger from shifting of cargo or injury to the article from rubbing, need be apprehended.

Mr. Loarer gives the following details of three different processes for the manufacture of vegetable wax. (*a*) The cheapest process is well adapted for villagers, a common earthen pot being the only apparatus necessary.

Take one part of common unrefined saltpetre, and one part of sulphuric acid: mix these at the bottom of a pot of sufficient size, and as soon as the mixture is well saturated, a hundred parts of common castor oil is to be slowly poured upon the mixture, and the whole heated on a slow fire until it reaches a temperature of $\frac{2}{3}$ that of boiling water or about 160°Faht. (More or less is not the question, provided the oil does not boil). The means for ascertaining the temperature of the oil is with the finger, being careful to stop the fire so soon as the heat will not allow to keep the finger into the oil: the compound is then allowed to cool and may be then decanted into another pot or box made water-tight, and it is then well stirred, when it begins to thicken. This process will last about 8 hours, and the cake will come out of the mould three or four days afterwards, in a hard lump ready for packing into plaintain leaves and gunny bags; square boxes of 18 inches on every side, are the best things for moulding, but at least one of the sides should be moveable, to facilitate the exit of the cake when it hardens. He strongly recommends an active stirring when the paste thickens, as it betters the colour of the vegetable wax. Washing the cakes when they come out of the moulds is very useful for taking away all viscidity—if the cakes are left in the moulds eight or ten days it will be better. The cost of manufacturing a ton of 2,240 lbs. of vegetable wax, not including the price of 2,240 lbs. of oil, is Rs. 4-6, as follows:—

20 pounds of crude saltpetre,...	Rs.	1	4
20 pounds of sulphuric acid,...	„	2	8
Fuel,......	„	0	2
Coolies, working and packing,	„	0	1

Mr. Loarer prefers crude saltpetre to refined nitre, as the former yields by its combination with the sulphuric acid, a notable quantity of chlorine, which has a bleaching property on the wax; more, it is cheaper.

2nd Process. For a large manufacture the above process would become tedious because it is difficult to procure pots of 20 gallons; the pots are very often broken, entailing a great loss in raw materials, and the pots will hardly stand more than eight or ten operations, being very soon corroded by the bi-sulphate of potash formed during the process. For manufacturing ten tons at every out-turn, have a large vat or tub made to contain two thousand gallons, having at two inches above the bottom a number of holes with leaden pipes for drawing out when required the contents of the vat; also an iron retort in the form of a gas cylinder with a hole—in the centre of the cover

he hole is a small aperture half an inch in liameter for pouring in the acid: this small iole may be stopped with baked clay or wood. A leaden pipe connects the still with the ottom of the vat. Many moulding boxes, vith one moveable side and moveable dia- hragms; distant one from another 18 inches nd dividing the boxes into an exact number f cubic cells 18 inches on each dimension. 'his machinery being ready, the vat being ill of oil, the retort will receive a load of wven pounds of crude nitre for every thousand ounds of oil in the vat. The hole must then e well secured and luted and the sulphuric cid is poured upon the nitre through the nall aperture, using a funnel with a long ck: the small aperture is luted or stop- d, and fire is kindled under the retort. o every pound of crude nitre allow a pound commercial sulphuric acid. First a slow e, then a very brisk one should be applied iring two or three hours; the oil in the tub ill become gradually heated till it reaches 0 to 130° Faht. When the evolution of gas no more perceptible in the oil, the stopper ould be opened and the fire taken out of the ate. The whole is allowed to cool during e night, and next morning a light film much e cream on the top of milk, is perceptible the top of the oil; it is then time for open- g the holes: the liquid is let into the mould- g boxes, where it must be actively stirred as thickens, as long as the magma will allow a ong man to stir it. The diaphragms are n inserted into the moulding boxes and the ole is left to itself for five or six days. The es may then be opened, the diaphragms loved, the cakes taken out, washed, allow- to dry for one or two days on platforms, l then packed in plaintain leaves and gun- s.

f the moulding boxes are made of parti- is exactly of 18 inches cube, each mould weigh 225 pounds, ten packages to the , and very convenient for stowing on board. cost of ten tons by the 2nd process is Rs. 2.

lbs. of crude nitre,............	Rs.	6	0
lbs. of commercial sulphuric acid,........................	,,	10	0
wood, ...	,,	0	8
lies, working and packing,.....	,,	1	10

rd Process. A large vat, square or round, be- made of wood or sheet iron, must be sup- l with a horizontal or vertical fan; the bot- of the vat must be calculated so as to leave orner unstirred by the motion of the fan, the om of the vat must be well coated with a ure of vegetable wax and resin to preserve om corrosion by acids. This being done, vat is filled with oil and three quarters of a pound of nitric acid is put into the vat for every hundred pounds of oil contained in it. The mixture must be then well stirred by the fan, ten minutes for every two hours, until the oil becomes thick, viz., after three or four days; the composition should then be decanted into the moulding boxes, and there stirred very actively as in 2nd process. This process is very expensive compared to the first and second processes, and should never be resorted to. The product from this process is improved by the addition on the second day of one ounce of sulphuric acid for every pound of nitric acid, poured in- to the vat the first day; this betters the colour of the wax, and accelerates the result of the operation; but after all, this third process should not be resorted to as long as it is pos- sible to work the 1st and 2nd processes.

Candle making. Candle moulds being prepar- ed in the usual way with wicks and laid into the casting table, the oil prepared by one of the above processes should be cast into the moulds at the precise moment when the composition has reached the consistency of thick congee water. The candles must then be left to them- selves in the moulds for five or six days, when they will come out with a fine gloss and a light saffron colour. A very great improvement is ob- tained in the quality of the candles by pass- ing a current of chlorine gas through the oil during the process of solidification; when that is made with proper care, a threefold object is obtained:—1st. Specific gravity increased and melting point raised. 2nd. Colour much improved. 3rd. The melted stuff never runs when the candle is lighted.

These candles are self-snuffing, a very im- portant item. It is as yet necessary to learn the composition of a good sort of wicks, be- fore bringing these candles to perfection as an article for the million. There was at Calcutta a manufacture of wicks on the French prin- ciple, and they sell wicks readily to every one who wants them.

Cost of 2,240 pounds of candles of vege- table wax is Rs. 214-12, viz.:—

4½ candies of oil @ 45 Rs. per candy,	202	8
Working of the oil into vegetable wax, (2nd process), ...	1	12
Additional cost for chlorine, ...	1	0
13,440 wicks at 100 per anna and cooly.	9	0
Other expenses, ...	0	8

Cost to the manufacturer of one pound of candle 1 anna and 7 pie, or at the utmost 2 annas per pound of candle.

Vegetable wax is an excellent lubricator; it was once extensively used on the Madras Railway. Mr. Fletcher, the Traffic Manager,

wrote that he found Loarer's grease capital, and they were then using nothing else. It is in any one's power to make it of different degrees of consistency without lessening its high resistance to heat; it will answer when softer for any description of machinery, and will take with a notable economy the place of tallow, so expensive for steam engines. Vegetable wax can be bleached perfectly white, and there was sent to the Exhibition of Madras in April 1857 a box containing some 30 pounds of vegetable wax bleached at Vellore, simply by exposure to the sun and dew, and by keeping it continually sprinkled with water; three days of that treatment being sufficient for bleaching vegetable wax perfectly white. Very good and cheap candles are made immediately from the raw material, and without any chemical preparation whatever. Vegetable wax can be converted into soap, and some tolerable samples of soft and hard soaps have been made. About a hundred pounds of vegetable wax was treated at Calcutta by a manufacturer of stearine candles, and it has been as easily converted into stearic acid as is the tallow by the same process. The produce of tallow compared to vegetable wax was:

Tallow produce,	Stearine 55,	Oleine 43,	loss 2.
Vegetable wax	„ 48,	„ 48,	„ 4.

The manufacturer of Calcutta said that with care and a more complete acquaintance with vegetable wax, he would succeed in bettering the difference of produce between the two facts; the price of tallow at Calcutta varies from 12½ to 14 Rupees per Indian maund. Vegetable wax is a very good substance for the preparation and keeping of all sorts of leathers and hides, such as accoutrements for the army, harness, boots, ropes made of raw hides, &c.; this substance never hardens, and never changes by exposure to the air into a sort of varnish, rendering the leather hard and prone to cut, as is the case when tallow is mixed with oil. At home the tanner will find that stuff to answer as a succedaneum for more expensive oils, such as whale oil now in use. During the last three years Mr. Loarer used nothing else for the harnesses of his horses, and it answered very well. Vegetable wax is the cheapest material to be used for the preservation of all articles of iron of comparatively small value, such as bar iron, steel, engineer's and artillery tools and spare pieces, the inside of guns, grape shot, &c., and in one word all articles of iron kept in store rooms and godowns, where they go to decay in so short a time. Vegetable wax would equally do for round and hollow shot, but for the tremendous heat attracted by the black piles of shot in the arsenals in these tropical climates. It would prove superior to any coating now in use for shot, if the piles were only protected from the heat by the commonest sort of covering; for ships of war, where shot go so rapidly to decay, the composition is capital. From vegetable wax never drying, it will never interfere with the progress of loading a gun, but would on the contrary facilitate its entrance into a foul gun. Vegetable wax being easily made of various consistency with a nearly fixed melting point, varying from 140 to 155° Farht, it is the best thing for greasing the axles of gun carriages and waggons of the artillery, engineers, and land transport corps. The same substance may with great advantage and economy, be substituted in the studio of the statuary and the workshop of the moulder and castors in bronze or brass, to the bees wax which is now very extensively used, and costs about eight times more. A mixture of 8 parts of vegetable wax and two parts of bees wax is superior even to pure bees wax for ductility and evenness of grain. Vegetable wax is manufactured from the coarsest sort of lamp oil (Castor oil, the produce of Ricinus communis.) Castor oil seeds are planted in July in the districts of North and South Arcot, Salem and Coimbatore; the crop is gathered in February. The seeds are sown only on the poorest description of dry land, whose assessment is from 1½ to 3 Rupees per cawny.

In the process for re-converting vegetable wax into oil, the vegetable wax should be melted with water at a gentle heat, (not to make it boil); when the wax is melted, it must be drawn from above the water by a syphon or a cock, and put into a large vat, at the bottom of which there is a layer of bisulphate of potash swimming in a sufficient quantity of sulphuric acid, so as to prevent the oil coming in contact with the bisulphate of potash. [illegible] room where the vat is must be kept for [illegible] hours at a heat of 140° by means of a [illegible] the heat should be then gradually decreased to 120°, and 100°, and in four days the oil [illegible] be perfectly liquid and will congeal no [illegible]

Mr. Loarer experimented on samples of [illegible] following oils, viz.:

Illipoo.	Cotton seed.	Croton tiglium.
Margosa.	Mustard.	Ground nut.
Piney cotay.	Rape.	Cold drawn [illegible]
Kattamanaka.	Ramtil.	Cocoanut.
Wood oil.	Soapnut.	Gingely.

Illipoo Oil produces with great fa[illegible] perfectly white substance of the consi[illegible] of good tallow. Illipoo oil is with g[illegible] vantage mixed with castor oil for the [illegible] facture of vegetable wax, and as Illi[illegible] has always fetched a very low price [illegible] Madras Presidency, the discovery of [illegible] perty renders it very valuable, and [illegible] hance its price for the future.

b. Margosa Oil, the oil of species of Azaderachta and Melia, produces a vegetable wax as hard as any made from the best lamp oil, and of a light saffron color. Margosa oil has always been sold in the Madras Presidency at a very low price, but its supply has never reached what it could attain should this oil become saleable. Margosa as well as Illipoo oil, mixed with an equal quantity of cold drawn castor oil, produces a hard vegetable wax of an agreeable roseate color.

c. Wood Oil is decomposed by nitric acid into a black spongy substance, hard and brittle, heavier than the liquid part of the oil into which it sinks: the liquid part assumes a color nearly like that of port wine, and is about as fluid as water, much more liquid than the natural wood oil. A thin coating of that liquid part applied to a board of deal wood formed in twenty-four hours a transparent varnish perfectly even and bright; the spongy matter above alluded to seems to possess the same properties as a mixture of resin and anotto. He obtained two identical substances by dissolving with nitric acid the common asphalte used for pavements. A small quantity of sulphuric acid poured uncautiously on the second day into the wood oil which had been in contact with nitric acid caused it to rush out of the glass with a violent effervescence and disengagement of smoke, aromatic fumes, and a heat of about 200° Fah.; the aromatic smell was very sweet, and much like benjamin. He thinks the wood oil worthy of great attention on account of the varnishes it can supply.—*Mr. Loarer's Report to Madras Committee, reporting on the Resources of India.*

WAYALAKUL. Tel. Vitex negundo.

WAYANG. See Karang Bolang.

WAYGIOU, called Quarido by the inhabitants, an island in the Gilolo Passage, is mostly high uneven land. It has several well sheltered harbours, the most westerly of which, Piapis, is in lat. 0° 5′ S. See Wygiou.

WAZARAMO. See Somal, Beer-el-somal.

WAZEEFA. Ar. a stipend. See Khiraj.

WAZIRA, a brave, active, warlike, but aggressive and predatory race in the mountains on each side of Bannu and Dour. They occupy all the hill tract, from Koorum and the Miranzye to the Gomal and Galeri Pass south of Tak. They hold both sides of this pass, which is the great route by which the trade of Afghanistan and Central Asia passes into India. Between the Miranzye and Bannu valleys, the hills of the Waziri project into British territory and approach the Bahadur Kheyl salt mines from which they are separated by the Latammar pass. It embraces numerous tribes arranged into the Ahmedzye and Othmanzye, who are estimated to muster 20,000 men. They have made repeated inroads on the Bannu valley, and in the cold weather of 1859-60, an expedition scoured their valleys to coerce them into submission. They are still however more or less independent. The Wazeeri are divided into three great divisions, or Usman kheyl, Ahmedzye, and Mahsood. Their country extends from the south of the Kohat district down to Tonk, opposite Dera Ismail Khan: towards the north they are bounded by the Afreedi country and towards the south by the tribe of Badranian; Bunnoo frontier is the habitat of the Ahmedsye. These are divided into six sections, which again are sub-divided into numerous smaller clans. One of these sections is called Sperkye; it has two divisions, the smaller of which goes by the name of Mahomed kheyl, and numbers about 250 fighting-men; they live in the hills on both sides of the river Koorum, and, since A.D. 1850, a number of them settled in British territory. They till their lands in the cold season, and during the summer months the greater portion of them retire to the hills, leaving a few to look after their fields. The other sections of the Ahmedzye are located in British territory, on the Thul between Bunnoo and Luttumur: they generally go by the name of Thul Wazeeri. The Waziri country in its southern part, has the lofty mountain Kussai Ghar, of which the Takht-i-Suliman is the highest peak. The Waziri, although notorious robbers, in common with other lawless tribes, regard the descendants of Mahomed with awe, and a feeling of respectful reverence, and esteem themselves fortunate to receive their benediction, and other little aids their superstitions teach them to think essential.—*Masson's Journey. vol* i. *p.* 101. *Vigne's, A Personal Narrative, p.* 83. *Our Punjab Frontier.* See Afghan, Khyber, Punjab.

WAZU. Ar. Hind. Pers. The mahomedan legal washings of the face, hands and feet. The mahomedan purification before prayers. See Ablutions, Bathing.

WEASELS. Of these there are several species in India; they are arranged by naturalists under the genus Mustela of the family Mustelidæ, and there are known M. kathiah, *Hodg.*, the yellow bellied weasel of the Himalaya and Nepaul; M. strigidorsa, *Hodg.*, the striped weasel of Sikkim; M. Horsfieldii, *Gray*, of Bootan; M. temon, *Hodgs.*, of Tibet; M. canigula, M. nudipes, *F. Cuv.*, of the Malay peninsula and Java; M. sarmatica, *Pallas*, of N. and Central Asia and Afghanistan. Mustela subhemachalana, *Hodgson*, the Himalayan weasel, occurs throughout the Himalaya from Kashmir to Darjeeling. Its total length, in

cluding tail, is 19 inches; colour, a uniform light-brown, darker on the back; nose, mouth, and throat, white; tail lax and tapering. This handsome little creature is not uncommon in the valley of Kashmir. M. erminra, the stoat or ermine, is stated to occur in Nepal and in the lower and middle regions of the W. Himalaya. M. sibirica, *Pallas,* occurs in China.—*Adams. Jerdon.*

WEATHER. From 50 years observations at Florence and in England, the following was found to be a law. Eleven times out of twelve, the weather remains the same during the whole moon as it is on the fifth day if it continues unchanged on the sixth day; and 9 times out of 12, like that of the fourth day, if the 6th resembles the 4th. Marshal Bugeaud, from 1815 to 1830, acted on the above. In counting the fourth and sixth days, he was particular in beginning from the exact time of new moon, and added three quarters of an hour for each day, for the greater length of the lunar as compared with the solar day.

WEAVERS. Divisions of the weaver caste in Tilingana are Pursala wanloo, Sumsala wanloo, Puttanasala wanloo, and Sala wanloo.

WEAVER BIRDS of India are of the genus Ploceus. P. baza hangs its pendulous dwelling from a projecting bough, twisting it with grass into a form somewhat resembling a bottle with a prolonged neck, the entrance being so invented as to baffle the approaches of its enemies, the tree snakes and other reptiles. Its large purse-shaped nest would fall an easy prey to its enemies did not the little architect, with surprising intelligence, place it in situations not easily accessible; hence several may be seen suspended from the tips of branches overhanging deep wells, or on the topmost boughs of acacia and thorny trees. The weaver-bird builds in societies, and is docile and familiar in its habits.—*Adams' Naturalist in India. Tennent's Sket. Nat. History, p.* 251. See Birds.

WEBB'S FIR. Abies Webbiana, *Hooker.*

WEBERA CORYMBOSA. Willd.

Stylocoryne Webera. *A. Ridi. Schreb.*

Terana pullum. Tam.

The fruit of this plant, a small black berry, is eaten by poor people. It is a beautiful shrub, which is rarely seen in low lands or in cultivated districts.—*Ainslie, p.* 233.

WEBERA CERIFERA.

Terrene. Singh.

This tree grows in the northern provinces of Ceylon; its wood weighs 57 lbs. to the square foot, and is said to last 30 years. It is used for roofings and in the construction of fishing boats and dhonies.—*Mr. Mendis.*

WEBERA TETRANDRA. Willd.

Canthium parviflorum, *Lam., Roxb., DC.* & *Don. W. & A.*

Tajerow kata,	Mal.	Carray cheddie,	Tam.
Naga bulla,	Sans.	Balusoo kura,	Tel.

A decoction of the edible leaves of this thorny shrub is prescribed in certain stages of flux cases, and the root is supposed to have anthelmintic qualities. Neither of them have much taste nor any peculiar smell.

The greens.

Carray keeray, Tam.

The leaves are eaten as greens, common about Madras.

The bark.

Madoocare puttay,	Tam.	Madoocare bark,	Eng.

The vyteans prescribe the young shoots of this plant, as also the bark, in certain flux cases.

The fruit.

Karay ka phull,	Mal.	Carray pullum,	Tam.
Naga Bulla,	Sans.	Balusoo pundoo,	Tel.

This fruit the size of a small pea, is eaten by the common people.—*Ainslie, Mat. Med. p.* 75. 86. *Jaffrey. p.* 223.

WEBERDISTEL, also Kratzdistel. Ger. Teasel.

WEDA, Beda, Veddah, Weddah, a forest race in forests on the south-eastern side of the island of Ceylon between the mountains and the sea, confined chiefly to the wild moors and unwholesome tracts called the Weddapratta of Bintenney, and the Maha Vedda-pratta of Ouva, which they consider exclusively their own territory. They may, with propriety, be divided into the village Weddah and the forest Weddah, the one having a fixed abode and living in society, the other having no fixed habitation. The village Weddah are in general small men, between five feet three and five feet five inches in height, slender, muscular and well made, in colour, form, and features resembling the Singalese. They wear a narrow loin cloth.—*Davy's Travels in Ceylon. p.* 115-6. See Beder.

WEDELIA CALENDULACEA. Nees.

Verbesina calendulacea, *Linn. Roxb.*

V. Benghalensis,	*Ridi. Pers.*	Jageria calendulacea,	Sprang.
Kesho-raj,	Beng.	Pastale kaiantagerei,	Tam.
Pilabhungra,	Duk.		
Keshuria,	,,	Patsu pula gunta galijeru,	Tel.
Pi kajoni,	Maleal.		

This perennial plant grows in the south of India, has a slight turpentinous taste, and is used in medicine.—*Roxb.* iii. 440.

WEDGE. See Shorea, Vatica robusta.

WEDGE LEAVED CROTALARIA. sp. of Crotalaria retusa, *Linn.*

WEDI LUNU. Singh. Saltpetre.

WEEDA ISLANDS, in the Gilolo Passage, are low, covered with wood, and form two compact groups in about lat. 0° 40' S. and 9 or 12 miles from Gilolo.

WEEDIYOTTO. See Pareyo.

WEEPING SONNERATIA. Sonneratia apetala.

WEIGHTS AND MEASURES. An almost infinite variety of nominal measures, and of varying values given to the same measure, exist in different parts of India and even in the same district. Even in a single village a certain nominal measure will have half a dozen different values, according to which of as many different articles on the floor of the vendor in the bazaar is about to be sold. It is a very general custom that there should be two series of weights employed in each shop according to the transaction. When the shop-keeper sells, he uses a maund of 24 lbs, but when he buys, this weight makes way for another of the same name of 28 lbs. The variation of the Podhee of cotton in Tinnevelly and Madura from 240 to 280 lbs., according to the locality, affords the opportunity dishonestly to employ either, and yet to point to the published market value as a triumphant defence of their terms. Cotton is sold in Madras in candies of 500 lbs., but in many of the cotton districts the candy is but 480 lbs. to the ryot; in Mysore, the same name represents 560 lbs, while in Pondicherry it sinks to 517 lbs., omitting fractions, and rises in the purchases of the merchants to 562 lbs.; while, as if further to complicate this unfortunate measure, brass, copper, and zinc are valued according to candies of 450 lbs. In Candeish, tael seed is sold by the candy of 560 lbs., mustard seed in Guzerat is measured by the candy of 612 lbs., while 580 lbs. is the value for mustard seed in Sholapore, and the territory of Goa measures its Kokum by the candy of 784 lbs. Cotton seed from America, priced here by the hundred weight of 112 lbs., is sold to the natives by the maund of 25 lbs. The merchant buyer sells it to the shopkeeper in maunds of 28 lbs., and he disposes of it to a ryot who calls 24 lbs. by the same name, while the latter gives a portion to his neighbour in toolams of 62½ lbs. The coffee grown in Mysore is estimated in maunds of 28 lbs.; if bought by a Madras merchant, it is priced in maunds of 25 lbs.,—and transmitted to him by railway in maunds of 82 lbs.; but if bought for export from Calicut, it must be in maunds of 30 lbs. each.

Matters are just as bad between the various Presidencies. The ordinary Madras maund is 25 lbs., in Bengal it is 82 lbs.; while in Bombay it is 28 lbs.; in some parts of the western coast of the Madras Presidency 30 lbs. is the value of the same nominal standard; while the indigo and other factory agents of Bengal reckon by a maund of nearly 75 lbs. In Bombay the bazaar maund may contain 40 or 42 seers, while the candy may contain either 20, 21 or 22 maunds, and varies in weight from 500 to 560, 588 or even 616 lbs. In Surat and its neighbourhood, the maund may contain either 40, 41, 42, 43½ or 44 seers according to the articles sold, or whether the transaction be wholesale or retail; and further, those seers themselves differ so much in value that while the maund of 40 seers weighs 31 lbs. avoirdupois, that of 41 seers weighs 38 lbs.; that of 42 seers only 39 lbs.; that of 43½ seers weighs 44 lbs., and that of 44 seers only 41 lbs.! In Travancore the maund is 32 lbs. In Cuttack salt is sold in maunds of 100 lbs.; the duty is paid in the Punjab on maunds of 80 lbs., and in Calcutta of 82 lbs.

In the various parts of Bengal and the North Western Provinces, the variations of the values ascribed to ordinary measures are almost incredible. The unit of measurement is the tola or weight of one rupee—a very simple standard, which all might understand, if the rupees referred to were not of different weights. In many places it is the sicca rupee, in others the Furruckabad rupee, which we believe was the same as the present Company's rupee; other places employ the Benares rupee as their standard, which in the remoter districts gives way to the Balasore rupee, and this in its turn to that of Sonaut. This variety is accounted for by the fact that the natives use the same standards as when they were under their own rulers, each of whom coined his own money; and that no fancied benefit might accrue to his neighbours, each rajah purposely chose an independent standard both of weight and quality. With the extinction of the native princes their peculiar coins gave way to the Company's rupees, and have themselves become great rarities, so that infinite opportunities are given for cheating on the part of merchants and shopkeepers by the all but impossibility of obtaining a comparison with the original standard. As if these variations were not sufficient to deprive the ignorant buyer of all means of self defence, we find that every talook almost has different numbers of these talook units; and within the limits of each an independent system for each article. In Azimgurh, for example, cotton and spice are measured by the seer of 80 tolas, ghee and salt by the seer of 95 tolas, while 96 tolas forms the rate for corn, sugar and tobacco; the merchants themselves employing for their own purchases seers of 105 and 108 tolas. In Malda the seer has no less than fifteen different values. As a sort of national curiosity, we will venture to give them all—50, 58, 60, 72, 75, 70, 80, 80⅝, 91, 92, 94, 96, 100, 101 and 105 tolahs. In Dacca the

 WEIGHTS AND MEASURES.

relative values are 60, 70 and 82 tolas. Bhagulpore boasts of six different seers of 64, 67, 80, 88, 101 and 104 tolas respectively. The merchants of Juanpore employ in their own dealings a seer of 112¾ tolas, but retail to the people in seers of 80 and 96 tolas.

From these remarks it will be apparent that a greater degree of confusion could not possibly exist, nor greater hindrances to internal trade and prosperity. Those large transactions of English merchants, by which the prices of any commodity are equalized throughout Great Britain, by supplying the wants of one place from the abundance of another, are here rendered impossible by the infinite difficulty which must be experienced before the local rates can be compared. It does not by any means follow that because the market rate of any article at one station is 30 Rupees the maund, and 60 Rupees at another, that a profit will be the result of sending a supply from the one place to the other. The maund in the latter place may contain 40 seers of 70 tolas each; while in the apparently cheap locality it may be but 30 seers of 45 tolas each, and thus the price be absolutely higher than in the first. Nor can the relative values be compared, for the variations are so numerous and arbitrary, that an agent would be required in each village, to whom careful reference would have to be made in each transaction, an arrangement which would entail ruinous expense and delays. As an example of what must follow any rash attempts at comparative valuation, we may mention that so good an authority as Dr. Forbes Watson seriously states that in Jubbulpore excellent wheat may be obtained at *twopence the bushel*, because, in their report upon a sample sent to the Exhibition of 1862, the local committee observe that it is sold at so many seers the rupee. They referred to the small retail seer of the Jubbulpore bazaar, while Dr. Watson supposed that they referred to one of the very much larger seers in use in other parts where he gained his experiences, and hence his very curious mistake. With the exception of the weight of the Rupee, 180 grains, there exists no defined standard of Weight or Measure in India. There are certain traditionary standards, but these differ all over the country, and in practice are not adhered to, nor is there any law on the subject, by which the gross irregularities that prevail can be checked.

The unit of *Linear* measure in India, is generally the distance from the elbow to the tip of the middle finger of a tall man. This length is known as the *hat*, Hind., or *moolum*, Tam., *mora*, Tel., and averages 19½ inches. It is always translated *cubit*, though invariably exceeding the English cubit of 18 inches, by 1½ or 2 inches. In the Southern Carnatic, the *adee* or length of a tall man's foot, is in use, and averages 10¼ inches. The *Guz* of India, (translated *yard*,) is partially in use all over India, but varies in different localities from 26 to 36 inches. In Bombay it is 27 inches, and in the North-West Provinces of India it has been defined by Government for the purpose of Survey, at 33 inches. Although the above are the *Indian* linear measures, the English yard and foot are very extensively adopted by native artizans; and in all the Public Works of India, which give employment to thousands of natives, the English linear measure is invariably employed. Considering therefore that this measure is already so familiar to the people, and that their own is so undefined, and fluctuating in practice, there can be little doubt but that the English Yard and Foot should be determined on in a new Metrical system.

Superficial measure need only be noticed in connection with *Land measure*. According to the ancient Indian practice an area of land is often named after the quantity of seed required to sow it, or the quantity it will produce, and of course the actual area differs according to the opinion of the person who makes the estimate. Where linear definition is given, mention is made of Rods or Ropes, of so many cubits, but the cubit is undefined, and areas of the same denomination are derived from different multiples of the Rod or Rope. Of the more definite terms the *Bheega* prevails in Bengal and the North-West Provinces. In Bengal it is 1,600 square yards, and in the North-West Provinces it is 3,025 square yards. In the Bombay Presidency it is not authoritatively defined, but averages about ⅝ of an acre. The term is quite unknown in the Madras Presidency, where the authorised measure is the *Cawnie* of 57,600 square feet, or 1·3223 acre; there are, also, other local land measures defined, but presenting great differences one from the other; as the *chain* of 3·64 acres, the *seed-cottah* of 1·62 acres, the *vaylie* of 6·4 acres, and the *bullah* of 3·82 acres.

The greater portion of the North-West Provinces of India has been surveyed by Government officers. The area of each village (or rather parish, to use an English term) is given in Imperial acres, but the areas of the fields appertaining to each village, are given in local *bheegas*. The introduction of the acre, therefore, was only partial. In the survey lately made in the Bombay Presidency, the area of each field is recorded in acres, not only in the English, but in the vernacular acounts, and the term is well known and understood among the people. In the Madras

Presidency, the districts of Bellary and Cuddapah were measured field by field (as far as the land was cultivable) in acres, in 1803, and Kurnool in the same way in 1842. In Salem, the records of field measurements made about 1800, are entered both in the native terms and their equivalents in acres, and the acre is by far the best known.

Under the above circumstances, the introduction of the Imperial acre seems not only most desirable, but quite feasible. Where lands have already been *accurately* measured, and contents recorded in native terms, those terms might be converted into acres; and in the progress of the surveys now going on, all measurements might be at once in acres. This plan has already been successfully adopted in the present re-survey of the southern districts of Madras, and the acre is superseding the *cawnie*. In the new survey now in progress in the Madras Presidency, acres and hundredths of acres are employed.

With regard to the *subdivisions* of the acre, they have hitherto in the Madras Presidency been in 40ths (or Goontas), and 16ths of 40ths; or else in 16ths (annas) and 4ths of 16ths. Where the natural fractions of halves and quarters are not employed, a decimal subdivision is most desirable; not only is the computation far easier to the surveyors, but records in decimals are far more intelligible than in Roods and Perches, and money values in relation to areas more easily calculated. The areas recorded in the Ordnance Survey of Great Britain, in which Survey every field is measured, are now in acres, *and decimals to* the third place. There cannot be a better authority for a decimal subdivision, and it offers no difficulty to the natives as regards *land* measurement. It is hardly necessary to argue why a decimal subdivision of *Land* measure should be easier of introduction than a decimal arrangement of Weights and Measures in general. It is, in practice, a mere division of account. In England not one person in a thousand is the least put out by the substitution of decimals for Roods and Perches: whereas, not one in a thousand but would be inconvenienced (for a time) by the substitution of 10ths of Gallons for Pints, or by Ounces of ten to the Pound. The cawnie itself is in several districts in the Madras Presidency, subdivided into 100ths, and in the present re-survey of the southern districts of Madras, the decimal subdivision of the acre has been authorised, as stated above.

The larger weights throughout India are utterly devoid (in practice) of rule or uniformity, being generally misshapen lumps of metal, or stones, and varying in value as well as denomination in every district almost. The traditionary and acknowledged unit of weight is generally the Rupee; thus the "Seer" is said to be so many Rupees weight; but it is very seldom possible to say what was the weight of the Rupee forming the original unit. The Rupees of the different native governments varied considerably, and even under the British rule the Sicca Rupee of Bengal was 192 grains, when the Arcot Rupee of Madras was 176½. These differences in the small unit would effect the larger ones considerably, and aggravate the uncertainty as to what was their original and real value. Besides this, terms of the same denomination do not by any means denote the same value. A candy (Khundee) for instance, in one place differs very much from the candy of another place. Again, a candy, for instance, of metal, is not the same as a candy of tobacco; and there is a different candy for cotton and sugar. The candy used in buying is not always the same in the same place as the candy used in selling. There has, however, from time immemorial been a small weight called a *tola*, in use by goldsmiths and jewellers, which has maintained a ponderary value of about 182 or 184 grains. The Furruckabad rupee used in the N. W. Provinces, had hitherto been 180·234 grains. The Rupee of Madras and Bombay had been for some years 180 grains. The "Sicca" Rupee of Bengal still remained at 192 grains, but this coinage was discontinued in consequence of Act XVII. of 1835, and since that date the Company's Rupee of 180 grains has been the only Rupee coined at any of the Government mints. When the Government of India, by Act VII. of 1833, (the main purport of which was to fix the weight of the Furruckabad rupee at 180 grains) decided on 180 grains as the *tola*, they in the same Act declared that this tola should be "the unit" of a general system of *Weights* in all *Government transactions.*"

The "Table" of Weights adopted by the Government of India for the use of their own offices, is in accordance with native usage in Bengal, and was approved of by the Chambers of Commerce in Calcutta and Bombay. It is as follows:

1 Tola	=	180 Grains.	
5 Tolas	=	1 Chittak.	
16 Chittaks	=	1 Seer = 80 Tolas	= 2·075148 lbs. avoir.
40 Seers	=	1 Mun = (or maund) =	$82\frac{2}{7}$ lbs. exactly

If any system of weights be selected from those now current in any part of India, the above seems to be the best, not only because it is founded on a defined standard, originating in the weight of the coin of the realm, but because it includes the "Seer" of 80 tolas, which is a weight known and acknowledged in *some* degree all over India. It is in short a Ponderary system which as far as *facility of*

introduction is concerned, has a preference over any other.

In the 140,000 square miles comprised in the Madras Presidency, not a single bazarman has altered his weights one grain, or his measures one fraction of a cubic inch in consequence of the Calcutta notification. Neither was the Act intended to go farther than legalise the tola as a *unit*. The "Table of Weights" has never been adopted in the Madras Presidency, even in *Government transactions*. In the Fort St. George Gazette of the 20th October, 1846, the following Table of Weights was published as that which was to be used in that Presidency:

180 Grains	= 1 Tola.		
8 Tolas	= 1 Pollum.		
40 Pollums	= 1 Viss	= 120 Tolas	= 3·0857 lbs. avoir.
8 Viss	= 1 Maund	= 960 Tolas	= 24·6857 lbs. avoir.

This "Table" was sanctioned for Madras by the Government of India, and is, as will be seen on comparison, entirely different, with the exception of the tola unit, from the weights adopted for Calcutta.

It will be observed that the Madras Government Table does not acknowledge the "seer" weight at all; but still a seer weight of 80 tolas, known as the "pucka" seer is met with all over India. This quantity is not much in use in Southern India, where the "seer" of 24 tolas called the "cutcha" seer, is more common. The original unit of weight in Southern India seems to have been the gold coin called by the English a "pagoda." It is now uncurrent, but was about 52½ grains weight. 80 pagodas weight is, according to the Native Tables, a "seer" (cutcha) of 24 rupees weight. This corresponded with the average weight of the old native rupee of 175 grains; but since the introduction of the "Company's rupee" of 180 grains, the "pagoda weight" is 54 grains generally. The same confusion formerly existed in Bengal, between a Sicca weight of 179⅝ grains, and a Sicca rupee of 192 grains. There are also "seers" both in Madras and Bombay, of 84 Rupees weight. Still, a seer of 80 tolas could no doubt be more easily introduced throughout India than any other weight.

The Calcutta official "mun" or maund, is 82⅔ lbs, avoir., and is not known in any part of the Madras Presidency, except at the Government Salt Depôts, and in the coast trade of grain to the port of Madras. The Madras maund is 25 lbs; the Bombay maund is 28 lbs.; and the Surat maund in use on the Western Coast is 31⅓ lbs.

The chief objection to the Pouderary system enunciated by the Government of India, is that it cannot be made to accommodate itself to the Imperial Weights of Great Britain, and this, considering the importance of the trade between the two countries, and the fact that one is a dependency on the other, is a serious drawback.

The following Table shows the nearest proportions that can be obtained, for converting the above system of weights to those of Great Britain (avoirdupois).

38·889 Tolas	= 1 lb.
350 Tolas	= 9 lbs, *exactly*.
1 Seer	= 2·057143 lbs.
35 Seers	= 72 lbs. *exactly*.
1 Mun	= 82 two-seventh lbs. *exactly*: (82·28571)
7 Muns	= 576 lbs. *exactly*.
49 Muns	= 36 cwt. (of 112 lbs.) *exactly*.
27·216 Muns	= 1 ton (of 2240 lbs.)
490 Muns	= 18 tons *exactly*.
300 Muns	= 11 tons (strictly 11·0204.)

It will be seen that under such a system, there will always be difficulty and confusion in adjusting the weights of articles of commerce to the English Table, and as the connection between the two countries increases and the European element becomes more marked, the inconvenience will be more practically felt.

Mr. Prinsep, in his "Useful Tables" gives a list of some 300 Rupees of Native Mints mostly of dates prior to any regular coinage of the Indian Government. They average about 175 grains; and had the Government adopted 175 grains instead of 180 for the rupee, a "Seer" of 80 rupees would have been exactly 2 lbs. *avoirdupois*; and a "Mun" of 40 seers, exactly 80 lbs. *avoirdupois*, and 25 Muns exactly 2,000 lbs., or the proposed new *Ton* for Great Britain. The rupee of 180 grains is *now* so well established in all the Presidencies, and there is such an enormous silver circulation in India, that it seems impracticable to reduce the Rupee to 175 grains and if the same content of pure silver were retained, (which would be necessary for the credit of the State) the "touch" would be raised from $\frac{11}{12}$ or ·91666, to ·942, which would be deemed too high for durability. The touch of silver in France (where, as in India, it is the legal standard of value) is ·900. In England it is ·925.

Mr. Bayley proposes a "seer" of 77½ tolas instead of 80. As far as the facility for testing doubtful weights by the coin of the country, this would answer as well as 80 tolas, for a quarter rupee is just as much a coin of defined weight (45 grains) as a whole rupee, and where one can be obtained, the other can. This "seer" would differ 2½ tolas weight from the one adopted for Government transactions in Calcutta, but practically the "seer" weights in India, even though professing to be 80 tolas weight, are seldom so much. The seer is generally said to be so many rupees weight, and as the rupees of former days on which these seers were founded, averaged about 175 grains, the original weight would be more nearly obtained by a "seer" of 77½ tolas. Besides, as has already been stated

the 80 tola "seer" is not universal, the "seer" weight varying in different localities; and to substitute a 77⅞ tola weight in these localities would not be more of an innovation than substituting a "seer" of eighty tolas.

The "seer" of 77⅞ tolas would be only 5 grains short of a double pound, or two pounds avoirdupois; that is, it would be 13,995 grains instead of 14,000; which would only make a difference of 1·42 lbs in a proposed new ton of 2,000 lbs, a difference within the limits of error in weighing. It would be advisable perhaps to define the "seer" legally, as equivalent to two avoirdupois pounds; and it might at the same time be declared that a seer of 77⅞ tolas weight would not be condemned as short.

The Government of India neither in Act VII of 1833, nor in the "Table" set forth by them, made any allusion to measures of capacity, although it is matter of more importance than the weights, seeing that by far the greater portion of the domestic transactions in India are in grain. The Calcutta Chamber of Commerce, when on the 19th of May 1836, they resolved to adopt the weights of the Government, urged the introduction of the imperial gallon for liquids, and proposed that new measures of capacity for grain should be regulated by the weights; but they did not show how this was to be done, nor does it seem at all necessary to make a distinction between "dry" and "liquid" measures. The Government declined to act on the recommendation of the Chamber, and whatever might have been contemplated by Act VII of 1833, nothing has ever been announced by way of defining the capacities of the grain measures in Bengal. The only measures made up at the Mint by authority of the Government, are the imperial gallon and its submultiples, for use in the medical and victualling departments; but the Court of Directors in their Despatch of 17th July 1833, expected the "general adoption in India" of the imperial measures. The *Madras* Government however, in their notification referred to above, promulgated a table of measures to be used in Government transactions, as follows:

1 Ollock	=	12½ cubic inches.
8 Ollocks	= 1 Measure (Puddee)	= 100 cubic inches.
8 Measures	= 1 Marcal	= 800 cubic inches.

And this arrangement was sanctioned by the Supreme Government for the Madras Presidency. But these measures have not been adopted by the people, and even in the town of Madras, the Government have authorised the stamping with the Government seal, the "customary" measure or puddee of 104¼ cubic inches, which has been the *real* standard since 1802. The Bombay Government attempted to introduce a "Seer-measure" of the capacity of 57 cubic inches, but this being so much smaller than the usual "Seer-measure" of that Presidency, the scheme has not met with success.

Mr. James Prinsep's observation that "India does not, properly speaking, possess dry or liquid measures, and that where these are employed, they depend upon, and in fact represent, the "seer" or "maund" *weight*," is true of India generally, but in the neighbourhood of Madras and in some of the southern districts, the ordinary grain measure is a "puddee," which does not represent any weight; and the "puddee" varies greatly in different localities.

The most common grain measure, and one which is to *some* extent known in almost every part of India, is the "seer-measure;" this is always understood to be a measure which, *when heaped*, will contain a "seer" *weight* of rice, or in some places instead of rice, a mixture of the 9 most common grains, known as the *nou-daniam* measurement. The nine grains used in the Madras Presidency are rice, chenna, cooltee, pessaloo, minamaloo, dholl, anamaloo, gingely oil-seed and wheat. As only *heaped* measure is recognised by native usage, it is evident that there is no rule as to the *cubic contents* of the measures used; for vessels of very different cubic contents may contain the same when heaped, in consequence of having different diameters. It is on this account that the values given to Indian measures, in such tables as those of Major Jervis or Dr. Kelly in his Cambist, being founded on the guaged cubic contents, do not represent the true quantities.

In 1852, the Madras Board of Revenue instituted a special enquiry into the grain measures of each district. They were found to be of all shapes and materials. Some were in the form of hour glasses; some were joints of bamboo, and some earthenware pots; but as a general rule, it was found that they were in most districts intended, when *heaped*, to contain a seer weight, or a definite number of seers, either of rice or of mixed grain, but usually rice; and the "seer" weight was generally that of 80 tolas. Measures in every district were guaged with water, rice, and cooltee or horse gram, and it was found that (taking 100 cubic inches of water to weigh 140 tolas, which at a temperature of 81° is true to ½ a grain) rice on an average weighed 113 tolas to the 100 cubic inches. In the Northern Districts, it averaged 111 tolas; in the town of Madras 114, and in the other districts 112 and 113. The rice used was what is called in Madras, "Pucha arisee, Tam.," Kucha Chawul, Hind., or raw rice, to distinguish it from "Poolungul, Tam.," Oobala Chawul, Hind., or that which is

scalded before husking. Old rice would weigh something lighter. In experiments made by Mr. Bayley he found 100 cubic inches of the 9 mixed grains, to weigh 115 tolas. From the reports of Mr. Shaw, of Ahmedabad in the Bombay Presidency in 1849, it appears he found that a measure holding 137½ tolas of water, held when struck 114⅝ tolas of mixed grain, which gives 116½ to 100 cubic inches; and Mr. Reeves, of Poona, found that a vessel containing 80 tolas weight of water would hold 66⅝ tolas of mixed grain, which also gives 116½ tolas to 100 cubic inches. Cooltee or horse gram was found by the Madras experiments to average 116 tolas to 100 cubic inches, but it varied from 113 to 118. From the same experiments the weights of the *heaps* (of rice) on various diameters were determined as shown in the margin; but it is probable that the dealers in the bazaar would not heap quite so liberally. The accuracy is of course not so great but that the diameter may be considered either the inner or outer.

Diameter inches.	Tolas wt of rce in heap.
2	2
2¼	2½
2½	3
2¾	3½
3	4
3¼	4½
3½	5
3¾	6
4	7
4	9
4½	11
4¾	13
5	15
5¼	18
5½	21
5¾	24
6	27
6¼	30
6½	34
6¾	38
7	41
7¼	45
7½	49
7¾	53
8	58
8¼	63
8½	68
8¾	74
9	80
9½	92
10	104

The best "Seer-measures" are about 3½ to 3¾ inches in diameter, and 6 inches deep, but they are never true cylinders. Their cubic contents are from 66 to 66½ cubic inches, holding from 74 to 75 tolas of rice when *struck*, and 80 when heaped. It so happens that a vessel of 66$\frac{1}{10}$ cubic inches capacity will contain at a temperature of 84° (a good *day* temperature for India,) 16650 grains, or *exactly* 92½ tolas weight of water. This would hold on an average when *struck*, 74½ tolas weight of rice; and with a diameter of 37 inches, 80 tolas if *heaped*. Thus if a "seer" of 80tolas be adopted, such a measure would be exactly what is understood by the natives of the country to be a "Seer-measure."

The sub-multiples of the "Seer-measure" are generally (not always) used for *liquid* measures in India. The only liquids sold by measure, are ghee (clarified butter), oil, and milk. No defined measure is used for arrack and toddy (intoxicating liquors), and spirits in Madras are sold by the "dram" of 5·775 cubic inches, or $\frac{1}{40}$th of the old wine gallon.

Instead of making 40 "seer-measures" = 1 "Mun-measure," which might cause a confusion in the terms of weight and measure, (and the term mun or maund is not in use as a grain measure in Southern India,) it would be better to give some name to a quantity represented by 100 seers. This might be called a "Saotee," from *sao*, a hundred. The "table" adverted to above would be as follows:

DRY AND LIQUID MEASURES.

Seers.	Cubic inches.	Tolas of Water.	Tolas of Rice when struck.	Tolas of Rice in heap.	Total weight.	Diameter inches.	Depth inches.
I.	61·1	92½	74½	5½	80	3·7	6·2
II.	123·2	185	149	11	160	4·5	7·[illegible]
III.	198·3	277½	223½	16½	240	5·3	9·[illegible]
IV.	264·4	370	298	22½	320	5·7	10·[illegible]
V.	330 5	462½	372½	27	400	6·2	10·[illegible]
VIII.	528·8	740	596	44	640	7·3	12·[illegible]
X.	661·0	925	745	55	800	7·7	13·[illegible]

LIQUID MEASURE.

½	33·0	46¼				3·0	4·[illegible]
¼	16·5	23⅛				2·5	3·[illegible]
⅛	8·25	11$\frac{9}{16}$				2·0	2·[illegible]

Mr. Bayley proposed as a measure of *capacity*, a vessel to be called a "Seer," but exactly equivalent to an imperial quart. The present "seer-measure" averages a capacity of 66½ cubic inches: the quart is 69·3185. The present "seer-measure" contains, when *struck*, about 74 tolas of rice, or 76 of mixed grain, and about 80 tolas of either when heaped: the quart would contain 78 tolas of rice, or 80 of mixed grain when *struck*, and (with a diameter of 4 inches) about 86 tolas when heaped; but heaped measure should not be recognised by Government. He thinks that as there exists an English measure which corresponds (taking *struck* contents) so closely to the native "seer" of 80 tolas, or to the "seer" of 77⅞ tolas which he has proposed, that it should be adopted, whichever of the two "seers" of *weight* the Government may select. It is also to be added, that the quart will contain an even number of tolas (rupees) weight in water; namely, 17,460 grains, or 97 tolas *exactly*, at a temperature of 84° Fahrenheit. This may be calculated from the former table.

The "Seer-measure" then would be defined as a vessel containing 97 tolas of water at a temperature of 84°, and its bulk 69·3185 cubic inches. A reference to the water being *distilled* or the height of the barometer, will not be necessary in practice. The barometer

W

WEIGHTS AND MEASURES.

158

n the tropics fluctuates very slightly, and a 'all of 1 inch, due to an elevation of about)40 feet, would only make a difference of ·615 ;rain, to be deducted from the normal 97 tolas ıssigned to the quart-seer.

It would not be necessary, if the Governnent recognized *struck* measure only, to define he diameters (or even the shapes) of the 'essels of capacity, for all that is required is hat they shall contain a certain number of olas weight of water. Still, for uniformity's ake, and the more easy discovery of fraud, he vessels should be cylindrical, and it would e desirable that the models, as well as all 'essels made up under Government orders, hould have a diameter proportionate in some imple ratio to the depth. The diameter the ame as the depth would be the best, but hose who are accustomed to measuring grain nd salt, assert that this would be too broad o be convenient, and a diameter one half the epth too narrow. A good proportion is that f 3 to 4, and the contents of a cylinder being ;iven, it is easy to compute the requisite liameter and depth.

Let s = cubic contents given.
d = diameter to be found.
h = depth to be found.
3 : 4 = diameter to depth.

Then [I] $d = \sqrt[3]{\dfrac{s}{\cdot 7854 \times \frac{4}{3}}} = \sqrt[3]{\dfrac{s}{1 \cdot 0472}}$

And [II] $h = \dfrac{s}{d^2 + \cdot 7854}$

From these formulæ, we obtain the following table for both *Dry* and *Liquid* Measure.

Quarts.	Tolas water at 84°	Cubic inches.	Diameter in inches.	Depth in inches.	Tolas Rice, 113 tolas to 100 cub. in.
I.	97	69·3185	4·04	5·39	78·3
II.	194	138·6370	5·10	6·80	156·6
III.	291	207·9555	5·83	7·80	234·9
IV.	388	277·2740	6·42	8·57	313·2
V.	485	346·5925	6·92	9·28	391·5
VIII.	776	554·5480	8·09	10·79	626·4
X.	970	693·1850	8·71	11·62	783·0
½	48½	34·66	3·18	4·25	39·2
¼	24¼	17·33	2·55	3·40	19·6
⅛	12⅛	86·65	2·00	2·68	9·8

If a "Seer" weight of 77¾ tolas = 2 lbs. ·oirdupois were adopted, the "Seer measure" the vessel be struck, would correspond suf·iently, for the weight of rice varies from 12 to 114 tolas to 100 cubic inches; and if the 9 grains standard be taken, the above "Seer-measure" will contain just 80 tolas, (at 116 tolas to 100 cubic inches) and be, when *struck*, the exact equivalent of what is now the average "Seer-measure" when *heaped*. This of course would render its introduction much easier than any other struck measure that can be adopted.

Even in the Madras Presidency, where the "Seer-measure" is not recognised in the Government Notification, such a measure averaging 80 tolas weight of rice when *heaped*, is in use in many of the districts, and the sepoys of the native army always buy by the seer, generally considering it to be ⅔ of the Madras "customary" measure of 104¼ cubic inches, which would give 69⅓ cubic inches, or an Imperial quart. On the 17th July 1855, the Madras Government, in consequence of some dispute on the subject, decided that the sepoy's "Seer-measure" should be 5¼ of the "Ollucks" named in their proclamation of 1836, or 68¾ cubic inches. This closely corresponds with the quart of 69⅓ cubic inches, which Mr. Bayley proposes as the standard "Seer-measure."

The only multiple of the "Seer-measure" that seems necessary for accounts, is one of 100 Seers, which might, as proposed above, be called a "Sautee." For sub-multiples Mr. Bayley proposes *eighths* (at'hee) as more in accordance with native usage. It is seldom that a less measure appears in commercial accounts than single seers, and therefore there is not so much object in a decimal sub-division.

The objection to the "Seer" proposed by the Bombay Government, which is a vessel holding a seer of 80 tolas weight of water, or a capacity of 57 cubic inches, is that it is a *misnomer*. If the native term "Seer" be used at all, it should be the native idea of a seer, that is, a vessel containing a seer weight of *grain*. This proposed seer only holds 70 tolas of mixed grain even when heaped.

The Metrical System which Mr. Bayley would propose for India, combining more decidedly than any other of which he can think the three great objects, viz., assimilation to the English system, approximation to the existing native system, and a means of testing both weight and measure of capacity by the coin of the country, is as follows: I. For Linear measure, the English yard and foot, without at present defining the subdivisions. II. For *Land* measure, the Acre, decimally subdivided. III. For *Weight*, the Seer, of 2 lbs. avoirdupois, corresponding to 77¾ Rupees weight; with a multiple of a "Muu" of 50 seers, (= 100 lbs.), and sub-multiples of "Annas" or 16ths of Seers. IV. For Measure of *Capa-*

city, a "Seer-measure" identical with the English quart, and defined as containing 97 tolas of water at a temperature of 84° (containing when struck, about a "Seer-weight" of mixed grain) with a multiple of a "Saotee" or 100 seers, and sub-multiples of "at'hee" or eighths.

Mr. Bayley succeeded in obtaining a decimal subdivision of the Acre in the new Revenue Survey of the Carnatic, and he also had occasion to recommend a decimal notation of the Assay reports of the Madras Mint.

It may be thought that as it is already a penal offence to use false weights and measures, the public are sufficiently secured; but there is little use in testing them so long as the standards are *not defined* by law, and the following are a few instances of the inconvenience arising from this laxity.

The first case was one where the land revenue having been fixed originally with reference to the produce and price of grain, complaints were made of its pressure, in consequence of a continued fall (as it was asserted) of price. To ascertain the truth of this was of much importance, and investigations were made by Government, in the course of which it was discovered that in one district, the official "Price Returns" had been 20 per cent. in error for some years, in consequence of the grain-dealers having altered the capacity of their measures. In the second case, a merchant at a seaport town sold a certain number of "candies" of copper to a captain of a vessel, who found on re-weighment for sale at Madras, that the weight was short. The seller was able to show that he sold by the candy where he resided, and if the dispute had not been settled by an amicable arrangement, no official authority could have decided the question, inasmuch as the candy is so many seers, and the seer so many rupees, but *what* rupee no one can tell: certainly not the present one, which is some grains heavier than the rupees of the native mints, current when the weights were originally established. In the third case, a long correspondence took place in the Military department, in consequence of a dispute as to whether a regiment of sepoys had not overdrawn their rations; it being asserted that the Seer-measure of the town where they were quartered, was too large. The Government requested the opinion of the Board of Revenue, but the only answer they could give, was that the native "seer" differed in different places, at the option of the bazaar-men, and that as the Government in their proclamation had made *no mention of a Seer* for use "in government transactions," there was no official definition of such a measure. In the fourth case, the Board of Revenue at Madras was informed that measures of capacity were in use in the town, bearing the Government stamp, and yet differing in capacity from the contents prescribed by the proclamation mentioned above. These measures were examined, and found to be 4 per cent. in error, but the Stamping Department asserted that they were in accordance with an *old standard* in their office, and the Government declined even to prohibit their seal being affixed to measures openly at variance with their own proclamation. All these instances occurred within three or four years, and similar cases happen constantly, for want of some positive law on the subject, and the evil cannot be remedied by a mere proclamation, which is not binding.

All government transactions, accounts, tariffs, &c., should be in terms of the new system, and in every purchase made by the public departments, their own standard weights and measures should be employed. This would supersede the attempts (always futile) to specify on every occasion, in equivalent terms of the authorized standard, the ever varying and uncertain values of the native weights and measures. For general purposes, and as a guide to the departmental officers, tables of equalization should be prepared for each district, showing the average results of experiments made to determine the value of the local weights and measures. Such tables though useful, will not of course be conclusive in every case of purchase, inasmuch as weights and measures differ in different villages, and the tables can only give the result of the average of the district. Such tables have been lately compiled in the presidency of Madras.

The following memorandum by Mr. Bale, being an enclosure in a letter from the Court of Directors of the E. I. Company to the Government of Madras, dated 6th July 1829, on the occasion of forwarding standard weights and measures in accordance with Act 5, Geo. IV. cap. 74.

Table I. Thermometer. Table II. Barometer.

Temp. Fahr.	Grains to add or deduct.
55°	+ 25·30
56	+ 22·46
57	+ 19·36
58	+ 16·00
59	+ 12·38
60	+ 8·56
61	+ 4·38
62	— 0·00
63	— 4·62
64	— 9·49
65	— 14·60
66	— 19·94
67	— 25·52
68	— 31·33
69	— 37·38
70	— 43·63
71	— 50·06
72	— 56·69
73	— 63·52
74	— 70·55
75	— 77·78
76	— 85·21
77	— 92·84
78	— 100·67
79	— 108·70
80	— 116·93
81	— 125·36
82	— 133·99
83	— 142·82
84	— 151·85
85	— 161·08
86	— 170·51
87	— 180·14
88	— 189·97
89	— 200·00
90	— 210·23
91	— 220·66

At a temperature of 75° Fahr. a gallon of distilled water weighs 77·78 grains less than 70,000 grains. Or 70,000 grains—77·78 grains = 69922·22 grains.

Barometer Inches.	Grains to be added or deducted.
·01	·0246
·02	·0492
·03	·0738
·04	·0984
·05	·1230
·06	·1476
·07	·1722
·08	·1968
·09	·2214
·1	·2460
·2	·4920
·3	·7380
·4	·9840
·5	1·2300

Ex. Suppose the Barometer at 29·54 inches. (*below* 30°)

·5 = 1·2300
·04 = ·0984

1·3284 grains to be *deducted* from the Gallon of 70,000 grains.

If the Barometer is *above* 30 inches, the grains are to be added.

The following abstract, adapted to lbs. avoir. and to tola (or rupee) weights, has been prepared from the above :

Temp.	Grains of water in 100 cubic in.	Diff. in grains.	Avoir. lbs.	Tolas.
80°	25203·6	...	3·6005	140·020
81°	25200·6	3·0	3·6001	140·003
82°	25197·5	3·1	3·5996	139·986
83°	25194·3	3·2	3·5992	139·968
84°	25191·0	3·3	3·5988	139·950
85°	25187·7	3·3	3·5983	139·932
86°	24184·3	3·4	3·5978	139·913
87°	25180·8	3·5	3·5973	139·894
88°	25177·3	3·5	3·5968	139·874
89°	25173·7	3·6	3·5963	139·854
90°	25170·0	3·7	3·5957	139·834
91°	25166·2	3·8	3·5951	139·812
100°	25129·0	...	3·5899	139·600

Mr. Prinsep remarks that the system of weights established in India by Regulation VII of 1833, was founded on the same unit as the rupee of the equalized monetary system of British India. This unit of the British Indian Ponderary system is called the tola, which weighs 180 grains English troy weight, and from it, upwards, are derived the heavy weights, viz :—Chattack, Ser, and Man or Maund ; and its subdivisions, the smaller or jeweller's weights, called Masha, Rati, and Dhan. The following scheme comprehends both of these in one series :—

Man.	Panseri.	Ser.	Chhatak.	Tola.	Masha.	Rati.	Dhan.
1	8	40	640	3,200	38,400	3,07,200	12,28,800
	1	5	80	400	4,800	38,400	1,53,600
		1	16	80	960	7,680	30,720
			1	5	60	480	1,920
				1	12	96	384
					1	8	32
						1	4

The " Man" or Maund of 3,200 tolas, is that established by Regulation VII of 1833, and differs from the many weights of the same name throughout the country.

Panseri from panch, five, and ser, as its name denotes, is a five ser weight.

A Ser is the commonest weight in use in the retail business of the bazaars of India, and as it varies in quantity with the article sold, it has to be described as the Ser of so many tolas. The standard or bazaar Ser of Bengal being always 80 tolas. The Ser of salt is 82 tolas.

Chhatak, from Ch'he six, and tak marks, is the lowest denomination of the gross weights, and is commonly divided into halves and quarters (called in Bengali kachha), thus marking the line between the two series, which are otherwise connected by the relation of the Ser, &c., to the tola.

The Tola is chiefly used in the weighing of the precious metals and coins.

Masha, Rati and Dhan are weights used chiefly by native goldsmiths and jewellers. They are also employed in the native valuation by assay of the precious metals.

The following table will show how far the Indian system of weights corresponds with the Troy weights of England, and with the " Systeme Metricale of France." The coincidence of the former is perfect : and, in the latter, the masha nearly accords with the gramme and the ser with the kilogramme.

British Indian Weights.	English Troy Weights.				French Weights.
	lbs.	oz.	dwts.	grs.	grammes
One Man... ...	100	0	0	0	37320·182
One Ser	2	6	0	0	933·005
One Chhatak ...	0	1	17	12	58·310
One Tola... ...	0	0	7	12	11·662
One Masha ...	0	0	0	15	0·972
One Rati... ...	0	0	0	1·875	0·122

The following scale will suffice for the conversion of English Troy weights into those of India.

lb. Troy.	Oz.	Dwt.	Grains.	Totals and Decimals.
1	12	240	5,760	32·000
	1	20	480	2·6666 etc.
		1	24	0·1333 etc.
			1	0·0055 etc.

The following are a few of the valuations for the principal weights of Europe, etc., extracted from Kelly's Cambist, p. 222 ; the weights in Troy grains have been converted into tolas by dividing them by 180.

Place and Denomination.		Weight of a single lb. mark &c. in tolas.	Number equal to 1 man or 100 lbs. troy.
Aleppo,	Metical ...	0·405	7890·410
Basra,	Miscal ...	0·450	8000·000
Cairo,	Rottolo ...	36·965	86·564
Calicut,	Miscal ...	0·383	8347·826
China,	Tael ...	3·221	993·446
Constantinople,	Chequee ...	27·538	116·199
Damascus,	Ounce ...	2·600	1252·173
Denmark,	Mark ...	20·183	158·546
England,	Pound ...	32·000	100·000
France,	Kilogramme...	85·745	37·320
Germany,	Cologne Mark.	20·044	159·645
Holland,	Mark ...	21·100	151·658
Italy,	Florence and Leghorn Libra	21·111	109·923
Mocha,	Vakia ...	2·655	1205·020
Pegu,	Tical ...	1·138	2427·307
Persia,	Dirham ...	0·839	3812·297
Portugal,	Mark ...	19·675	162·642
Prussia,	Mark ...	20·050	159·600
Rome,	Libbra ...	29·077	110·049
Russia,	Pound ...	35·102	91·161
Spain,	Mark ...	19·725	162·230
Venice,	Mark ...	20·452	156·457
Vienna,	Mark ...	24·072	132·933

At Madras the '*man*' is assumed as equal to 25 lbs. avoirdupois, and at Bombay the more convenient equivalent of 28 lbs. or one quarter cwt. has been adopted for the standard man.

The ser at Madras contains 8 palams of 10

pagodas each, so that like the ser of Bengal it has the subdivision into 80 parts. In the Malabar system also used at Madras, 2½ palams (1 fánam) make a ser, and the tola occupies the place of the man ; it is equal to 23·192 lbs.

The ser at Bombay is divided into 30 pais or 72 tanks of 72 grains troy each.

Tank, as now existing in Bombay, is 72 grains. In Dharwar it is 50 grains, and in Ahmednuggur it is 268 grains.

Man. The man system follows the common scale, viz :

16 Chhatak = 1 ser.
40 ser = 1 man.
20 man = 1 khandi or mani

Panseri. The use of a five ser weight also universally prevails under the name of Panseri, dhari or visa. The dhari, from its name however, seems to be properly a measure, and accordingly, while in Malwa it is equal to 5 sers, in other places it is found of 4, 4½, 5¾, 10, 11, and 12 sers.

The terms adhola or adheli, half ; pao or powah, quarter ; adhpao, half quarter, explain themselves.

Dry and Liquid Measures. India does not, properly speaking, possess dry or liquid measures. Where these are employed they depend upon, and in fact represent the ser or man weight, and the value of a vessel of capacity rests solely on the weight contained in it. The mode in which this is effected for the dry measures of the south and west of India, is by taking an equal mixture of the principal grains, and forming a vessel to hold a given weight thereof, so as to obtain an average measure : sometimes salt is included amongst the ingredients. Trichinopoly is the only place where grain is said never to be sold by weight. The markal (properly Marakal, from the Tamil) and para are the commonest measures : the latter is known throughout India. In Calcutta it is called ferrah, and is used in measuring lime, etc., which is still recorded however in the man weight. In its weights, Southern India retained, from the ancient Metrology of the Hindus, most of the names and terms properly hindu, پل pala ; تلا tula ; ويسا visa ; بهارا bhara ; کهاري khari ; کهاندي (? khandi), باها baha. Throughout the Moghul empire on the contrary, the ser and man were predominant. The word 'man' of Arabic or Hebrew origin is used throughout Persia and northern India, but it represents very different values in different places. Thus the man of Tabriz is only 6½ lbs. avoir., while that of Palloda in Ahmednuggur is 163½ lbs. The Man of India varies principally as follows :

Man of Bengal, containing 40 sers, and iveraging 80 lbs. avoir.

„	Central India (Malwa, Ajmer &c. 20 sers &	=	40 ...
„ „	Gujarat & Bombay 40 ... &	=	28 ...
„ „	Southern India... ...	=	25 ...

There are, however, many other varieties of nan, from fifteen to 64 seers in weight.

By the British enactment of the 1st January .826, one imperial measure was established is a substitute for the variable wine, oil and corn gallons of England, with their multiples ind divisions. This imperial gallon was made o contain 10 lbs. avoirdupois weight of distilled water, weighed in air at the temperature of 52° Fahr. the barometer standing at 30 inches. It has a capacity therefore of 277·274 cubic nches, and the following are a few useful deivatives from this unit :

Imperial dry and liquid measures.	Cubic Contents.	Avoirdupois Weight.	Indian Weights.
1 pint...	34·659 c. i.	1 lb. 4 oz.	48·611 tolas.
2 „ = 1 quart.	69·318 „	2 lbs. 8 oz.	97 222
8 „ = 4 „ = 1 gallon	277·274 „	10 lbs.	4·861 ser
64 „ = 32 „ = 8 „ = 1 bushel. ...	1·284 c. f.	80 „	38·888 „
512 „ = 256 „ = 64 „ = 8 = 1 quarter.	10·269 „	640 „	7·777 man.
2048 „ = 1024 „ = 256 „ = 32 = 1 Chaldron	41·075 „	2560 „	31·111 „

The gallon nearly corresponds with the panseri or dhari of the Indian corn measures, while the bushel bears the same proximity to the man weight.

The following is the scale of measures in use at Madras.

				Cub. In.	
		1 Olluk	=	11·719	
8 Olluks	=	1 Padi	=	93·752	
8 Padis	=	1 Markal	=	0·750	= 27 lbs. 2 oz.
5 Markals	=	1 Parra	=	13·750	2 dr. water.
400 Paras	=	1 Garce	=	300·000	

Garce, TEL. Garissa, a Madras measure of 400 paras.

Olluk, HIND., a Madras measure of 11·719 cubic inches.

Padi, TAM., a Madras measure of 8 olluks.

Markal, TAM., a Madras measure of 8 padis.

Parra, TEL., a Madras measure of 5 markals.

Ceylon. The dry measure of Ceylon is thus given in the Oriental Metrology :

					gallons.		inch.
4	Cutchundoos	= 1 Ser	=	0·24	=	4·35 dram. + 4·35
4·8	Sers	= 1 Coornly	=	1·15		
2·5	Goornis	= 1 Markal	=	2·88		
2	Markals	= 1 Parra	=	5·76	=	cube of 11·56 ins.
3	Parras	= 1 Amonam	=	46·08	=	5⅔ bushes.
8⅓	Amonams	= 1 Last	=	432	=	6¾ quarters.

Linear Measures.

Biswa from bis, HIND., twenty, is the twentieth part of a Beegha, and besides being a measure of land, is also used to signify the extent of proprietary right in an estate. Each estate or village is considered an integer of the Beegah which is divided into imaginary Biswa and Biswansee, to show the right of any particular party. Thus the holder of 5 Biswa is a holder to the extent of one-fourth of the entire village; precisely in the same way as the *As* was used amongst the Romans. Thus *heres ex summuncia*, heir to one twenty-fourth ;—*heres ex dodrante*, heir to three-fourths ;—*heres ex asse*, sole proprietor. In the same manner, *bes*, *bessis*, was used to express a *biswa* : *berar*,—socius ex besse, and thus in sound and meaning, for of course there is no real connection, there is a close resemblance between the words. *Bes* when it was thus applied as a sub-division of the *As*, was the eighth part of a Jugerum or acre ; not, as is usually applied, two-thirds.

Coss, HIND., is the itinerary measure of India, of which the precise value has been much disputed, chiefly on account of the difficulties which attend the determination of the exact length of the gaz or yard. The Ayeen-i-Akberee lays down distinctly that the coss consists of 100 cords (tunab), each cord of 50 gaz ; also of 400 poles (ban), each of 12½ gaz : either of which will give to the coss the length of 5,000 gaz. The length of the coss, as ascertained from the average distances of the old coss minar or coss pillars, is = 2 miles, 4 furlongs, 158 yards. In different parts of India, however, these vary, and, in

India, the coss varies from about one mile to three miles.

The Guzeratee Coss is the greatest distance at which the ordinary lowing of a cow can be heard, which is determined to be 50 jureeb or 15,000 gaz. This coss resembles the Chinese *lih*, i. e., the distance which can be attained by a man's voice, exerted on a plain surface, and in calm weather. Another, in Bengal, is estimated by plucking a green leaf and walking with it till it dry. Another is measured by a hundred steps made by a woman carrying a jar of water on her head and a child in her arms. All these are very indefinite standards. The same may be remarked of the Oriental *meel*, as well as the European mile and league. The two former evidently derive their name from the Roman *milliare*, and the difference of the value proves that the mere name was borrowed without reference to its etymological signification. According to the *Kamoos*, the Oriental meel is a lax and vague measure, but it has been considered by Dr. Lee to be to the English one as 139 to 112. The league also, from the German *lugen*, to see, and signifying the distance that can be readily seen by the eye on a plain surface, is as indefinite as a Guzeratee gao and a Bengal or Dhuppea coss. Coss is an Indian word : the equivalent in Persian is kuroh, the same as the Sanscrit word krosa, of which four go to the *yojan*, about the precise value of which different opinions are held, four English miles according to Bopp ; 4½, 5 and 9 miles according to Professor Wilson ; but according to the distances in F. Hian's route, the yojan in his time was equal to seven English miles, and this agrees much better with what we find the yojan to be when we resolve it into its component parts.

8 Barley corns = 1 finger
24 = 1 Dand
1000 = 1 Krosa
4 = 1 Yojan

and estimating the finger's breadth at eight barley-corns, this makes the yojan equal to six miles, one hundred and six yards, and two feet.

Hat'h. In the Linear Systems of India, the basis of all is the same, the cubit or human fore-arm ; and this unit is found in Oriental countries as well as in the West, divided into two spans and 24 fingers' breadths. Thus under the Hindu princes, the hat'h (in Sanscrit hasta) was equal to two *vitesti* or spans, and to 24 *angul* (angula). The *angul*, finger, is divided into 8 jau (Sanscrit yava) or barley-corns. 4 hat'h or cubits = 1 danda or staff: 2000 danda make 1 krosa or kos, which by this estimation should be 4000 yards English or 2¼ miles. The Lilavati states that 10 hat'h make one bans or bamboo, and 20 bans in length and breadth = 1 niranga of arable land. Natives of India in speaking of the *hat'h* or cubic, allude to the natural human measure of 18 inches, more or less, and it is practically used in measuring off cloths, ribbons, &c., and in taking the draft of water of a boat. In many places also, in Bengal and in Southern India, the English cubit has been adopted as of the same value as the native measure.

In Burmah, the people seemingly use a lineal measure of this name, consisting of the natural cubit plus a hand breadth, which would be about twenty inches.

Dhoncha, four and a half, is a word in use with the surveying ameens of India, when reducing their linear measurements to bigh'-has ; the other words used by them in fractional multiplication are,

Deorha	1½	Poncha	5½
Dhuma	2½	Khoncha	6½
Honta	3½	Sutoncha	7½
Dhoncha	4½		

The size of the fields rarely require the ameens to go beyond this.

In Madras, Sir Thomas Munro established a measure (called a ground or mani) of 60× 40 or 2,400 square feet, of which 24 make 1 kani = 57,600 square feet, =6,400 square yards, or exactly equal to four Bengal bighas.

The Madras kani is to the English acre as 1 to 1·3223, or as 121 to 160 nearly.

In Chingleput, the *adi* or Malabar foot is used which is 10·46 inches : 24 *adi*=1 kali, and 100 square kali =1 kani or nearly an English acre. The common kali however is 26 adis or 22⅔ feet, which makes the kani = 1 acre, 28¾ perches.

Guz, or yard. The Ilahee guz of Akbar is assumed by the British Government of India to have been 33 inches. The value of this measure varies in different parts of India. In most places the English yard of 36 inches is understood and will doubtless soon supersede all other values ; but the term *gaz* is one of mahomedan introduction.

The Akbari gaz for cloth measure = 46 fingers = 34½ English inches.

The Ilahi gaz, established by Akbar as the sole standard measure of the empire = 40 fingers = 30¾ English inches.

The Akbari beegha, of 3600 square gaz = 2600 square yards = 0·538, or somewhat more than half an acre, on the above estimation.

The Ilahi gaz of Akbar was intended to supersede the multiplicity of measures in use in the 16th century ; and in a great degree it still maintains its position in the upper provinces of India. In general, however, different measures are employed in each trade, and the cloth merchant in particular has a distinct gaz of his own.

Jureeb, PERSIAN, is a measuring chain or rope. Before Akbar's time it was a rope, but he directed it should be made of bamboo with iron joints, as the rope was subject to the influence of the weather. European surveyors use a chain. A Jureeb contains 60 Guz, or 20 Gut'ha, and in the standard measurement of the upper provinces of India, is equal to 5 chains of 11 yards, each chain being equal to 4 Gut'ha. A square of one jureeb is a bhig'ha. Till the new system of survey was established, it was usual to measure lands paying revenue to Government with only 18 knots of the jureeb, which was effected by bringing two knots over the shoulder of the measurer to his waist. Rent-free land was measured with the entire Jureeb of 20 knots. A Jureeb in Hebrew and Arabic signified originally only a measure of capacity, equal to 4 Qufeez, or 384 Mud (Latin *modius*), and in course of time came to signify the portion of land which required as much to sow it as a Jureeb would contain. The Pat'ha and Nalee of Garhwal and Kumaon have a similar origin.

At the cession of the Carnatic, besides the Chittoor Pollams in N. Arcot, there were the two large zemindaries of Calastry and Cavetnaggur, the latter also known as Bom Rauze's country. Throughout the latter country (Bom Rauze's) the foot of the village god of Nanaveram was always taken as the unit of Land, Measurement of which 64 = 1 Goontah.

100 Goontah in Poongee. } = 1 Cawnee.
12 or 15 in Nungee. }

Rajpootana Grain Measure—

75 pounds = 1 seer.
43 seers = 1 maund.
12 maunds = 1 mauni.
100 maunia = 1 manassa.

Archipelago. The original measures of the Malays and Javanese were evidently by capacity (takàr) and not by weight, for which there are no words in their language except such as signify heaviness or balance. The lowest denomination for a measure of capacity among the Malays goes under the name of chupak, most probably taken from the shell of the cocoanut or the joint of the bamboo. Of this, 4 make a gantang, and 800 of the last a coyan. These are native words the literal meanings of which are not known. The measures of length, as with other people, are taken from the members or parts of the human body, as finger-length, span, foot, pace, fathom, with the length from the foot of one side to the tip of the outstretched hand on the opposite one. Superficial or land measure is still more rude. Thus the Javanese, in reference to their irrigated land, the only description on which they set a special value, have, for the largest measure, what they term a jong, which, literally, signifies a ship; and this divided into halves called kikil, or a leg, and into fourths called bau, which means a shoulder. Another admeasurement of land goes under the name of the chacha, of which gawe-ning-wong is the synonym, the first word signifying "count" or "census," and the last "a man's work," that is, the quantity of irrigated land that a family of peasantry can till. This last term is of the same nature as the English "plough land." The business-like Chinese have introduced their own well-defined weights, although under native names. Thus we have the tail or weight of 23 drams avoirdupois, the kati consisting of 16 tail, and the pikuul, which literally signifies a man's load or burden, composed of 100 kati or 133⅓ pounds avoirdupois. The weights and measures of the Malays, with their denominations, have not only extended over the whole Malay Archipelago, but are also prevalent in the Philippines. In the settlements of European nations the weights and measures of the natives have been fixed with precision. The Chinese have communicated their weights to all the adjacent countries : a pekul is equal to 133½ lbs. avoirdupois, and four lbs. being equal to 3 catties ; 100 catti make a pikul.

10 Cash	= 1 candarin.	16 Tail	= 1 catti.
10 Candarin	= 1 mace.	100 Catty	= 1 pikul.
10 Mace	= 1 tail.		

Crawfurd, Dict. p. 446. *Prinsep's Tables p.* 61-62. *Kelly's Cambist. Jervis' Metrology. Mr. W. H. Bayley in No.* 4 *New Series of Madras Journal of Science for July to September* 1857. *Do. do. on the Land-measures of the Madras Presidency. Mr. C. E. Gover.*

WEIN. GER. Wine. Weingeist, GER. Alcohol.

WEIN-GUNGA, or Pranheta, a tributary to the Godavery, rises in the Mahadeo mountains in lat. 22° 25', lon. 79° 8' E., runs 80 miles S., then 100 miles into the Godavery after a length of 439 miles. It receives the Pench Nuddee, 150 miles, Kunhan Nuddee 130 miles. About 21,000 sq. m. drained, exclusive of Paynegunga and Wurda. The elevation at Bundara, in lat. 21° 12' is 872 ft. above the sea.

WEIRAUCH. GER. Olibanum.

WEISSER-ARSENIK. GER. White Arsenic.

WEITZEN. GER. Wheat.

WE-KURUNDU. SINGH. Cinnamon.

WELAITI-KOILA. GUZ. Coal.

WELAITI-SONA. GUZ. Pinchbeck.

WELD SEED OIL. Oil of Reseda luteola.

WELIYANNA. SINGH. Anisophyllum zeylanicum. See Ceylon.

WEL-KAPPITEY. SINGH. Croton aromaticum, *Linn.*

WELLESLEY, Marquis, a Governor Ge-

neral of India at the beginning of the 19th century.

WELLESLEY, Sir Arthur, afterwards Duke of Wellington. In his earlier commands, Colonel Wellesley fought at Seringapatam, Ahmednuggur, surrender of, 11th Aug. 1803, Assaye, battle of, 23rd Sept. 1803, Berhampore surrendered 16th Oct. 1803. Ahmednuggur city was taken by Sir Arthur Wellesley on the 11th August 1803, and immediately afterwards he received the surrender of the fortress, long regarded as the key of the Dekhan.

WELLESLEY PROVINCE, in the Malay peninsula, has remains of hindoo temples and mounds of shell-fish have been discovered.

WELLIA TAGERA. Maleal. Cassia glauca, *Linn.*

WELLIAPANNA-KALENGU. Hort. Mal. Polypodium taxifolium.

WELLI ELA. Maleal. Colocasia nymphæafolia, *Roxb.*

WELLMI, also Olinde. Singh. Liquorice root.

WELL-MUDUTTA. Singh. Madder.

WELLS. The real use of wells is to furnish supplies of water, but in the alluvial lands of India and in the beds of rivers, wells are frequently sunk by means of earthenware or iron rings, which are placed one over the other, and the inside earth or sand being scooped out, the rings sink down. These are called pot wells, and in Bangalore, cost about five rupees for a well eighteen feet deep; in Madras town, a pot well can be sunk at the rate of a rupee a foot. In the Rajputanah desert, water is only come to at depths up to 700 feet. But in the granitic tracts of India, the depth of wells ranges from 12 to 40 feet, according to the swell of the ground. The importance of wells in an arid tropical country cannot be exaggerated, and the fame which is acquired by sinkers of wells has an illustration in John iv. 6, where the well of Jacob sunk three thousand years before was still distinguished. Even yet, among the hindoo people, to sink a well, or form a water reservoir or tank, is deemed an act of merit. In the Panjab, pucka wells are usually worked by the "harth" or Persian wheel. A broad edged lantern wheel whose axis lies horizontally over the centre of the well's mouth, carries, on its broad edge, a long belt of moonj rope made like a rope ladder, the ends of which joined in an endless band reach below the surface of the water. To this, at every step of the rope ladder, an earthen pot called tind is fixed. As the wheel revolves, the large rope belt descends into the water with its pots, the pots become filled with water, and are drawn up: as they reach the top of the wheel, they are, by the revolution of the wheel, inverted, and their contents poured out into a trough, which is ready to receive them, and which leads to the water-course of the fields to be irrigated. Wells are often sunk in the alluvial soils of India as foundations for architectural structures.

In the Persian method of cooling wells, the well is covered in with beams, mats, and earth, and thatch is built over it to shield the water from the sun. The well, having been filled during the cold weather, may be opened in May, and the water remains as cool to the taste as ordinary ice water throughout the hot season. The water may be purified by being withdrawn into an earthen reservoir adjoining the well, and allowed to flow back. Ali Raza Khan, a Kuzzilbashee, was the first to introduce these wells into the Punjab. Two may be seen at Lahore; one near the Lohari gate, the other in the Sultan Serai. There are also two in the town of Umritsur and one at Peshawur. The people crowd to those wells during the hot season as to a fair. The ordinary mode of raising water in India is by the hand, but in the south of the peninsula of India, the paecottah is used. It is a lever balanced on a pole, from one end of which falls a bamboo with an iron pot, and a man walks from one end of the lever to another to raise and depress the respective ends.—*Powell, Hand Book, Econ. Prod, Punjab. p.* 207.

WELLSTED. Lieut. J., an officer in the Indian Navy. Author (London 1838) of Memoirs on the Southern Coast of Arabia. Memoir on the Island of Socotra, in Lond. Geo. Trans. vol. v. 129. Vindication of the Accuracy of Bruce, Ibid vii. 402. Journey in various directions through Oman, in Bom. Geo. Trans. 1836—1838; Bombay, reprint vol. i. III.—*Dr. Buist.*

WELNA. Pol. Wool.

WENI WÆLA. Singh. Cissampelos pareira, *Linn.*

WEPPA. Maleal. Azadirachta Indica, *Ad. Juss, W. & A.*

WER. Hind. The hindi word "wer" designates a feud, and in it we have a striking coincidence in terms: wer is 'a feud', weri 'a foe.' The Saxon term for the composition of a feud, is wergeldt. In some of the Rajput states the initial vowel is hard, and pronounced "ber." In Rajasthan, ber is more common than wer, but throughout the south-west wer only is used. In these we have the origin of the Saxon word war, the Scotch weir, and the French guer or guerr. The Rajput wergeldt is land, or a daughter to wife. It seems to be the word found in many tongues, the Sanscrit vri, the Greek ἄρης, ἥρως, vir.

vehr, vir or virtus, indicating strength or protection, manly power.—*Tod's Rajasthan, vol. p.* 181.

WERDIL. Hind. Acacia cinerea, *Spr.*

WERN, a wood of Java used for furniture, of a brown colour, of a close substance and light, abundant in some districts.

WESHA. Hind. Abies Smithiana.

WESSELS EYLANDT. Dut. Adi Island.

WEST ARIANS. See India.

WESTERGAARD. N. L., Professor of Indo-Persic languages in the University of Copenhagen, wrote Account of Caves near Karli, in Bom. As. Trans. 1842, vol. i. 248. Letter respecting the Gabrs, in Lond. As. Trans. vol. xiii. 349. Radices Linguæ Sanscritæ, Bonn, 1841. Sanskrit reading book, Copenhagen. On the ancient Persian cuneiform inscriptions, Zeit: fur die k. des Morgenlandes, 1845. Decipherment of the second Achæmenian arrow-headed writing, Mem. des Antiquaires du Nord, Copenhagen 1844. Zendavesta, with English translation, grammar and dictionary.—*Dr. Buist's Catal.*

WESTERN COAST of India includes the two Konkan, Canara, Travancore, Cochin, and Malabar, and comprises a strip of land of various width lying between the sea on the western side of India, and the range of Western Ghauts, which it includes. It is mostly undulating or hilly, almost everywhere covered with jungle of every description, from low bushes to the most lofty forest trees : most of the roads are lined with splendid avenues of banian, cashew, and various other fine trees. The climate is moist and comparatively cool.

WESTERN GHAT. Ghat is a term employed in India to designate a ferry or landing place on a river ; a range of hills, or the scarped wall of a table-land ; or the defile or pass leading through or down such. The Western Ghat is the range of mountains which extend from the valley of the Taptee to the gap of Palghat, about 800 miles, and then, after an interruption, to Cape Comorin. The coast line from the sea to their base is generally flat and low with occasional spurs or solitary hills, but the ghats rise abruptly almost scarped to an average height of 3000 feet, but Purunder is 4472, and Mahabaleshwara 4700, Matheran, a projecting spur, about 3500. The Eastern Ghats extend from Orissa to Coimbatore along the eastern side of the peninsula of India, at distances of 50 to 150 miles from the Bay of Bengal. They are steep and well clothed with forests. The country lying between them and the sea is low, scarcely rising 100 feet above the sea. See Ghat, Ghatiya.

WESTERN BACTRIA. See Kabul, Kelat, Khajab, Kutch or Cutch.

WESTERN TURNOULEE. See Khyber.

WEST INDIA SORREL. Hibiscus sabdariffa.

WEST INDIA YAM. Dioscorea alata.

WEST INDISCHE ANAKARDEN. Ger. Cashew nut. Anacardium occidentale.

WETILLA.—? Colocasia nymphœia.

WET-KHYOE-PA-NAI. Burm. See Bunochra.

WETTER, a high island 47 miles long, in the Strait of Timor.

WETTHADIPO. See Topes.

WET-THEET-KYA. Burm. Castanea tribuloides.

WETYOR. Hind. Juniperus communis.

WEWA. See Karen.

WEWE. See India.

WFÉHEH. Arab. Rennet.

WHALEBONE. An elastic substance obtained from the upper jaws of the whale, which vary in size from three to twelve feet in length, and the breadth of the largest, at the thick end, is above a foot.—*Faulkner.*

WHALE BONE WHALE. Balæna mysticetus.

WHALES,

I',	Chin.	Ki-tian,	Chin.
King,	„		

are mammals which live in the ocean. They are included in the order Cetacea, and family Balœnidæ. They are the largest of existing animals, and furnish whalebone, spermaceti and oil. They are classed as Whales, the genus Balæna ; Finners of the genera Megaptera and Physalis, Sperm whales of the genera Catodon and Beluga, species of the whale genera occur in the Arabian Sea, Bay of Bengal, Indian Ocean and Pacific Ocean, and occasionally float on shore. Whales of several varieties abound in those parts of the ocean lying between the Bonins and the coast of Asia, and are in great numbers in the neighbourhood of Japan. So large a creature could not escape observation, and the Greek sailors who accompanied Nearchus in his navigation of the Arabian Sea, were terrified by the appearance of whales (*Kerwa*, Arian. Hist. Ind. cap. 30). The whalebone whale is said never to venture beyond the limits of the Arctic seas. A whale was stranded on the Chittagong coast in August 1842, which measured ninety feet in length and forty-two in diameter, and another on the coast of Aracan in 1851, which was eighty-four feet long.

(A) Whales.

(*a.*) *Balæna mysticetus.* The Right Whale.

B. Groenlandica. *Linnæus*	B. Rondeletii. *Willughby.*	
B. vulgaris. *Brisson.*		

Right whale.	Eng.	*var a.* Nord kapper whale.
Whale bone whale.	„	„ Nord caper whale.
Greenland whale.	„	*var. b.* Rook nosed whale.

According to Lesson, inhabits all the seas of the globe.

(*b.*) ***Balæna marginata, Gray,*** the western Australasian whale, has very long and slender baleen, with a rather broad black edge on the outer or straight side.

(*c.*) ***Balæna australis, Des Moulins.***

B. antartica, *Lesson.*

Right whale of South Sea whalers.	Common black whale of Sir James Ross.
Southern whale bone whale of Nunn.	

Inhabits the South Seas, and multitudes were seen by Sir James Ross in very high latitudes. It is of a uniform black colour.

(*d.*) ***Balæna Japonica.*** The Japan whale, is an inhabitant of the coasts of Japan, which it visits periodically. Its head is covered with barnacles.

(*e.*) ***Balæna antartica.***

B. antipodarum, *Gray.*

New Zealand whale.	Tuku Peru of New Zealand.

Inhabits the New Zealand ocean.

(B) Finners.

(*f.*) ***Megaptera Kuzira.*** The Kuzira. It inhabits the Japanese seas.

(*g.*) ***Physalis Iwasi.*** The Japan Finner. It is very rare. In 1760 one, 25 feet long, was cast ashore at Kii.

(*h.*) ***Physalis antarticus, Gray.*** Inhabits the New Zealand seas.

(*i.*) ***Physalis Braziliensis.*** Bahia Finner was brought from Bahia.

(*j.*) ***Physalis Australis.*** The southern Finner, inhabits the seas of the Falkland islands.

(C) Sperm Whales : Physeteridæ.

(*k.*) ***Catodon macrocephalus.***

Physeter macrocephalus, *Linn.*	Catodon trumpo, *Gerrard*
Physeter gibbus, *Schreber.*	Cetus macrocephalus, *Oken.*
,, trumpo, *Bonnaterre.*	Northern Sperm whale.

Its principal food are the sepiadæ or cuttle fish, but it swallows small fishes.

(*l.*) ***Catodon Colneti.*** The Mexican sperm-whale is an inhabitant of the North Pacific, the South Seas, and the equatorial oceans.

(*m.*) ***Catodon polycyphus.***

South Sea Sperm whale.	Sperm whale.
Cachalot.	

Inhabits the southern ocean.

(*n.*) ***Catodon Kogia, Gray.*** Taken near the Cape of Good Hope. It has a short head, and is supposed to be the young of C. polycyphus.

(*o.*) ***Catodon Australis,*** a sperm whale of the ocean near Australia. It is about 35 ft. long.

(*p.*) ***Beluga Kingii,*** has been taken off the coasts of Australia, where it represents the white whale, B. catodon, Catodon macrocephalus.

The following kinds of whales occur at Japan.

Kud suri, JAP., is caught frequently a[bout] Japan, but particularly in the Sea Kh[...] which washes the southern coasts of [the] great Island Nipon, as also about the isl[es] Tsussima and Goto, and upon the coast[s] Omura and Nomo.

Sebio, JAP., is the chief, and indeed [the] largest of the whale kind. It affords most [train] oil, and its flesh is very good and wholes[ome] so far that fishermen and the common peop[le] attribute their good state of health amidst [the] the injuries of cold and weather to wh[ich] they are continually exposed, chiefly to th[e] eating this flesh.

Awo Sangi, commonly Kokad-sura, that i[s] small whale, is gray or ash-colored, smal[ler] than the Sebio, from which it also dif[fers] something in shape.

Nagass, JAP., is commonly 20 to [...] fathoms long, and has this particular, that [it] can stay under water for two or three hou[rs] during which time it can travel a vast w[ay] whereas other whales must continually co[me] up to the surface of the water for fresh su[p]plies of air.

Sotookad-sura, JAP., that is, the whale [of] blind people, so called from the figure o[f a] Bijwu, a sort of lute, which blind people i[n] Japan use to play upon, which is said to b[e] naturally represented on its back. It is [not] a very large sort, and seldom exceeds ten [fa]thoms in length. It is caught frequent[ly] about Japan, but the flesh is reckoned [un]wholesome food, being as they say too h[ot] and occasioning coughs, fevers, eruptions [of] the skin, and sometimes small-pox. It i[s] brought to market with other fish, and s[old] for the flesh of the sebio, but those who kn[ow] it will never buy it.

Mako, JAP., never exceeds three or four [fa]thoms in length. This same name is giv[en] to the young ones of the other kinds. T[his] is caught frequently upon the eastern coa[sts] of Japan, as also upon the coasts of Kij a[nd] uni and Satzuma. Ambergris is found in th[e] intestines of this whale. The head yields [a] small quantity of train-oil.

Iwasikura, JAP., that is, Sardin's Eat[er] has a tail and fins like common fish. Kæmp[fer] saw this sort when he went up to cou[rt] between Caminoseki and Simmoseki, a[nd] took it to be that which the Dutch ca[ll] Noord Caper.

Of all these several kinds of Japane[se] whales, nothing is thrown away as useless, e[x]cepting only the large shoulder bone. The sk[in] which is black in most kinds, the flesh, wh[ich] is red and looks like beef, the intestine[s] which from their remarkable length are ca[ll]ed Feakfiro, that is, an hundred fathom[s] long, and all the inward parts, are eaten pi[...]

led, boiled, roasted, or fried. The fat or blubber is boiled into train-oil, and even the sediments of the second boiling are eaten. The ones, such as are of a cartilaginous substance, re boiled when fresh, and cut, or scraped, eaned and dried for the use of the kitchen. everal little things are made of the jaw-bones, ns and other bones, which are of a more lid substance, and particularly their fine eel-yards for weighing gold and silver are ade of them, and have borrowed their name om them.

The Cachalot, Physeter macrocephalus, is e sperm whale; the male ranges in length om 38 to 76 feet, and is about 60 feet in the rerage, but the female does not exceed 30 or 35 et. The cachalot is without symmetry, of a revailing dull black colour, occasionally mark l with white, especially on the abdomen and il. They propel themselves round by striking and pulling against the water with the flash of their tails. The lower jaw is diminutive, ender, and in form not unlike the maudible a bird; the teeth of the upper jaw, wholly rory, in aged males are of great solidity, and eigh from two to four lbs. each. It spouts thick watery mist from its nostrils at intervals of ten or fifteen minutes. Its valuable t or sperm is chiefly situated in the head. t is a solid mass of soft yellow oily fat, weighing between two or three tons, in a hollow of he head, bared on the upper jaw, and forming the front and lower part of the snout. The avity, called *case*, is situated to the right and eneath the spouting canal, and corresponds nearly the entire length of that tube. It is lled with a very delicate well of cellular tissue, containing in large cells a limpid and oily uid, which is liberated on the slightest force. he quantity, chiefly spermaceti, contained in his singular receptacle, is often very considerable, and nearly 500 gallons have been btained from the case of one whale. It has een noticed in the Mediterranean, and a tray individual in the Thames. Cetaceum, ATIN, the Spermaceti, is a concrete, fatty subtance, found in several parts of the body f the great-headed cachalot whale, the Catadon macrocephalus, but the head is the chief epository of this secretion, especially a cavity the upper jaw, in which it exists mixed with l. The spermaceti whale occurs in the acific, Indian, and Chinese seas. The liquid st drawn from the head of the animal is a ixture of spermaceti and sperm oil; from is the solid matter is separated by filtration rough bags, and subsequent compression. fter this it is melted in water, skimmed, and -melted with a little potash water, to remove e last traces of the oil; lastly, it is permitted to concrete slowly, during which it is crystalized in brilliant white masses. Pure spermaceti is white, tasteless, inodorous, crystaline, insoluble in water, slightly soluble in boiling alcohol; it forms a soap with potash. It is composed of carbon 81·66, hydrogen 12·86, oxygen 5·47. Spermaceti was once much used internally as a demulcent and emollient, especially in troublesome catarrhs and dysentery. It is at present employed solely as an external application, being an ingredient in numerous cerates and ointments. Mr. Beale gives eighty-four feet as the length of a sperm whale of the largest size, and its diameter twelve or fourteen feet. Of this huge mass, the head occupies about one-third of the entire length, with a thickness little inferior to that of the body, while, as this thickness is equal throughout, the front of the head terminating abruptly, as if an immense solid block had been sawn off, this part of the animal bears no small resemblance to an immense box. The appearance of a whale when disturbed, and going what seamen call "head-out," with his vast bluff head projected every few seconds out of water, has a most extraordinary appearance.

Beluga Catodon, of *Pallas*, also placed by Gray, Gerard, Lesson and Lacepede as of the genera Physeter, Delphinus, Delphinapturus, and Catodon, is one of the Delphinidæ, found in the North Pacific, North Atlantic and Arctic Oceans.

Globiocephalus Indicus, *Blyth*, the Ca'ing whale, is closely affined to the European Gl. deductor, but differs externally in being wholly of a black colour. Its inter-maxillaries are shorter; the teeth fewer and larger, numbering 6 or 7 above, 7 or 8 below, on each side: the upper view of the maxillaries differs considerably in contour, being broader and less elongated in the Indian species; and there are other discrepancies which are less marked.

Globiocephalus Rissii. The Yellow Sea affords this species of Cowfish or round headed cachalot, which the Japanese capture. Other species of whale resort to the waters east of Manchuria.

Seals have been observed on the coasts of Liantung, but nothing is known of their species or habits.—*William's Middle Kingdom, p.* 258. *Tennent Sket. Nat. History of Ceylon. p.* 68. *American Expedition to Japan, p.* 243. *Captain Sparkes in Beng. As. Soc. Journ. No.* 4. 1852, *p.* 68. *Ouseley's Travels, vol.* i. *p.* 150, 230, 231. *Arrian Hist. Ind. cap.* 30. *Kæmpfer History of Japan, vol.* i. *pp.* 133, 134. *Hartwig. O'Shaughnessy, p.* 687. *Gosse's Natural History, p.* 115, 6, 7. *Smith, p.* 230.

WHAMPEE. CHIN. Cookia punctata, *Retz.*

WHAMPOA, a town built on Bankshal island, in the Canton river. Two high islands

by Europeans commonly called Danes and French islands, form Whampoa anchorage in lat. 23° 6½′ N.

WHANGHEE. MALAY. JAPAN., a name derived from the Chinese wang, yellow, and hee, root, a species of cane exported from China. The Whangee cane has pale, hard bark and flexible stem, with intervals of about an inch and a half or two inches, and a number of little holes at the knots. These small canes, with short internodes, are imported from China into England as walking sticks. Liverpool received in

1851... 1,300	canes.	1853...6,000	canes.
1852...11,000	„	1854...4,000	„

—*Seeman. Simmond's Dict.* See Calamus.

WHEAT.

Hinteh,	AR.	Gehun,	HIND.
Lai,	CHIN.	Grano, Formento,	IT.
Siau-met,	„	Gandum, Trigo,	MALAY.
Kia-size-ts,	„	Khanak,	PANJ.
Hvede,	DAN.	Gundum,	PERS.
Tarw,	DUT.	Pszenica,	POL.
Froment, Bled, Ble,	FR.	Trigo,	PORT.
Weitzen,	GER.	Pschenis,	RUS.
Purvi,	GR.	Hvete,	SW.
Gaon,	GUZ.	Godumbi,	TAM.
Khittah,	HEB.	Godumalu,	TEL.

The geographical range of the wheat region in the eastern continent and Australia, lies principally between the 30th and 60th parallels of north latitude, and the 30th and 40th degrees south, being chiefly confined to France, Spain, Portugal, Italy, Sicily, Greece, Turkey, Russia, Denmark, Norway, Sweden, Poland, Prussia, Netherlands, Belgium, Great Britain, Ireland, Northern and Southern Africa, Tartary, India, China, Australia, Van Diemen's Land, and Japan. Along the Atlantic portions of the western continent, it embraces the tract lying between the 30th and 50th parallels, and in the country westward of the Rocky Mountains, one or two more degrees further north. Along the west coast of South America, as well as in situations within the torrid zone, sufficiently elevated above the level of the sea, and properly irrigated by natural or artificial means, abundant crops are often produced. Wheat has, from time immemorial, been a staple crop in the plains of Northern India, and especially in the Punjab. The climate and soil are well fitted for this cereal, but owing to defects and carelessness in the agriculture and harvesting, the crops, though excellent, fall short of what most corn-growing countries produce. Further—owing to foul boats and granaries, and to the moist heat of the months immediately succeeding harvest, the Indian wheat reaches England in a state too dirty and weevelled for market. The hard wheat is preferred by the natives of India to the soft. Wheat is grown to a great extent in Berar, in Coimbatore, and largely in Burmah; but Mr. Mason had never seen it under culture in the Tenasserim Provinces, although Commissioner Durand made an attempt to introduce it. No doubt, on the Karen mountains, the cultivator would reap an ample harvest. In India there are several species and varieties of wheat, viz:

Tr. vulgare, var. hybernum, or winter wheat
„ „ „ æstivum, or spring wheat
„ compositum, Egyptian wheat.
„ spelta, Bere or spelt, much cultivated in France.
„ monococcum, remarkable for its single row of grain.

That which is chiefly cultivated in England is the Triticum vulgare; of this there are two varieties—T. æstivum, or summer wheat, and T. hybernum, or winter wheat: the former is sown in the spring, and the latter in the autumn: of these varieties, again, there are several different modifications. On account of the early cultivation of many of the kinds of wheat as articles of diet, it is impossible to tell where the most common species are really indigenous. All the species of Triticum are, however, found most abundantly in temperate climates, and there take the place of the food used in the hotter parts of the world. Wheat is in northern climates what rice and maize are in warmer ones. In India, wheat of all kinds is the growth of the rabi or spring harvest. The number of varieties in the Panjab is not in reality very great, though considerable difference of nomenclature exists. Wheat is sown in the months of Kartak and first half of Maghar, for the rabi harvest, and is cut in Baisakh (April.) Wheat is often sown mixed with barley; this is called goji in the Punjab, and trikala in Cis-Sutlej States, or with gram, Cicer arietinum, and then called bhera; or the red and white varieties are sown together under the name of jogyan. The principal difference observable in Panjab wheats, is that some are bearded and some are awnless; there are two sorts of the bearded wheat, one with a dark colored beard, the other with a light yellow beard.

Dr. Royle had not seen wheat higher than 8,000 feet, but Gerard speaks of wheat at 10,000, and Captain Webb of wheat at 12,000 on the southern slope of the Himalaya. The extreme limit is given at 13,000 to 15,000 feet. Wheat grows to a height of 13,000 feet at Lara and Ladang, above Dangkar in the Spiti valley. In the valley of the Indus, it appears at Ugshe and Chimra, at 11,000 to 12,000 feet. A wheat, called Daud khani, with a large and very white grain, was introduced from the N. W. Provinces, and grown chiefly on the banks of the Sutlej, on alluvial and irrigated lands. It is

uch used by sweetmeat makers on account its being so white. It sells, where grown, about 31 to 32 seers per rupee, always leaper than pamman, being considered inrior.

Mooltan wheat is beardless, and its grain ng and heavy. It is exported in large quantites to Rajpootana and to Sindh.

Wheat is largely used in China. It is exclusvely raised in the provinces of Honan, Shensi, ansi, Shantung and Pehchihli. As a rule is sown in winter, although occasionally as spring crop. It is usually sown broadcast.

COMPOSITION.	Bombay Bazaar.	Bombay Bazaar.	Madras.	Calcutta.
Moisture	13·41	13·33	10·80	11·78
Nitrogenous matter ..	12·84	14·90	12·98	12·73
Starchy matter ., ..	70·99	68·54	72·58	72·58
Fatty or oily matter ..	1·17	1·14	1·10	1·10
Mineral constituents(ash)..	1·59	2·10	1·68	1·90

	Bombay Bazaar.	Baroach.	Guzerat.	
Moisture	12·56	12·40	13·28	10·88
Nitrogenous matter	14·26	14·68	13·19	13·30
Starchy matter	70·26	69·78	70·87	73·23
Fatty or oily matter.. ..	1·06	1·16	1·20	1·29
Mineral constituents (ash)..	1·86	1·98	1·45	1·30

The part of the wheat plant which yields the food of man is the fruit, seeds, or grain. This fruit, although small in itself, generally forms a large proportion of the plant. Wheat-seeds or grains, as brought to the market, and as supplied to the miller, are deprived of their paleæ, or husks, which, when coarsely ground, form the article known as bran and pollard. The number of parts into which ground wheat is separated, and the amount of each yielded by given quantities, vary according to the characters of the wheat, and the processes adopted by different millers. In the wheats which are hard, the integuments separate with difficulty, and therefore the flour produced from these usually contains a greater proportion of adherent bran than do those flours procured from wheats which are soft, and which part with their epidermic coverings more readily. The following are the products with the quantities obtained, of one quarter, or eight bushels of ground English wheat weighing 504 lbs.

Flour	392	lbs.
Biscuit, or fine middlings	80	,,
Toppings or specks	8	,,
Best or Turkey Pollard, or twenty penny	15	,,
Fine Pollard	18	,,
Bran and coarse Pollard	50	,,
Loss sustained by evaporation, and waste in grinding, dressing, &c. ...	11	,,

All kinds of wheat contain water in greater or lesser quantities. Its amount greater in cold countries than in warm. In France from 16 to 20 per cent. ; England from 14 to 17 per cent. ; United States from 12 to 14 per cent. ; Africa and Sicily from 9 to 11 per cent. This accounts for the fact that the same weight of southern flour yields more bread than northern, English wheat yields 13 lbs. more to the quarter than Scotch. Alabama flour, it is said, yields 20 per cent. more than that of Cincinnati. And in general, American flour absorbs 8 or 10 per cent. more of its own weight of water in being made into bread than the English. The English grain is fuller and rounder than the American, being puffed up with moisture. To ascertain the amount of water in flour, take a small sample, say five ounces, and weigh it carefully ; put it into a dry vessel, which should be heated by boiling water ; after six or seven hours, weigh it ; its loss of weight shows the original amount of water.

Bombay wheat is whiter and heavier than that from Kattywar, and produces a greater quantity of soojie and flour. That of Kattywar is smaller and darker, and produces good flour though smaller in quantity, with less soojie.

Bread. In India, in making bread of wheat, one process is first thoroughly to clean the wheat, and for this one woman will clean 430 lbs. in a day, and in the evening the cleaned wheat is placed on a table and thoroughly wetted and the water left to drain from it during the night. The next morning, the still moist grain is ground in handmills by women, a woman grinding lbs. 40 in a day. It is then sifted, and as much fine flour and soojie as can be obtained are laid aside. The remainder, then termed "Naka," is subjected to a more powerfull mill, and an inferior kind of soojie and a second sort of flour obtained from it. The residue is then ground in a large mill, and yields a coarse flour and bran.

Bran is what remains of wheat after the flour and soojie is extracted.

Soojie is the heart of the wheat and is obtained by coarsely sifting the coarsely ground wheat with sieves and sooras, by which all the small particles of the bran are separated from it ; one woman can thus clean lbs. 50 a day.

First sort flour is produced by finer sifting from the first grinding of the wheat.

Second sort flour is sifted from the first grinding of the wheat, after the fine is extracted, and also from the second grinding.

Bread. The materials for bread are lbs. 60 of 1st soojie, lbs. 20 of 2nd sort or naka soojie, and lbs. 20 of 1st sort flour. lbs. 100 of these ingredients produce lbs. 128 of bread.

Biscuit is made from 2nd sort soojie and flour mixed in the proportion of lbs. 75 of naka soojie and lbs. 85 of second sort flour. This produces only about lbs. 85 of biscuit, which

after being well baked, is dried for two days in a kiln.

Barm or yeast sufficient for 800 loaves, lb. 1 each, is made of brown sugar lbs. 2, potatoes 1½ lbs, hops oz. ½, with half a gallon of water; boil and mash the potatoes; boil the hops until none appear on the surface of the water, strain and dissolve the sugar in the liquor. The potatoes are then added, and the whole is strained into a jar or small tub. The quantity produces about 3½ pints, and is generally ready for use in 12 hours. The addition of a small portion of the old Barm hastens fermentation. —*Royle*; *Bombay Times*; *Simmonds*; *Stewart*; *Smith*; *Powell*; *McCulloch*.

WHEAT-EAR. The Indian wheat-ear, Saxicola atrogularis, is generally distributed over sandy wastes. The black-throated wheat-ear, Saxicola atrogularis, is common; its favourite food is a small white worm, which it digs out of the sun-baked soil.—*Adams*.

WHEAT-MIDGE. Cecidomyia tritici, a fly and its caterpillar, infecting wheat.

WHEELER, J. TALBOYS, author of Madras in the Olden Time. The History of India from the Earliest Ages. The Geography of Herodotus, etc. etc. Vol. I. The Vedic Period and the Maha Bharata. 8vo. cloth, p. lxxv. and 576. 18*s*.—Vol. II. The Ramayana and the Brahmanic Period. 8vo. cloth p. lxxxviii. and 680, with 2 maps. 21*s*.

WHEELS. To keep tires on wheels, before putting on the tires fill the felloes with linseed oil; use a long cast-iron oil heater, made for the purpose; the oil is brought to a boiling heat, and the wheel is placed on a pole so as to hang each felloe in the oil for one hour. The timber should be dry, as wet timber will not take oil. Care should be taken that the oil be not made hotter than boiling heat, in order that the timber be not burnt. Timber filled with oil is not susceptible of water and much more durable.—*Fam. Herald*.

WHIRL POOLS.

Yay-way,	BURM.	Gird-ab,	PERS.

These occasionally occur in the Ganges and Irrawadi. A native writing of one which he saw near Koostee, says he saw the water within two or three miles whirling into a cavity several yards deep, which, after an interval, disgorged that which it had previously taken into it.

WHIRLWIND.

Lay-boay,	BURM.	Gird bad,	PERS.
Devil-wind,	ENG.	Peshash,	TAM.

The whirlwinds which occur in the desert west of Kharan, near Regan in Baluchistan, would perhaps be more correctly called by some other name. They are vast columns of sand, which begin by a trifling agitation with a revolving motion on the surface of the desert, and gradually ascend and expand, until the tops of them are lost to the view, in which man-ner they move about with every breath of wind like a pillar of sand. Lieut. Pottinger saw at the same time thirty or forty of them of diff[erent] dimensions, apparently from one to two [hundred] yards in diameter. Those who have seen a waterspout at sea may exactly conceive the same formed of sand on shore. Whirlwinds are extremely common in the Panjab, and the central parts of the peninsula of India and some of them are supposed to be owing to electric action. Dr. Adams, writing of them, observes that about noon, when the west wind sets in, clouds of sand sweep across the country, penetrating through the minutest chinks and crevices. Whirlwinds (or devils as they are commonly called by Europeans) are then of frequent occurrence. At a distance they look like revolving clouds of sand shooting upwards fully 200 feet. The cycloidal movements often last for upwards of half an hour, and carry with them whatever light substance they may encounter, after gliding along for some distance they finally disappear. The meeting of two opposite currents of air is no doubt the cause, inasmuch as a whirlwind was always seen to commence at the corners of two ranges of buildings placed at right angles to each other. The following note of the loss of polarity in the needle during a whirlwind is given in a letter in the Bombay Times, May 30, 1846:

"There is a class of magnetic local perturbations apparently confined to these seas, one of which was experienced by the Queen on her late voyage from Aden, which we do not remember to have seen noticed by magneticians. When about three hundred miles from Bombay, the people on board the steamer observed the atmosphere get suddenly clouded in around with that strange lurid appearance which indicates the approach of a burst of rain or hurricane. By and bye appeared overhead those strange and turbulent vapours commonly attendant on a whirlwind or waterspout,—and a light whirlwind accordingly made its appearance. At this time the magnetic virtue of the compass appeared to vanish: the needle lost its polarity and traversed equally in all directions. A state of matters so surprising was of short endurance, the sky cleared without a tempest, and all went well again. It was, we think, about A. D. 1844, that an accident of this sort was met with by the H. C. schooner Mahi on her way from the Persian Gulf. She was surrounded by beautiful groupes of whirlwinds and waterspouts ranging about her in all directions, when suddenly the needle lost its polarity and continued for some time useless for the purpose of steering. We are unable

o lay our hands on the account of the circumstance published at the time, but remember perfectly its occurrence. To these we may add many others. Dr. Bradley has clearly established the fact that the lesser whirlwinds at all events are either due to direct electrical agency, or are characterised by the most striking electrical exhibitions.—*Pottinger's Travels, Beloochistan & Sinde, p.* 135-6. *Adam's Naturalist in India.*

WHITE AIN. Eng. Pentaptera arjuna.

WHITE ANTS, or Termites, literally build a cell round the great progenitrix of the community, and feed her through apertures. Whenever buildings are infested with the destructive white-ants, their nests containing the queen ant will always be found in the immediate neighbourhood; and as the destruction of the queen ant destroys the colony, there is no reason why any building should suffer from this destructive insect; and instructions are now given generally for digging up the white-ants' nests in the neighbourhood of all public buildings. Writers often take it for granted that the nest of the white-ant contains only one queen, but a royal cell not unfrequently contains two, and sometimes three queens, and several royal cells containing one or more queens, may frequently be found in the same nest. The ground should be excavated until the entire destruction of the nest has placed the destruction of all the queens beyond doubt. Vegetable wax has been found efficient in checking the approach of the white-ants. Cultivators of sugar-cane know how destructive are the ravages of these insects, and the following is said to be an efficacious, though rather tedious remedy:

Asafœtida (*hing*), 8 chittack; mustard seed cake (*Surson ki-khulli*), 8 seer; putrid fish, 4 seer; bruised butch root, 2 seer; muddur, 2 seer. Mix together in a large vessel with water sufficient to make them into the thickness of curd; then steep each slip of cane in it for half an hour before planting, and, lastly, water the lines three times previous to setting the cane, by irrigating the water course with water mixed up with bruised butch root, or muddur, if the former be not procurable. White-ants can be completely extirpated from a cane plantation, by manuring the soil well with mustard cake, and stirring it up constantly. A mixture of quick-lime, soap and tar, smeared where the white-ants appear, puts an effectual stop to their inroads. Tar, turpentine, kerosine oil, earth oil, and margosa oil are also valuable; wood ashes also are of value, sprinkled about the orifices of the dwellings, and smoking them out with wet straw; the Acorus calamus, steeped in water, is said to be of use. Sarcostemma acidum is employed in the west of India to destroy them. The "Poona Observer" states that tobacco decoction was applied to a piece of ground where for eleven years the white ants had destroyed every thing put down; their removal was most effectually secured by the sprinkling of the decoction. The timbers which have proved least susceptible of injury by white-ants are Teak, Peddawak, Trincomallee, and Rose. Solutions of salts, ashes, and quick-lime, prove temporarily efficacious; and if dry ashes be put into an ant hill, and hot water poured in, the ants will be killed.

Saturating the soil beneath the floors and about the foundations with salt water brine, &c., especially with the brine from fish boilings, which take place where fish oil is made, may prove effectual.

In existing buildings, augur holes from the top of the beams near the walls may be bored, and fish oil or the earth oil (naphtha) poured in, and allowed to find its way into the wood. In short a process similar to creosoting extemporised. Fish oil is effectual, and is more readily diffused through the wood.

A coating of tar, creosoting, and impregnation with dilute sulphate of copper, by means of Boucherie's apparatus, appear effectually to preserve timber and other substances from the attacks of white-ants.

Few timbers (unless they have gone through some creosoting of kyanising operation) can be said to be quite impervious to the attack of white-ants. The timber of the Strychnos nux vomica is, however, quite proof against them, probably owing to the very bitter properties of the timber. The Sal or Shorea robusta, also, as far as has been observed, quite withstands their attacks. The harder timbers of India, such as the iron wood or Mesua, the Soymida febrifuga, and the Acha, or Hardwickia binata, are the timbers least susceptible of injury by this insect.—*Mr. Simpkins, Mr. Rohde, Mr. Smart, Col. Simpson, Dr. Hunter, Captain R. H. Beddome, Captain Dangerfield, Col. T. H. Campbell in Proceedings Madras Military Board. Poona Observer.*

WHITE ARSENIC. White oxide of arsenic.

WHITE BALSAM of commerce, also called Myrrh-seed, also quinquino, is made from the balsam of Peru, which is a product of the Myrospermum peruiferum of Central America, also from the M. pubescens.

WHITE BASIL. Basella alba, *Linn.*

WHITE BREAD FRUIT. Artocarpus pubescens, *Willde.*

WHITE CEDAR. See Cedar.

WHITE CLOVER, or Dutch Clover. See Clover seed.

WHITE COCK'S-COMB. Sirwari, Hind. Celosia argentea.

WHITE COPPER. See Copper.

WHITE COPPERAS.

White vitriol,	Eng.	Sal vitrioli,	Lat.
Sulphate of zinc,	"	Zinci-sulphas,	"
Sulfate de zinc,	Fr.	Caburnic,	Sans.
Schwefelsaures,	Ger.	Vulley-tootum,	Tam.
Zinkoxyd,	"	Tootum,	Tel.
Suffed Tootia,	Guz. Hin.		

A salt formed by the union of sulphuric acid with the oxide of zinc. It is found native in the mines of Goslar and other places.—*Faulkner. McCulloch.*

WHITE COTTON TREE. Eriodendron anfractuosum, *D. C.*

WHITE CUMIN. Eng. Cumin seed.

WHITE DAMMER. Resin of Vateria Indica, *Linn.* See Resins.

WHITE DENDROBIUM. Dendrobium cretaceum.

WHITE DOG ISLANDS. See Min river.

WHITE EUGENIA. Conocarpus latifolia.

WHITE FLOWERED BARRINGTONIA. Grows in the Tavoy and Mergui jungles, with drooping spikes of white flowers three or four feet long; and which would be much admired if introduced into the cities. The leaves are very large and lyre shaped, and both flowers and foliage would contrast well with the other trees around it. The species is not described.—*Mason.*

WHITE-FLOWERED RHODODENDRON. Rhododendron argenteum.

WHITE-FLOWERING JUSTICIA. Justicia nasuta.

WHITE GALLS. See Galls.

WHITE GOURD. Eng. Benincasa cerifera, *Savi.*, also Cucurbita hispida, *Willde, Ainslie.*

WHITE GUAVA. Psidium pyriferum, *Linn.* Guava tree.

WHITE GUM, of Van Dieman's Land. See Eucalyptus.

WHITE HUNS. Khondemeer quotes the Nizam-ut-Tuarikh as to the king of the Hiatila or White Huns.—*Malcolm's History of Persia, vol. i. p.* 177.

WHITE JUARI. Anglo-Hind. Sorghum vulgare.

WHITE LEAD.

Asfeidaj,	Ar.	Bleiweiss,	Ger.
Yuen Fen;	Chin.	Suffedah,	Guz. Hind. Pers.
Peh-fen;	"		
Fen yuen; Fensih;	"	Cerussa,	It.
Hu-fen;	"	Plumbi Carbonas,	Lat.
Kwang-fen;	"	Muthu Vullay,	Tam.
Kwanfen; Shwui-fen;	"	Sibaydu,	Tel.
Carbonate of lead	Eng.	Istibedah,	Turk.
Plom Carbonate,	Fr.		

This carbonate of lead is made by heating thin plates or thin tubes of lead in vinegar; when mixed with oil, it becomes white paint.

WHITE MALABAR NIGHTSHADE. Basella alba, *Linn.*

WHITE MANGROVE. Avicennia tomentosa, *Linn.*; *Roxb.*; *W. Ic.*

WHITE MISSI.—? See Hena...

WHITE MOUNTAIN EBONY. Bau... candida.

WHITE MUSLI. See Moosli.

WHITE MUSTARD. See Mustard...

WHITE OXIDE OF ARSENIC. ... Arsenic.

WHITE PADDY-BIRDS. See Egret.

WHITE PADOUK. See Kino.

WHITE PEPPER.

Suffed Mirch,	Guz. Hind.	Vella mellagu,	...
Piper-album,	Lat.	Tella miriyalu,	...

The fruit of a slender climbing plant, P... nigrum, gathered after it is fully ripe, ... freed of its dark coat by maceration in ... It is smooth on the surface, and is ... than the black-pepper. The plant is ex... sively cultivated in Malabar, Sumatra, Si... Malacca, &c.—*Faulkner.*

WHITE PUMPKIN. Lagenaria vulg... Cucurbita lagenaria, *Linn.*

WHITE ROCK. See Pedra Branca.

WHITE ROCK-SALT. See Iran.

WHITE ROSE-SCENTED BAUHI... syn. of Bauhinia albida? *Gibson.*

WHITE SAPPHIRE. See Corundum.

WHITE SQUALL. See Cyclone, Hu... cane, Storm, Wind.

WHITE THORN. Cratægus cren... *Roxb.*

WHITE TOURMALINE. See Tourm...

WHITE VITRIOL. Sulphate of ... White copperas.

WHITE WOOD, or White Cedar of Ja... ca. Bignonia leucoxylon.

WHITING. See Chalk.

WHITING FISH.

Indian whiting,	Eng.	Darya ka Shaikan,	...
Kullengan mutchie	Duk.	Kellunga meen,	...

Two or three species of fish common in C... cutta are called whiting, from their res... blance, both in form and flavour, to the E... ropean fish of that name.

Corvinus coitor, *Blyth*, inhabits the e... aries of the Ganges and Irawaddy. Its ... bladder makes excellent isinglass. ... Mason describes the Corvinus coitor, ... Indian whiting, and the Polynemus ... yielding isinglass in Tenasserim. Corvi... coitor is frequently seen in the Maulmain ... zars, and besides being a good fish for the ... ble, its air-bladder makes excellent ising... More species than one are sold under the ... native name. Corvinus chaptis, Balo ch... the Bola, inhabits the Malay coast: furn... isinglass.

WHITLOW ROOT. Eulophia virens, ...

WHONAY. Can. Pterocarpus mars...

WHORL FLOWERED RUELLIA. ... lia strepens.

WI. See Karen.

WI. HIND. of Sutlej valley, Olea Europea, O. ferruginea, O. cuspidata. Olive.

WIANDUHREN. GER. Clock.

WICKER and leather boats traverse most of the rivers in the peninsula of India.

WIDDA-TILAM. TAM. Oil of Mentha crispa, M. sativa. Mint. Peppermint.

WIDOW.

Rajat,	AR.	Bewa,	PERS.
Aem,	,,	Be shauhar,	,,
Rabz,	,,	Vidova,	OLD PRUSSIAN.
Rabzat,	,,	Widewa,	,,
Tor,	,,	Vi-dhava,	SANSC.
Feadbh,	CELT.	Viduwvo	SLAVONIC.
Bewa ; Rand,	HIND.	Kumbinjathee,	TAM.
Vedova,	IT.	Vi-dhava,	TEL.
Vidua,	LAT. SP.		

The widows of the various races of south-eastern Asia, are treated very variously. Amongst the polyandrist Nair race, such a state as widowhood is an impossibility. With several races, when a brother dies and leaves a widow, another brother marries her.

The mahomedan law also permits re-marriage of widows, and in Arabia, Persia and Egypt such is common ; but in British India, mahomedan widows rarely re-marry. Amongst the Jews of old the widow was allowed to re-marry, and amongst the hindoos re-marriage of widows is permitted by their great law-giver Menu, but in practice it is almost never practised. The painfulness of the widowed state is alluded to in Lamentations i. 1, "How is she become as a widow," and this can be understood by no one so well as by a hindoo widow, who is considered as the most forlorn and desolate being on earth ; such a female has her hair cut short, she renounces all ornaments, eats the coarsest food, fasts frequently, and is all but an outcast in the family of her deceased husband. In British India, until the administration of Lord William Bentinck, many of the widows of rajputs and brahmins burned themselves on the funeral pyres of their husbands ; and to this day, in the island of Bali, the widows are stabbed with a kris, and their bodies burned with that of their husband's. Widow burning is not authorised in the Rig-Veda : a widow is merely to accompany her husband to the funeral pile, and there is addressed with a vedic verse, viz., Rise woman, come to the world of life, thou sleepest nigh unto him whose life his gone : come to us. Thou hast thus fulfilled thy duties of a wife to the husband who once took thy hand and made thee a mother.—*Max Muller, Chips, p. 35.* See Woman.

WIEGANE——? Eaten in various forms. The oil expressed from it is considered to possess certain medicinal virtues.

WIEPA-WANSE, a Ceylon tribe of cultivators and shepherds.

WIGHT, Dr. Robert, of the Madras Medical Service, a distinguished botanist and long in charge of the cotton experiments at Coimbatoor. Author of Contributions to Indian Botany, Lond. 1 vol. 8vo.—Icones Plantarum Indiæ Orientalis, 1 vol. 4to.—Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis, 1 vol. 8vo.—On the medical properties of Mudar, Mad. Lit. Trans. 1835, vol. ii. 70.—On the Nuth Grass of the Ceded Districts, Ibid, 1838.—On the flax of Courtelam, from the Coromandel Coast ; on the Landwinds of Coromandel, Ibid, vol. iii. 32.—On the Acclimation of extra-tropical Plants, Ibid, vol. v. 39.—On the Cultivation and Preparation of Senna, Ibid, 358. The labours of Dr. Robert Wight were full of value. In 1834 was published the first volume of Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis. His smaller work was named Contributions to the Botany of India. From 1838, he began to print the Illustrations of Indian Botany, which were soon after followed by the Icones Plantarum Indiæ Orientalis, and his Spicelegium Neilgherriensis, and in addition many papers appeared in the Madras Journal of Science and in the Calcutta Journal of Natural History. He died at Reading in England, about the 18th June 1872.—*Dr. Buist's Catalogue.*

WIGHTIA. A genus of plants called after Dr. Wight. At Tonglo, in Sikkim, at an elevation of several thousand feet, Dr. Hooker found great scandent trees twisting around the trunks of others, and strangling them ; the latter gradually decay, leaving the sheath of climbers as one of the most remarkable vegetable phenomena of these mountains. These climbers belong to several orders, and may be roughly classified in two groups.—(1.) Those whose stems merely twine, and by constricting certain parts of their support, induce death.—(2.) Those which form a net-work round the trunk, by the coalescence of their lateral branches and aerial roots, &c. : these wholly envelope and often conceal the tree they enclose, whose branches appear rising far above those of its destroyer. To the first of these groups belong many natural orders, of which the most prominent are—Leguminosæ, ivies, hydrangea, vines, Pothos, &c. The inosculating ones are almost all figs and Wightia; the latter is the most remarkable for its grasping roots.—*Hooker Him. Jour. vol. i. page 163-164.*

WIKSTRÆMIA SALICIFOLIA. *Dne.*

Thilak,	BEAS.	Bhat-niggi,	RAVI.

A small shrubby plant which occurs sparingly on some of the Punjab rivers in the Himalaya at from 5,500 to 7,000 feet, up to near the Indus ; paper inferior to that from

the Daphne is made from its bark in Kumaon, and it furnishes a strong rope at Nynee Tal.—*Dr. J. L. Stewart.*

WIJAO, a sovereign of Ceylon who introduced caste, and which still prevails amongst the buddhist inhabitants, though condemned by the doctrines of their teacher. The Portuguese, Dutch, and British Governments have each tried to eradicate it. The Aggana Suttan, in the Dighanikuya section of the Pittaka, a discourse of Buddha, enforces the eligibility of all classes, however low, to the office of the priesthood, which commands the homage of the highest; and the same doctrine is repeated in the Madhura Suttan. The Wasala Suttan contains a stanza, beginning with "Majachcha Wasala hotin," which runs thus: "A man does not become low caste by birth; nor by birth does one become high caste; high caste is the result of high actions, and by actions does a man degrade himself to a caste that is low." It was found impossible, however, to eradicate it, and caste continued to be tolerated by Singhalese kings as a social institution. In other buddhist countries, Burmah, Siam and Tibet, caste does not exist in any similar form.—*Tennent's Ceylon.*

WILAYAT. HIND. PERS. written also Valayat and Balait, foreign; a foreign country. Vilayati, a foreigner.

WILAYATI BENGAN. HIND. Solanum lycopersicum.

WILAYATI KANTALA. HIND. Agave Americana.

WILAYATI KIKAR. HIND. Parkinsonia aculeata, also Acacia farnesiana.

WILAYATI MENDHI. HIND. Myrtus communis.

WILAYATI NIL. HIND. Prussian blue; also indigo of Bengal, &c., prepared in European factories.

WILAYATI PEORI. HIND. Yellow chromate of lead.

WILAYATI SUN, of Muttra, Hibiscus cannabinus. See Ambari, also Crotalaria juncea, *Linn.*

WILD ALMOND TREE. Terminalia catappa. An oil is said to be obtained from the fruit of this tree.—*M. E. J. R.*

WILD APRICOT. See Clusiaceæ.

WILD BEASTS. The demand for rare animals is constant, the various zoological institutions on the continent of Europe and the exhibitions always wanting new specimens. A good pair of lions are worth £1,000, and will command that price at almost any time. The tiger is more dangerous than the lion, as he seems to add a peculiar cunning to his natural ferocity. Old tigers are the man-eaters. An aged animal, with blunted fangs and dulled claws, too stiff to pasture on antelopes and bullocks, feeds on human beings, a less troublesome prey.

Elephants always find a ready market. About ten a year are taken to England on an average. A good tusker will find a dozen purchasers at £1,000 in London, and dol. 8,000 in the United States. Even a dead elephant will find a buyer at from 100 to 250 dol. The African elephants are by far the finest, being twice the size of their Indian brothers. Elephants, according to age and sex, sell from 1,900 to 2,500 rupees. Male elephants are troublesome, and sometimes exceedingly dangerous. They seem to be afflicted with disease of the tusk, which drives them to madness; and so far as observation has gone, is absolutely voiceless. Changes of climate tell on them, and the least cold sensibly hurts them. They are dainty feeders. In America the rhinoceros and hippopotamus sell well always; the sale of a rhinoceros at £1,[illegible] has occurred; the Boers find a market at Cape Town for them.

For exhibition purposes, for vivacity, for genuine humour, sprightliness and general activity, the South American monkey carries off the palm. The African monkey, larger generally in size, is a stupid fellow when compared with his American brother. The Indian monkey somewhat lifts up the imputation thrown on his African relation, only he has a spitefulness and a tendency to try his sharp teeth: monkeys are kleptomaniacs. This trait is useful when medicine is to be administered. If you try to give a monkey cod-liver oil with a spoon, it would be an endless job, but fill a vial with it, and hide it (so that he can see it done,) and the moment you are gone he is sure to swallow every drop. Monkeys in a state of captivity are prone to pulmonary disease, and have a bad trick of nibbling off the ends of their tails.

When in confinement the lioness is not approached until her cubs are fully three or four months old. They are then carefully separated by stratagem, and their weaning commences. About a quart of milk is given per diem, with a small quantum of animal food in the way of juicy cutlets and titbits, all bone being carefully excluded. The seventh month seems to be one of trial. If they get over that they stand a fair chance of life, though the period of their tooth shedding, when they are a year old, is attended with danger; they sometimes swallow their own teeth, which often kills them. The little

WILD BEASTS.

176

born in travelling menageries appear to have the best chances of life. Of a large number of lion whelps bred in the London Zoological Gardens, most were born with some irregularity of the palatal bone, and the roof of the mouth being defective, the whelps could not suckle. The general disease which carries lions off is congestion of the lungs. The amount of food given to a lion is about thirteen pounds of beef per diem, with bones ad libitum. When fed regularly, they show little disposition to glut themselves, and will rarely exceed fifteen to sixteen pounds when given all they will eat. When horse meat is procurable, they are fed in part with it. Great care is necessary in keeping their cages clean. As they are constantly shedding their hair, an accumulation of this adhering to their food and being swallowed by them, is apt to sicken them. Occasionally, sulphur is sprinkled on their meat, and mild purgatives given them in their water. The largest proportion of lions are brought from the French province of Algeria, and Marseilles mostly has one or two lions on the market.—*New York Times.*

WILD BLACK CARANDAS. Carissa carandas, *Linn.*

WILD BREAD-FRUIT TREE. Artocarpus hirsuta, *Lam.*

WILD CARDAMOM. Elettaria cardamomum, *Wh. and Mat.*

WILD CARDAMOMS. Bastard cardamoms.

WILD CINNAMON. Cinnamon iners, *Rein.*

WILD-CLOVE TREE. Eugenia acris, *W. and A.*

WILD COTTON. Eriophorum.

WILD CROTON. See Croton.

WILD CUMMIN SEED. Vernonia anthelmintica.

WILD DATE. Elate sylvestris, syn. of Phœnix sylvestris, *Roxb.*

WILD DOLICHOS. Dolichos pilosus.

WILD DUCKS. Amongst the Arabs the person who is in search of waterfowl, strips, puts seaweeds upon his head, and approaches the bird. The duck, not being alarmed at the sight of the seaweeds, does not stir till the Arab seizes it by the feet.—*Niebuhr's Travels, vol.* i. 233. See Waterfowl.

WILD ENDIVE. Cichorium intybus.

WILD FIG. Ficus macrophylla, *Clegh.*

WILD GOURD. See Colocynth.

WILD INDIGO. See Indigofera.

WILD IPECACUANHA. Asclepias curassavica, *Linn.*

WILD IXORA. Ixora pallens.

WILD-LIME. Eng. Atalantia monophylla.

WILD LIQUORICE. Abrus precatorius.

WILD MANGOSTEEN. Embryopteris glutinifera, *Roxb.* Garcinia purpurea ?

WILD PEPPER. See Pepper.

WILD RAMBUTAN. Nephelium.

WILD RASPBERRY. Rubus gooreephul.

WILD SAPOTA TREE. Bassia longifolia, *Willde.*

WILD SARSAPARILLA. Smilax ovalifolia.

WILD SHEEP OF TENASSERIM. See Capreæ.

WILD STRAWBERRY. Fragaria vesca, *Linn.*

WILD SUCCORY. Cichorium intybus.

WILD SWORD-BEAN. Canavalia virosa.

WILD YAM. Dioscorea dæmona.

WILFORD, Colonel, an officer of the East India Company's Bengal Army. In the English burial-ground at Sechole, the most interesting monument is that of Colonel Wilford. The hindoo nation has reason to venerate the memory of that indefatigable Sanscrit scholar, who had almost hindooized himself by a residence in Benares from 1788 to 1822, and who at length mingled his dust in the soil of that great seat of brahminical learning.—*Tr. of Hind. vol.* i. *p.* 285.

WILI. Hind. of Kanawar. Olea Europea, O. ferruginea and O. cuspidata. Olive.

WILKINS. The first European who acquired a knowledge of the Sanscrit language. He translated the Hitopadesa from the Sanscrit.—*Rennell's Memoir, p.* 332.

WILKS. Lieut. Col. Mark, Author of Historical Sketches of the South of India, Lon. 1817, 3 vols. 4to—Translation of an Inscription on a Tambu Paka. Ibid, vol. viii. 736—History of Mysore, Lond. 1810.—*Dr. Buist's Cat.*

WILLA. Hind. also Khar willa, "big willow." Pshtu. Salix Babylonica, the Weeping willow.

WILLAITI-MUNG. Guz. Ground nut. Arachis hypogea, *Linn.*; *W. and A.*; *R.*

WILLOUGHBY. A lieutenant of the Bengal army, an indomitable officer, on the 11th of May 1857, with a mind capable of conceiving, and a heart and hand resolute and steady to perform, he blew up the magazine at Delhi.—*Tr. of Hind. v.* ii. *p.* 361.

WILLOW. A species of willow, is one of the most abundant forest trees of Tenasserim on the banks of inland sreams ; as many of the willows are medicinal, it is very probable that this also possesses medicinal properties. Roxburgh describes a species of willow as

"a native of banks of rivulets and moist places among the Circar mountains," but a species of willow on the Tenasserim coast is met on every stream before the influence of the tide ceases to be felt. Willow bark contains, according to Davy, 2·3 per cent. tannin, and that of the Leicester willow 68 per cent. Danish leather which has a peculiar and agreeable odour, and is used for making gloves, is prepared from kid and lamb skin, by means of willow bark, which is also used in the preparation of Russia leather, but the odour of that leather is produced by the oil of birch-tree bark. In Britain, imported barks are all free of duty.—*Dr. Mason's Tenasserim.*

WILLOW-LEAVED ALLAMANDA. Allamanda cathartica, *Linn. Koen.*

WILLOW-LEAVED JUSTICIA. Justicia gandarussa.

WILLUGHBEIA, a small East Indian genus of plants belonging to the natural order Apocynaceæ, named after Francis Willughby, F. R. S.—*Eng. Cyc.*

WILLUGHBEIA EDULIS. ROXB.

Luti-am, HIND.

A very large climber, in the forests of Chittagong and Sylhet: every part of the plant on being wounded discharges an abundance of fluid caoutchouc. The fruit is pulpy, soft, and yellow, and esteemed by the natives. This seems the same as that named by Dr. Mason, Willughbeia Martabanica of the forests of Tenasserim, which he says produces a fruit as large as an apple, which Europeans sometimes call a kind of fig. It has an agreeable taste, but abounds in a milky juice. Its colour is yellow, and it is about the size of an orange. —*Roxb. Fl. Ind.* ii. p. 67. *Mason. O'Shaughnessy*, p. 448.

WILLUM-MIN. TAM. Willum matchi, DUK. Sable fish.

WILSON. HORACE HAYMAN, went to India, in September 1808, as an Assistant Surgeon on the Bengal Establishment. As he had qualified himself by a knowledge of chemistry and of the practical analysis of metals for the duties of assay, his services were withdrawn from the usual career of medical men in India, and he was at once attached to the mint at Calcutta, in association with Dr. Leyden, then next to Henry T. Colebrooke, the most distinguished orientalist in India. This association, and the encouragement H. H. Wilson afterwards received from Henry T. Colebrooke, gave, apparently, the direction to his studies, which, being consistently carried through more than half a century, placed him at last in the proud position of being [illegible] ledged the highest authority of the day [illegible] all questions of Sanscrit literature and [illegible] Hindu theology and antiquities, as well as the customs and social habits of the [illegible] through which that literature and religion [illegible] come down to us in the present [illegible] Upon the decease of Dr. Hunter in 1811, H. H. Wilson, already known as a proficient in Sanscrit literature, was appointed to be [illegible] Secretary of the Asiatic Society of Bengal. In 1813 he published a poetical translation of the Megha Duta, an epic poem of Kalidasa, which obtained a world-wide reputation, and he undertook the laborious task of preparing for the press, from materials collected by Colebrooke, a dictionary of the Sanscrit language with English interpretations. This was completed in 1819, and a second edition was published in 1832. It has been the [illegible] by which mainly the learned of Europe have obtained access to this branch of literature, and the lexicographer to whom all acknowledge such obligations, took at once a high position among the scholars of the age. His earliest article by H. H. Wilson in the volumes of the Asiatic Society of Bengal was published in 1825. It was on the History of Kashmir from the Raja Tarangini and other authorities; it attracted much attention, and was speedily translated and republished in Paris, and is, to this day, largely cited. Every subsequent volume of the Researches of this Society contains more than one contribution from his prolific pen, and while he remained in India he was recognised as the worthy successor there of Sir William Jones and of Colebrooke in the paths of research which they had [illegible] open to the world, and had shown to be [illegible] rich in the treasures of curious knowledge. In association with Dr. Atkinson, he established a periodical, which was not, however, [illegible] long continued. He compiled, in 1827, History of the first Burmese War; and [illegible] employed by the Government of India in preparing a catalogue of the manuscripts collected by Colonel Colin Mackenzie in the [illegible] of India. In 1834, he published separately under the title of the Hindu Theatre, a translation into English, with preliminary [illegible] of four Sanscrit dramas of antiquity. [illegible] work was received with much astonishment and with very general favour: for the dramas were found to possess much artistic merit [illegible] the combination of incidents, and in the exhibition of character; one especially, [illegible] Mrichchakati, or Play of Go-Cart, was of peculiar interest, as a representation of the [illegible] and habits of thought, and condition of society in Central India, at a very remote period. These four dramas, with the Sacuntala, [illegible]

 WILSON.

ously translated by Sir William Jones, are nong the most curious relics of Indian anti-uity that have yet been discovered and laid fore the world. The above were, as is of cessity the case in India, where literature not a separate profession, the produce of isure hours, not exacted by the conscienti-s discharge of efficient duties. The Assay fice of the Calcutta Mint, united with that Secretary to the Mint Committee, gave H. Wilson constant occupation for a consi-rable portion of every day. His duties in se offices were as important as they were ful and laborious, and performed not only h credit, but in a manner to give him high tinction. The Government of India had quent occasion to acknowledge its obliga-n to its learned Assay Master and Mint retary, for reforms introduced into the nage, and for other departmental services minent public merit. But neither official ies, nor literary pursuits, nor both these bined, were sufficient for the active mind Professor Wilson at this period of his life. a member of society, he joined with ardour every scheme of public amusement; and besides, the originator and promoter of many sures for the permanent improvement of people among whom his lot was cast. Theatre of Chowringhee owed for many rs its success to his management and his-nic talents; while his musical skill and ficiency gave him a place in every concert. his name will live in India, and especial-1 Bengal, for the part he took in promot-useful instruction. H. H. Wilson was the person who introduced the study of Eu-an science and English literature into the ation of the native population, whose wledge of English had hitherto been con-l to qualification for the situation of an clerk. For many consecutive years on was the Secretary to the Committee Public Instruction at Calcutta, and he ted himself especially to directing the ies of the Hindu College, from the of its establishment; and it was here that the native youth of India were ed to pass examinations that would not discredited first-class seminaries of Eng-In 1833, the University of Oxford ig, through the magnificent bequest of nel Boden, established a Professorship of rit, Mr. Wilson was selected for that lly endowed situation, as a tribute to eputation won by his literary works and minent position he occupied among orien-holars. He returned soon after to Eng-and was appointed also to the office of rian to the East India Company in suc-n to Dr. Wilkins. Thus placed in England, in a position of pecuniary independence, he entered upon the career of usefulness and literary distinction which reflected so much further honour upon himself. Scarcely a journal was published by the Royal Asiatic Society, but was not enriched by an essay, or critique, or disquisition from his prolific pen; and his services at the meetings, and ready aid in promoting every useful object, and means of extending information upon oriental subjects, were very great. The separate works published by H. H. Wilson after his return from India are numerous and highly valuable. They have all aimed at the wider spread of knowledge in the lore which he had so thoroughly mastered,—like his essays and translations of the Vedas and Purnnas;—or like his Sanscrit Grammar, and Glossary of Indian Terms, for the useful purposes of instruction;—or like his edition and continuation of "Mill's History of British India;"—or, like his Ariana Antiqua, on the antiquities and coins of Afghanistan, with the higher aim of producing a lasting record for the information of the world at large. It was the distinguishing characteristic of Professor H. H. Wilson that he considered nothing unworthy of his labours that was calculated to be useful; and was never influenced in his undertakings by the mere desire of acquiring distinction, or increasing his fame. Many of these works exhibit powers of illustration and close reasoning which place their author in a high position among the literary men of the age. But it is as a man of deep research, as a Sanscrit scholar and orientalist, as the successor of Sir William Jones and H. T. Colebrooke, and inheritor of the pre-eminence they enjoyed in this particular department of literature, that his name will liveamong th e eminent men of learning of his age and country. He died A. D. 1860. His activity may be estimated by the following summary. He was Secretary of the Bengal Asiatic Society till 1832; Professor of Sanskrit in Oxford; Director of Royal Asiatic Society; Librarian of E. I. C: Sanskrit Dictionary Calcutta, 2nd edn.—Remarks on Sanskrit inscriptions in Bl. As. Trans. vol. xv.—Account of Hindu remains at Chattisgher, Ibid.—Sketch of the religious sects of the Hindus, Ibid, vols. xvi, and xvii.—Sanskrit inscriptions at Abu, Ibid, vol. xvi.—Notice of three tracts from Nepal, Ibid.—Description of select coins. Ibid.—Remarks on Dionysiacs of Nonnus, Ibid.—Translation of inscriptions at Vijayaganagar, Ibid vol. xx.—Various papers in Quarterly Oriental Magazine.—Megha Duta, translated into English verse, with Sanskrit text.—Specimens of Hindu Theatre, 2 vols.—Descriptive Catalogue of Mackenzie Collection of Oriental

MSS. 2 vols.—On Thibetan Literature. Gleanings in Science.—The Sankhya Karika system of Philosophy.—The Vishnu Purana translated.—Proverbs, Persian, Hindustani and English.—Lectures on religious belief and practices of the Hindus, Oxford, 1840.—Historical sketch of Burmese War. 2nd edn.—Review of External Commerce of Bengal. Calcutta.—Travels of Moorcroft and Trebeck. Lond.—Mill's History of British India, edited with continuation. Lond.—Ariana Antiqua; Antiquities and Coins of Affghanistan. Lond. 1841.—Grammar of the Sanskrit language. Lond.—Papers in Bl. As. Trans. the most important of which, on the Puranas, have been reprinted in Lond. As. Trans.—Historical sketch of kingdom of Pandya. Lond. As. Trans. vol. iii. 1836.—Essays on the Puranas, Ibid, vol. v.—Notes on the Sabha Parva of Mahabharata. Ibid, vol. vii. 1843.—Translation of Mir Izzet Ullah's travel beyond the Hymalayas, Ibid.—Note on the Kapur-di-Giri inscriptions. Ibid, 1846, vol. viii.—Summary account of the Sikhs. Ibid, 1847, vol. ix.—Religious Festivals of the Hindus. Ibid.—On the rock inscriptions of Kapur-di-Giri, Dhanto, and Girnar Ibid, vol. xii. 1849.—On the Sacrifice of human beings as an element of the ancient religion of India. Ibid, vol. xiii. 1851.—Glossary of Indian terms, 4to. London, 1856. He published in 1832 the second edition of his Sanscrit and English Dictionary, in 1827 his select specimens of the Theatre of the hindus, in 1837 published Mr. Colebrooke's translation of the Sankhya karika, in 1840, his translation of the Vishnu Purana, and in 1850-1857, three volumes of his translation of the Rig-Veda.

H. H. Wilson, in 1819, translated from the Mahabarata the story of Nala and Damayanti. He and James Prinsep prepared for the press the whole text of the Mahabharata, which was printed in Calcutta in four quarto volumes; he aided in the translation of all the chief portions of the Puranas, Mahabharata and Ramayana, a copy lodged in the India Office, one at Oxford, and one at Edinburgh. H. T. Colebrooke, H. H. Wilson, Max Muller, Benfey, Haug, John Muir, Cowell, Witney, Rejendr Lal Mitra, have all translated parts of or expounded the Vedas.—*Dr. Buist's Catal.*

WILSON, Reverend John, D. D., an eminent missionary and scholar from the Church of Scotland to Bombay. Author of a Pamphlet on Missions, Edin. 1827.—Life of John Eliot. Edin. 1828.—Moral conquest of the world, Discourse, Bombay, 1830.—Debate with Brahmans, separately in English and Marathi, and in Oriental Christian Spectator, vol. i. 1830.—Address to Seamen at Bombay, 1831.—Rudiments of Hebrew Grammar in Marathi, Bombay, 1832.—Exposure of Hindu[...] Bombay, 1832.—Idiomatical Exercises, [...]lish and Marathi (3 editions) Bombay, 18[..] 1851.—Lecture on the Vendidad Sadi of [the] Parsis, Bombay, (2 editions) 1833.—Refut[ation] of Muhammadanism, in Oriental Chris[tian] Spectator, 1833, and separately in Hindust[ani] and Persian, (2 editions) Bombay, 18[..] 1840.—Second Exposure of Hinduism, se[pa]rately in English and Marathi. Bombay, 18[..] —Sermon on the death of Mrs. Wilson, Bom[]bay, 1835.—Tour to Goa and Sou[thern] Maratha country, Oriental Christian Spect[ator] 1834.—Address before Bombay Branch [of] Royal Asiatic Society on his election as [] President, Bombay, 1835; Bl. As. Tr[ans.] 1835; Lond. As. Trans. vol. iii. 18[..] Journal of Tour in Gujarat, Kathiawar, [and] Kach. Reprinted from Oriental Chri[stian] Spectator, 1835.—Letter to Jaina pri[ests] Palitana, from Journal, translated into Gu[ja]rati. (3 editions) Bombay, 1835, 1837, [..] —Discourse on the British Sovereignty [in] India. (3 editions) Bombay, 1835, and [..] 1837.—Memoir of Mrs. Wilson, (4 edi[tions]) Edin. 1837—1847.—Translation of the [Fu]neral Sirozah of the Parsis. Lond. As. Tr[ans.] 1837, vol. iv.—Letter to Mr. J. Prinsep [on] Girnar Tablets, As. Trans. 1838.—Acc[ount] of a visit to the Falls of the Sha[rawati] (near Girsipa.) Jameson's Phil. Jl. 18[..] Note on the worship of Vetal, Lond. [As.] Trans. vol. v. 1839.—Sermon to the [Par]sis, with an account of their settlement [in] India; &c. (3 editions), Bombay and [..] 1839, 1847.—Notes on the Kissah-i-Sa[njan] or arrival of the Parsis in India, trans[lated] by Lieutenant E. B. Eastwick, in Bom. [As.] Trans. 1842, No. IV.—Vendidad Sadi, [] in the Zend, with Framji Aspendiarji's [Gu]jarati translation. Edited, Bombay, 18[..] Zarthusht-Namah of Zarthust Berha[m] Persian, Lond. 1842.—Account of the [Wa]rahs and Katodis, two forest tribes. Lond. [As.] Trans. 1843, vol. vii.—The Parsi Reli[gion] as contained in the Zendavesta, &c. Bom[bay] 1843.—Memoir on a Mission to Nagpur, [] 1844. Sermon. Oxford, 1844.—On the S[anskrit] Literature of the Hindus, North British [Re]view, 1844, vol. i.—Review of Baron H[ugel's] travels in Kashmir and the Punjab. N[orth] British Review, 1845, vol. ii.—Lands of [the] Bible visited and described, 2 vols. Edin. [and] Lond. 1847.—Brief notes on certain Pa[rthian], Bactrian, and Indian coins, in Bom. [As.] Trans. Jan. 1849.—The Evangelization [of] India, Edin. 1849.—On the use of Sa[nskrit] in Education, Oriential Chris. Spec. 18[..] —Tour in Sind, in Oriental Chris. S[pec.] 1850.—Memoir on the Cave-Temples [and] Monasteries, and other ancient Buddh[ist]

rahminical, and Jaina Remains of Western India, in Bom. As. Trans. Jan. 1850.—On the Razors of Scripture, with the identification of Razor of Kedar, Bom. As. Trans. 1852.—Brief Memorial of the Literary Researches of W. Erskine, Ibid.—Second Memoir on the Cave Temples, &c. Ibid.—India three thousand years ago, Bombay 1858.—*Dr. Buist's Cat.*

WILSON, Mr., the first Financial minister India. He died in Calcutta.

WILUMPI. MAL. Averrhoa bilimbi.

WINCHESTER, DR. J., of the Bombay Medical Service. Author of Memoir on the River Euphrates, Bomb. Geo. Trans. vol. iii. —Notes on Sind, Ibid, vol. vi. 194.—On the practicability of advancing an army from Europe into Asia by the provinces of the Tigris, Lond. Geo. Trans. vol. vi. 187.—Note on the island of Karak, Persian Gulf, in Bom. Geo. Trans. vol. iii. 35.—Notes on various places in the Persian Gulf in Corbyn's India Review, 1842.—*D. Buist's Catalogue.*

WINDS. Ever since the magnificent generalisation which was given to the world in 1831 by Mr. Redfield of New York, the mariner has ceased to tremble before the fall of the quicksilver in his barometer, and the other premonitions of the hurricane. This meteorologist established the fact that storms seemingly the most violent and lawless, moved with precision in fixed paths, and executed their rotative movement with almost the regularity of the balance wheel. He also demonstrated that hurricanes in the northern hemisphere revolve around their centre invariably in a direction contrary to the motion of the sun and the hands of a watch. This physical law, now so well known as the law of storms, in countless times has saved large vessels, and even whole squadrons, from probable destruction. Captain Douglas Wales of the Mauritius, a sailor of experience and great practical knowledge and skill, in a paper on the converging of the wind in cyclones, argues that on the margin of these storms, whose diameter is often several hundred miles, the wind does not always blow round the central area of the storm in concentric circles, but frequently it converges or curves inward, in nearly radial lines, upon the centre of the gale. As it is in the centre that the verticose motion of the cyclone is most intense and deadly, it is, of course, of the first importance to give it a wide berth. According to the law of storms, at first laid down by Messrs. Redfield, Reid, Dove, and others, the winds within the entire area of atmospheric disturbance blew in perfect and concentric circles around the common centre. Captain Wales, however, after multiplied observations, shows that this rule is not strictly observed by the winds. The important fact now announced does not at all overthrow, but confirms Mr. Redfield's discovery, and, by giving greater practical value to the latter, it will mark a new era in navigation, as well as in the science of cyclonology. The converging of the wind towards the centre of the revolving gale is, of course, due to the centrepetal force being greater than the tangential force, which is the fact observed in tornadoes.

The *dust storms* of India sweep along the surface of the ground sometimes for two or three hundred miles, and cause much inconvenience. A dust storm is thus described. Suddenly, without any warning, there appeared a wall of cloud in the north-west, which rapidly advanced. It looked from 70 to 100 feet in height, but was in reality much higher, and its colour was a deep purple, glowing with a kind of brick-dust red; and it terminated above in a definite horizontal line cutting the clear sky. But in infinitely less time than this takes to tell, it was upon us—a fearful strain on the window, and we were in pitchy darkness. It was almost a darkness which might be "felt;" and one could not see one's hand. Meanwhile the fine sand poured in as water by every crack, into the room, in which we all stood in silence for a few minutes until the first force of the storm was over. It soon after became a little lighter, and the air was perceived to be filled with bits of straw, leaves, and fragments of light substances of various descriptions, which had been collected by the storm and stayed by the trees. Blast followed blast; and then came a sound of rain, torrents of which fell for about half an hour. Immediately afterwards there arose that refreshing scent of wet earth given forth as incense by the grateful soil; and then, with every window opened, we were inhaling the freshened air. In three-quarters of an hour all was over. Nearly all the fruit in the garden had been blown off, and many trees stripped of their leaves; many a mighty tree had given tribute to the storm king in the shape of huge boughs, many a thatch had flown afar; but there can be no doubt that the air was changed and purified, and that the good done far outweighed the evil.

Hail-storms are dreaded in India, as the hailstones are often very large, and sometimes kill man and beast, as well as destroy much of the crops.

In the Red Sea, the winds are either northerly or southerly; the wind from May to November is northerly, and the other six months is southerly, but there are also land and sea breezes.

In the *trade-wind* regions at sea, evaporation is generally in excess of precipitation,

while in the extra-tropical regions the reverse is the case; that is, the clouds let down more water there than the winds take up again; and these are the regions in which the Gulf stream enters the Atlantic. Along the shores of India, where experiments have been carefully made, the evaporation from the sea amounts to three-fourths of an inch daily. The effect of diurnal rotation upon the currents of the sea is admitted by all—the trade-winds derive their easting from it—it must therefore extend to all the matter which these currents bear with them, to the largest iceberg as well as to the merest spire of grass that floats upon the waters, or the minutest organism that the most powerful microscope can detect among the impalpable particles of sea-dust. Investigations show that in the Atlantic Ocean the south-east trade-wind region is much larger than the north-east, that the south-east trades are the fresher, and that they often push themselves up to 10° or 50° of north latitude, whereas the north-east trade-wind seldom gets south of the equator. The peculiar clouds of the trade-winds are formed between the upper and lower currents of air. The zone of the north-east trades extends on an average from about 29° north to 7° north. And if we examine the globe, to see how much of this zone is land and how much water, we shall find, commencing with China and coming over Asia, the broad part of Africa, and so on, across the continent of America to the Pacific, land enough to fill up, as nearly as may be, just one-third of it.

The Andes, and all other mountains which lie athwart the course of the winds, have a dry and rainy side, and the prevailing winds of the latitude determine which is the rainy and which the dry side. The weather side of all such mountains as the Andes is the wet side, and the lee side the dry. Were the Andes stretched along the eastern instead of the western coast of America, we should have an amount of precipitation on their eastern slopes that would be truly astonishing; for the water which the Amazon and the other majestic streams of South America return to the ocean would still be precipitated between the sea-shore and the crest of these mountains. The same phenomenon, from a like cause, is repeated in inter-tropical India, only in that country each side of the mountain is made alternately the wet and the dry side by a change in the prevailing direction of the wind. India is in one of the monsoon regions, it is the most famous of them all. From October to April the north-east trades prevail. They evaporate from the Bay of Bengal water enough to feed with rain, during this season, the western shores of this bay and the Ghaut range of mountains. This range holds the relation to these winds that the Andes of Peru hold to the south-east trades; it first cools and then relieves them of their moisture, and they tumble down on the western slope of the Ghauts, Peruvian-like, cool, mild and dry; wherefore that narrow strip of country between the Ghauts and the Arabian Sea would, like that in Peru between the Andes and the Pacific, remain without rain forever, were it not for other agents which are at work about India, and not about Peru. The work of the agents to which allusion is made is felt in the monsoons, and these prevail in India, and not in Peru, and may now be explained after the north-east trades have blown their season, which in India ends in April. The great arid plains of Central Asia, of Tartary, Tibet, and Mongolia, become heated; they rarefy the air of the north-east trades and cause it to ascend. This rarefaction and ascent, by their demand for an indraught, is felt by the air, which the south-east trade winds bring to the equatorial doldrums of the Indian Ocean; it rushes over into the northern hemisphere to supply the upward draught from the heated plains, as the south-west monsoons. The forces of diurnal rotation assist to give these winds their westing. Thus the south-east trades in certain parts of the Indian Ocean, are converted during the summer and early autumn, into south-west monsoons. These come from the Indian Ocean and sea of Arabia loaded with moisture, and striking with it perpendicularly upon the Ghauts, precipitate upon that narrow strip of land between the range and the Arabian sea an amount of water that is truly astonishing. There are, thus, not only the conditions for causing more rain, now on the west, now on the east side of this mountain range, but the conditions also for the most copious precipitation. Accordingly, when we come to consult rain gauges, and to ask meteorological observers in India about the fall of rain, they tell us that on the western slope of the ghauts it sometimes reaches the enormous depth of twelve or fifteen inches in one day.

These S.W. monsoon winds of India continue their course to the Himalaya, dropping moisture along their course, and in crossing that range, they are subjected to a lower temperature than that to which they were exposed in crossing the Ghauts. Here they drop more of their moisture, in the shape of snow and rain, and then pass over into the thirsty lands beyond with scarcely any vapour in them to make even a cloud. Thence they ascend into the upper air, there to become counter currents in the general system of atmospherical circulation.

The greatest rainfall occurs on the slopes of hose mountains which the trade-winds first trike, after having blown across the greatest ract of ocean. The more abrupt the elevation, and the shorter the distance between the nountain top and the ocean, the greater the amount of precipitation.

Writing on the amount of *evaporation* that oes on, Dr. Buist in his annual report to the Bombay Geographical Society states, on the uthority of Mr. Laidly, the evaporation at lalcutta to be about fifteen feet annually; that etween the Cape and Calcutta it averages, in October and November, nearly three-fourths f an inch daily; between 10° and 20° in the Bay of Bengal, it was found to exceed an inch laily. Supposing this to be double the average hroughout the year, we should, continues Dr. Buist, have eighteen feet of evaporation nnually.

Land and Sea Breezes occur on the sea-board of all tropical countries, and on all slands in the tropics. Upon the northern oast of Java, the phenomenon of daily land nd sea breezes is finely developed. There, as he sun rises almost perpendicularly from the ea with fiery ardour, in a cloudless sky, it is reeted by the volcanoes with a column of hite smoke, which, ascending from the conial summits high in the firmament above, orms a crown, or assumes the shape of an mmense bouquet that they seem to offer to he dawn; then the joyful land-breeze plays ver the flood, which, in the torrid zone, urnishes, with its fresh breath, so much njoyment to the inhabitants of that sultry elt of earth, for, by means of it, everything s refreshed and beautiful. The transparency f the atmosphere is so great there that they an sometimes discover Venus in the sky in he middle of the day. In the rainy season he land looms very greatly, and mountains hich are from 5000 to 6000 feet high are isible at a distance of 80 or 100 English miles.

Typhoon is the European name of the frightul equinoctial gales which vex sea and land bout the tropics in the Eastern seas, and own as far as to 10° from the equator. The hole Malayan Archipelago is excluded from heir sphere, while the whole of the Philippines is within it, the island of Mindano alone xcepted. Typhoon is, however, said to be word of Chinese origin, from Ta, great, nd Fung, tempest. It may, however, also e from the Arabic, Tufan, a storm, and that om the Arabic root, Taof, he did turn. Typhoons, cyclones and tornadoes are great otatory winds that move along a curved line n increasing circles, sometimes centripetal. n the northern hemisphere, the rotatory movement follows a direction contrary to that of the hands of a clock; while the opposite takes place in the southern hemisphere. In maritime language, tyfoons are dangerous tempests which occur in the northern part of the China sea, along the southern and eastern coast of China, near Formosa, the Bashee Islands, the north end of Luconia; also to the eastward of those islands, and betwixt Formosa and the Japan Archipelago. These tempests usually blow with the greatest fury near the land: as the distance is increased to the south-ward from the coast of China, their violence generally abates, and they seldom reach beyond lat. 14° N., although a severe gale has been experienced at times two or three degrees further to the southward. They occur in both monsoons.

Hail-storms are of frequent occurrence in the central parts of India, and often cause much injury.

Sudden storms are common throughout India in the spring. For an hour before sunset, clouds are gathered in the western horizon, which is illuminated with repeated flashes of lightning accompanied with a continued muttering of distant thunder, the atmosphere becoming oppressively sultry. Suddenly the heavens are furiously agitated, a brightening space is seen on the horizon, and they appear rapidly diverging from it as from a centre. A few large drops of rain are dashed downwards with great violence, a whirlwind rises almost instantly, and blows as if it blew its last, with a violence to which Europe is a stranger. The rain then falls as if a deluge were commencing, sudden and terrific crashes of thunder are heard above and around, and hailstones such as we have read of are often precipitated with most injurious effect. The violence of the storm is generally exhausted in about half an hour.

With the hindus, vayu, or the air, and the maruts, or winds, are personified and invoked. The maruts are depicted as roaring amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the Soma juice like Indra, and, like him, the bestowers of benefits on their worshippers.—*Maury, on the Physical Geography of the sea, pp.* 17, 25, 74, 88. *Horsburgh. Vigne's a Personal Narrative, p.* 33-4. *New York Herald.* See Cyclones, Gales, Hail, Hurricanes, Rains, Typhoons, Whirlwinds.

WINDOWS, in eastern countries, are mostly holes in the walls, as in Acts xx. 9, sufficiently low to admit of the outlook. See *Judg.* v. 28, *Pro.* vii. 6. *Cant.* ii. 9.

WINE.

Inub, Khamr,	Ar.	Wein,	Ger.
Tsa-pyit-ya,	Burm.	Oinos,	Gr.
Tsiu,	Chin.	Dakh-ka-mad'h,	Hind.
Vin,	Fr.	Ungur-ka-shrab,	,,

Vino,	It. Sp.	Wino, Wino-gradnoe,	Rus.
Vinum,	Lat.	Drakshárasa,	Sans.
Buangur,	Malay.	Madira,	"
Angur Badl, Mei,	Pers.	Sarayam,	Tam.
Vinho,	Port.	Sarayi,	Tel.

The wines known to Europeans in south-eastern Asia are almost exclusively the product of Europe; little of the wines from the Cape of Good Hope, from Shiraz in Persia, or from Australia, is used. The palm wines, the fermented sap of the several species of palms, are very extensively used by all classes of natives in the palm regions of the south and east of Asia, but by Europeans they are almost untasted. Kashmir is the only part of British India where wine is made from the juice of the grape, a fact to be attributed rather to its acescent quality than to any scarcity of the fruit. It is described by Foster as resembling that of madeira, and he presumes it would be found to improve greatly in quality by age. To the proper radiation of the heat in this elevated region, and its vicinity to the lofty mountains of Tibet, it may be reasonably concluded much of the acidity would be found in all the fruits which so greatly adds to their taste and flavour in the temperate climates of the north. As there is a limit beyond which the vine cannot pass, or rather where the acid properties exceed the limits necessary to the perfection of the fruit, there is also an excess of the saccharine principle in tropical countries, which precludes the application of the fruit to the manufacture of wine. In such instances, the vinous particles are concentrated, and fruit of every kind is fit for spirituous liquor only.

The Chinese in the cold weather drink a fair quantity of wine, but are seldom addicted to drunkenness. Their wines are crude spirituous liquors, almost altogether unrefined, distilled from rice, millet, barley and other fermented grains, and the process of distilling seems to have been perfected during the Mongol dynasty. Grape wine was originally brought from certain volcanic districts in Turfan, which has prejudiced the Chinese against it, as they consider it heating. A wine, flavoured with sandal-wood, brought from Siam, was formerly in great repute. The celebrated Cheh-kiang wine called "Shau-hing-tsiu," is wholesome and in great repute throughout China: it has a yellowish colour and soft flavour. The "Yuen-hwa-tsiu" is a weak white wine or spirit, flavoured with the flowers of the Passerina chamaedaphne, and reputed to be tonic. The "Kwei-yuen-tsiu" is a red wine. The "Pih-luh-tsiu" is a greenish coloured wine or spirit, resembling a cordial, made at Peh-chih-li and Hupeh. The "Fen-tsiu" is a kind of strong whiskey, originally distilled in Fen-chau-fu in Shansi. The wines of China are taken warm, very soon redden the face, and culminate in evanescent stimulation. There are a great many varieties of European wines, occasioned by differences of soil, climate, mode of preparation; but the chief are port, sherry, claret, champagne, madeira, hock, &c., and all of them are used by the Europeans who reside in the south and east of Asia.

Persia is supposed by some to be the native country of the vine; and this opinion seems to receive confirmation from the extraordinary perfection to which its fruit there attains. Grapes, says Olivier in his description of the country round Ispahan, everywhere abound, and their quality is excellent. None of those which I had tasted at Constantinople, in the islands of the Archipelago, Crete or Cypress, in Syria, in Provence, or in Italy, appeared to me comparable to the Kismis grape, of which the berry is white, of an oval shape, and middling size, having a very delicate skin, and no seed. At Shiraz, they are described as growing to a size and fulness hardly to be matched in other climates." "But, according to Mr. Morier, even grapes of Shiraz are surpassed in quality by those of Casvin. That city," he observes, "is environed by vineyards and orchards to a considerable extent, the former of which yield a grape celebrated throughout Persia for the good wine it produces. The vine-dressers water their vines once in the year, which is twenty days after the festival of the New Year, about the 10th of April; and the vizir mentioned that the soil, which is clayey, is so good, that the moisture it imbibes suffices until the next irrigation."

The mahomedan religion prohibiting the use of wine to its followers, tends to restrict its manufacture to those places in S. Asia where the Jews, Armenians, or Hindoos form part of the population. But the Persians have always been less scrupulous observers of this precept of the Koran, than the other mahomedans, and several of their kings, unable to resist the temptation, or conceiving themselves above the law, have set an example of drunkenness which has been very generally followed by their subjects. We learn from Chardin and Tavernier, that Shah Abbas II. was much addicted to wine, and made his courtiers share in his cups. His cellars were abundantly stocked with the choicest vintages of Georgia, Karamania, and Shiraz, preserved with great nicety in bottles of Venice crystal; and every six weeks, he received from the first of these countries a supply of twenty chests, each of them containing ten bottles, and each bottle about three quarts. He had also, at different times, wines

him from Spain, Germany, and France; but he drank only those of Persia, thinking them preferable to all others. A particular officer was appointed to superintend his wines, and to watch the proceedings of all those who made or sold that commodity; no one being permitted to engage in the trade without an express licence, which was only to be obtained by dint of bribery. At present many Persians indulge secretly in wine, and generally to intemperance; as they can imagine no pleasure in its use, unless it produce the full delirium of intoxication. They flatter themselves, however, that they diminish the sin, by drinking only such as is made by infidels: for "so great is the horror of a mahomedan vintage," as a late traveller informs us, "that whenever jars of the wine of Shiraz are discovered, the chief officers of the town are ordered to see them broken to pieces. But all this strictness relates to the Persians alone. The Jews and Armenians prepare wine on purpose for the mahomedans, and add lime, hemp and other ingredients to increase its pungency and strength; for the wine that soonest intoxicates is accounted the best, and the brighter and more delicate kinds are held in no estimation among the adherents of Mahomed. It is chiefly along the line of mountains that stretch from the Persian Gulf to the Caspian Sea, that the best wine districts are situated. Besides the vintages of Shiraz, those of Yezd, Ispahan, &c., are mentioned with commendation by Chardin; and recent travellers add to the list the growths of Teheran, Tabriz, and Casvin. But few of these wines, except the Shiraz, are much known out of the country where they are produced; and even the last mentioned no longer maintains the high celebrity which it formerly enjoyed. Tavernier estimated the quantity annually made at four thousand one hundred and twenty-five tuns, of which a considerable portion was shipped for the East Indies; but both the manufacture and trade in the commodity have declined after the wines of Madeira came into general use in Asiatic territories.

The principal vineyards in the environs of Shiraz are situated at the north-west of the town, where the soil is rocky and the exposure extremely favourable. The vines are all kept low but occasionally supported by stakes. Among the species cultivated, one of the most esteemed is the Kismis, the fruit of which, having an agreeable acidulous taste, is in great request for the table, as well as for the manufacture of wine, and when dried, forms an excellent substitute for currants. Next to it comes the angoor asji, a black or dark purple grape more fleshy than the other, and yielding an excellent red wine, of a deep red colour and somewhat astringent taste, which Kæmpfer compares to Hermitage: but the quantity made is small. For the more common wines, or those which most frequently come into the market, five different kinds of grapes are used, of which four are white or brown, and the fifth, called *Samarcandi*, from the town of that name, has a black skin with red juice, and furnishes a claret wine. At Ispahan a muscadel grape is grown, which yields a copious supply of must. In the manufacture of their wines, when the grapes are gathered, they are brought to the cellar, and introduced into a vat or cistern formed of masonry and lined with plaster, about eight feet in length and breadth, and four in depth, where they are trodden; and the juice that flows from them is collected in a trough at the bottom, from which it is immediately removed into large earthen jars, to undergo the requisite fermentation. These jars, which contain from sixty to eighty gallons, and are either varnished in the inside, or rendered impervious by a coating of grease, are carefully covered, and left undisturbed for a couple of days. When the fermentation has fairly commenced, the musk is stirred by one of the workmen with his arms bare; and this operation is repeated for eighteen or twenty successive days. The wine is then strained through coarse seives, into clean vessels, which are filled to the brim, and covered with light matting. In these it is allowed to remain for thirty or forty days, and when the secondary fermentation is thought to be completed, it is racked into smaller jars or bottles, in which it can be conveniently transported. That which is destined for exportation is strained a second time. The larger bottles, called *Karaba*, are covered with wicker work, and hold eight or nine gallons,—the smaller, six or seven quarts. They are packed in chests, which generally contain ten small bottles, or two *karaba*, and one small bottle between. The bottles are stopped with cotton, soaked in wax or pitch.

Chardin found the Shiraz wine of excellent quality; and though inferior in delicacy to the vintage of his own country, and at first somewhat rough to the taste, yet after drinking it for a few days, he relished it so much as to give it the preference to all other wines. He admits however, that it does not keep well, being liable to ropiness after the second year; and that, when drunk freely, it is apt to cause headache. Kæmpfer extols it more highly, placing it in point of flavour and aroma, on a level with the best growths of Champagne and Burgundy, and contradicting the assertion that it incommodes the head. Since these travellers wrote, and since Hafiz sung

the praises of the ruby wine of Shiraz, the declining demand, and the difficulties opposed to the manufacture, have probably tended to impair the quality; for we are told, that, at the present day, "the culture of the vine itself is comparatively neglected at Shiraz; the sorting of the fruit is a delicacy seldom attended to; and the apparatus used in the compression, fermentation, &c. of the juice, is on so confined a scale, that only small quantities of the esteemed flavour are obtained. Indeed, no wine, under one name, possesses such variety of quality; every gradation, from a liquid, clear as the most brilliant topaz, to a sour and muddy syrup. When good, the taste should be a little sweet, accompanied with the flavour of dry Madeira, to which, when old, it is not at all inferior.

This description of the colour and flavour of the Shiraz wine, however, applies only to the white sort, which, even when of firm and generous quality scarcely deserves to be ranked on a par with the best growth of Madeira; some samples of it betray a slight taste of saffron, which is not unfrequently added by the Armenian manufactures to their wines, in order to please the eye as well as palate of their customers. The other kind, which is probably the bright-red wine described by Chardin, resembles tent, or the second rate sweet wines of the Cape, and occasionally tastes a little of the pitch used for stopping the bottles in which it is exported. It is not so durable as the white.

Port wine, as introduced into India, is mostly adulterated with the raw spirit exported from England, and a fifth part of even good port consists of proof spirit, costing at about the rate of three farthings a bottle. Port wine that has not been brandied for the English market has 23½ per cent. In all pure wines, the natural proportions of proof spirit is usually from 18 to 22 per cent; many contain 18 per cent; some reach 25 or even 27, and in rare instances even 32 per cent. Since the vine disease, really good ports and sherries have almost doubled in price; and, at prices below five, six or seven shillings a bottle, they are factitious wines, incomparably worse than many a pure wine of France, Hungary, Austria or Greece, of which a choice quality is to be had for half the money. Beer is the best cheap drink for healthy folks who take active outdoor exercise, but with many fair haired people with florid complexions, it is apt to disagree. The white Capri of Italy may be had at sixteen pence a bottle, fragrant, brisk, as if slightly aerated, subacid and altogether wholesome. Greece offers the white Mount Hymettus, which at sixteen pence a bottle may give pleasure to the experienced wine drinker by its firm, dry, clean character, and abundance of a peculiar wine flavour of a Tokay sort.

The Visanto of Greece is a sweet full flavoured wine with little alcoholic strength. Greek Santorin, at 20*d.* a bottle, is one of the stronger class of undrugged wines, and very like a light dry port. The dry white Hungarian wine called Rusate is to be had for 14*d.* a bottle. The Hungarian Chablis, at 16*d.* a bottle, is a light wine of a light straw colour, not too acid, rather too much bouquet. The Hungarian Erlauro is pure and pleasant at 17*d.*; at half a crown is highly commended as an excellent claret. The Austrian red Voeslauer at 2 shillings and white Voeslauer at 2*s.* 6*d.* a bottle, are immeasurably superior to the cheap dinner sherry, for which it would be a delightful substitute.

The wines best known in India are sherries of kinds, clarets, champagne, hock; the Sicilian marsala is scarcely ever seen under that name. The Rhenish wines are often put on the tables of the more wealthy, and the Hungarian and Italian and Greek wines are rapidly gaining ground. Port, or Lisbon, are very rarely seen. In India, the famed wine of Shiraz or Kerzerum is wholly unknown, though Ahmed of Andabul sang—

> "Bring the bowl and pass it round,
> Lightly tune the sportive lay;
> Let the festal hour be crown'd,
> Ere 'tis lost like yesterday."

Wine is mentioned as having been known to Noah (Gen. ix. 20), who drank of the wine and was drunken. The allegory of the trees, in Judges ix. 13, speaks of the wine which cheereth god and man, and St. Paul (Tim. i. 23) recommends the use of a little wine for the stomach's sake. Before his time Homer had said:

> "The weary find new strength in generous wine"

and Martial had sang,

> "Regnat nocte calix, volvuntur biblia mane,
> Cum Phœbo Bacchus dividit, imperium."

which has been rendered,

> "All night I drink, and study hard all day,
> Bacchus and Phœbus hold divided sway."

There is a most ample supply of wine over a large portion of the earth's surface.

Port, as first sent abroad, was a good lighter wine than it afterwards became; neither was it at the outset the growth of the Douro, nor even shipped at Oporto. But the Methuen Treaty, by giving Portugal an advantage over other countries amounting to 24*l.* a pipe, forced the English to take to Portuguese wine; and Portuguese wine was most easily shipped, we presume, from Oporto. Gradually more and more brandy was added, and in 1754 the agents in Portugal asserted that the English merchants knew that the best wines of the factory had

ecome extinct. It is now a maxim with all ort-growers that brandy must be added in onsiderable quantities; and not only is the uality much improved by the infusion, but be wine will not keep any length of time ithout it, and the best and strongest natural ines require the greatest amount of extraneus spirit (about 20 per cent.) to keep them a sound and improving condition. Mr. Shaw lieves that the most perfect vintage of portine was that of 1827, about which there was thing peculiar, or what is called striking. e wine was evidently from well—not over—pened grapes; and there was in it a fine firm lness, with sufficient richness, but no hard lkiness or dryness; so that it was certain go on improving. This kind has also the vantage that it does not require absurdly ng keeping in bottle.

Sherry grows in a very small part of Spain, d it is only in the southern districts of St. car and Xeres in Seville, and at Montilla the adjoining province of Cordova, that it produced. Mr. Shaw mentions that about gallons of spirits are put into a butt of erry after fermentation, and generally about ar gallons more previously to its being shipd. Sherry is pale at first. The very dark own is made in the following manner:—venty or thirty gallons of must—that is, fermented juice—are put into an earthen ssel and heated until not more than a th part remains, when it looks and tastes e treacle. This is turned into a cask conning more must, which causes it to ferent; and the result is a very full luscious ne, which, if originally good, becomes er many years, invaluable for giving softs, richness, and colour to others. Large antities of this product, when new, are d to colour and to cover the harsh thinss of poor qualities, and it is for this reason t it is called the "Doctor." Hence brown rry often forms a very considerable crust, l even very old pale, which has been racked l shipped perfectly bright and again refined England, will be found to have numerous iers" which have shown themselves since tling.

The production of real Chateau Margaux is mated at 400 hogsheads, but about 4000 sheads are said to be sold under the name. four kinds of clarets of the first growths, l the real average amount of their produc-, are—Chateau Lafitte, belonging to Sir uel Scott, and producing 560 hogsheads; teau Margaux, belonging to M. Aguado, producing 400 hogsheads; Chateau La-r, belonging to MM. de Courturon and de rs, and producing 320 hogsheads; and teau Haut Brion, belonging to M. Eugene Larrieu, and producing 480 hogsheads. Formerly every Bordeaux house of note that shipped claret to England added large quantities of hermitage, which gave the appearance of body, but at the same time deadened the flavour, and after a few years in bottle the wine became of a brownish hue, hard, and flavourless. Shipments are now much purer. The consumption of Bordeaux wines is greatly increasing, but then the area of the wines brought down to be shipped at Bordeaux, or to be mixed with Bordeaux wines, has been greatly extended by railways. There are three sets of names under which the wines are sold. First there are names of districts—the Medoc, St. Emilion, the Graves, and the Cotes. Almost all the first growths of wine come from the Medoc. Secondly, there are the names of parishes, as for example, Pauillac, Saint Julien, Saint Estephe. Leoville and Laroze, for example, are grown in the parish of Saint Julien. Lastly, there are the names of vineyards, such as Chateau Lafitte, Chateau Margaux. It is the last set of names alone that really give any distinctness. There is no precise meaning in calling a wine Medoc, or Saint Julien, or Saint Estephe. But these terms are used to describe wines for which a particular price, and no more, will be given. There is no difference between asking for claret at thirty shillings a dozen, and Saint Julien at thirty shillings a dozen, for any claret at that price may probably be called Saint Julien. It is only when the vineyard is good enough to give its name to a distinct wine that the name indicates, or is supposed to indicate a particular wine. If, therefore, a wine merchant offer to sell the Saint Julien wine, called Leoville, and does not supply wine from the Leoville vineyard, he does not sell what he professes to sell; but if he merely offer to sell Saint Julien generally, he simply undertakes to sell a cheap wine, for claret is no better for coming from some part of the whole parish of Saint Julien. Champagnes until lately, were made from the grapes of certain vineyards; but now all the wine of the best houses is composed of various growths mixed together. The black grapes form generally about two-thirds, giving strength and body, while the white impart richness, delicacy, and bouquet. The vintage in favourable seasons begins about the middle of September, but it is more often about the 10th October. To produce a hogshead of wine, it is calculated that from 760 to 960 lbs. of grapes are required, and it is only the produce of the three first pressings that is used for wine of a good quality. The wine is drawn off the lees into fresh casks, which are placed above ground, and it remains there un-

till the month of March, when the important operation of bottling begins. If the wine has not enough natural saccharine matter to bring it up to the standard proper for effervescence, sugar-candy is added; if it has too much, the effervescence is diminished by adding old still wine. The bottles are lowered into cold, deep cellars, with a temperature of about 36° Farenheit, and yet the wine soon begins to work, and the loss by breakage of bottles is a serious item in the cost of making champagne. In the following October they are removed into another cellar to wait the purchase of the regular buyer of champagne, who deals with it in its after stages. He gets the wine in a thick state, and the first operation he subjects it to is that of placing it in a table so constructed that the mouth is inclined downwards. In a few days the deposit is found on the lower shoulder. Gradually the whole of the deposit is brought, by skilful manipulation, to the bottom of the cork. The bottle is then opened, and a certain quantity of the wine rushes out and carries away the impurity. The quantity in the bottle is reduced, in order to allow the proper amount of liqueur—that is, liquid sugar-candy—to be added. It is the addition of this liqueur—its quality, its amount, its colour, and the quantity of spirit put in it—that gives the special character to the champagne of certain firms. The champagnes intended for cold climates. have generally much more liqueur added to them than those intended for hot climates. In itself, champagne is almost colourless, and consequently those kinds called amber, partridge-eye, and pink have been coloured. The colour is sometimes produced by an infusion of elder berries; but the more careful operators only admit the colour which is derived from the husks of the grapes after having been pressed, and their colour allowed to mix with the juice. Sometimes, however, a champagne, although coloured, has received its colour solely from nature, for in years of great heat the skin and the pellicule (the part by which the grape hangs) become so ripe that they give natural colour to the juice. Champagne of a first-rate vintage will continue to improve for ten years in bottle; but unless it is of such a vintage as '34, '49, '51, '58, '61, or '62, it is best to drink it when two or three years old.—*Henderson's History of Ancient and Modern Wine. Travels in Georgia and Persia, by Sir R. Kerr Porter, vol. i. p. 348, 707. Voyages de Ghardin, Tom. ii. p. 67. Kæmpfer, Amænitates Exoticæ, p. p. 374-80. Wine, the Vine and the Cellar, by Thomas George Shaw, London, Longman and Co.* 1868. *The Vine and its Fruit, by James L. Denman, London, Longman and Co.* 1864. *Wine-drinker's Manual. Dmitt on Wines.*

WINGED CASSIA. Cassia alata.

WINGED SEA-HORSES. See Syngnathidæ.

WING-LEAVED CLITORIA. Clitoria ternatea. *Linn., Roxb, W. and A.*

WING-LEAVED IPOMÆA. Ipomœa quamoclit.

WINI. Sans. Winaya. Burm. The Burmese book which regulates the life and conversation of the buddhist monks.

WINNOWING. Matthew iii. 12 says, "Whose fan is in his hand." The common winnowing fan of the hindoos is square, made of split bamboos, and the corn is winnowed by waving the fan backwards and forwards with both hands.—*Yule, p.* 169.

WINNUI KAMEN. Rus. Tartar.

WINO. Rus. Wine. Wino-grandnoe. Rus. Brandy.

WINRI WIRI. Hind. Corylus colurna.

WINTERACEÆ. Lindl. The winter's bark tribe of plants in India comprise the genus Illicium, of which there is one species.

WINTER BARLEY. Hordeum hexastichon, *Linn. Roxb.*

WINTER CHERRY. Eng. Physalis somnifera, var. P. flexuosa, *Nees.*

WINTERS BARK. A spice resembling Canella alba, obtained from the Drymis Winteri.—*O'Shaughnessy, p.* 192.

WIRD. Ar. Repeating perpetually some thing out of the Koran, an application for blessing.

WISTARIA SINENSIS. *D. C.*

Glycine sinensis, *Sims.* | Chinese Wistaria, Eng.

This twining plant is one of the Fabaceæ and of the section Phaseoleæ. In China Mr. Fortune saw the Wistaria Chinensis in a dwarfed state, growing in a pot. The tree from the size of its stem, was evidently aged. It was about six feet high, the branches came out from the stem in a regular and symmetrical manner, and it had all the appearance of a tree in miniature. Every one of the branches was then loaded with long racemes of pendulous lilac blossoms. These hung down from the horizontal branches, and gave the whole the appearance of a floral fountain.

WITCH SWINGING. A clearly proved case of witch swinging occurred in 1871, in Oodeypore, showing that this barbarous practice still prevails among the Bheels of the wild tract in the extreme south-west of Oodeypore, in spite of the (possibly feeble) efforts of the Durbar to put it down. The headman (Gounthee) of a Bheel village was taken ill, and one Lemba bhagooree, a bhopa or witch-finder, was employed to discover the witch who had caused his sickness. The

man's account of what happened, given before the Political Assistant at Kotra, was as follows :—" Dhuna Doongri took a handful of grain, and having waved it over the body of the Gounthee Sukra, asked me to look at the grain. I looked at it, but I never spoke or said a word, nor did I show that any one was a witch. I remained perfectly silent. On this Champa, Knolo, and the four sons of Sukra said to me—Why are you silent and do not speak? We have already arranged everything; Deeta, Loi's wife, is the witch, and she has made the Gounthee ill; let us go and put her to the test. On this every one rose, went and seized Deeta, and took her to the water and put her to the water test, which is the following :—A bamboo is embedded at the bottom of any piece of water. The accused goes to the bamboo, holds it, and by it descends to the bottom. In the meantime one of the villagers discharges an arrow from his bow, and another villager runs to pick it up and bring it back to the place it was launched from. If the unfortunate woman is able to remain under water until this is done, she is declared innocent, but if she comes up to breathe before the arrow is returned to the bowman, she is a true witch, and must be swung as such. The bowman was Kumla Kasota, his father's name Nurhingh, of village Khara. The fetchers of the arrow were two of Sukra's sons, Kumla and Joyta. I was also present at the time of test. The woman failed in the test and thus became a witch. At this a great outcry was raised, and the woman was seized and tied up and taken away. I returned to my home. Other evidence, however, shewed that after looking at the grain, Lemba had declared Deeta the witch. What happened then may best be told in Deeta's own words :—Seven Bheels of Jhanjur and Kumla of another village, came to my house and told me I was a witch, and that I had made Sukra Gounthee ill. They seized me, saying, Come and undergo an ordeal. I agreed and went with them. They put me to the test of taking out a rupee from heated oil. I twice took out the rupee from the burning oil without injury to myself, and was innocent. They allowed me to go home. At the time of undergoing the ordeal my husband Deeta Loi, and his elder brother Lalla, were present on my part. A month after this the above named seven Bheels again came to my house, seized me, and said they would put me to the water test. They took me to the river and told me to perform the test. I refused, and did not enter the water; they then took me to a tamarind tree behind Sukra's house, and applied a bandage of red chillies over my eyes, tied me to a rope head downwards from the tree, and began to swing me backwards and forwards. They swung me for two whole days; the third day they swung me till 12 o'clock A. M. They, thinking me then dead, undid the ropes, and left me there. Budda Paigee, who belongs to my father's village, and whom I call brother, took me to his house and attended to my wounds and my inanimate state. Having a little life in me I recovered. The rope, it appeared, had been tied round her ancles. During the swinging the Bheels kept on shouting and urging her to confess. They used to take her down at night, but not to untie the rope; and they gave her food. Two of the neighbouring Thakoors tried to stop the swinging, but the Bheels would not obey, but at last a period was put to further torture, either by the influence of the Mewar Vakeel, or by the impression that its victim was already dead. The Political Assistant sentenced Lemba to five years' imprisonment in the Ajmere Jail. The punishment of the villagers who swung the woman had been committed by the Durbar to a neighbouring chieftain, and he executed it in such a barbarous manner as to call for severe animadversion on the part of the British Political officers. —*Pioneer*.

WITHANIA COAGULANS. *Dun.*

Khamjaria,	SUTLEJ, RAVI.	Spin bajja,	TR. IND.
Kulilana,	„ „	Shap-iang,	„
Panir,	HIND. PANJ.	Khumazara,	„
Panir-bad,	PERS.	Makhazura,	„

Fruit.

Akri,	HIND.	Panir,	HIND.

This plant grows in the southern parts of the Panjab near houses and fields, seldom in the desert. The Afghans use it for coagulating milk; its seeds in colic, and its bitter leaves as a febrifuge. It is also a veterinary medicine. —*Drs. Honigberger and J. L. Stewart, Punjab Plants, Powell, Handbook.*

WITHANIA SOMNIFERA.

Asgand nagori,	HIND.	Ashwa-gandha,	HIND.
Isgand,	„	Lal kuti,	PANJ.

Its long white root is used as a diuretic and a deobstruent, and its leaves, bitter and narcotic, useful in special diseases and in swellings; and its leaves externally in carbuncle; it is said also to improve the complexion.—*Powell Hand-book, vol. i. p.* 363.

WITTOBA, one of the many subordinate incarnations of Vishnu. It took place at Panderpur, a town about eighty miles to the south-east of Poona. The brahmins speak of it as an event of not very ancient date, but say that it is recorded, perhaps prophetically, in the Bhagavata. A splendid temple is there dedicated to his worship. He is represented sculptured in stone, of the size of a man, standing with his feet parallel to each other; with his hands upon his lips, the

fingers pointing forwards ; he is covered with a sort of raised hat, crowned with a linga: his hair is plaited, and turned up. Wittoba is also worshipped at Alundi, but his principal shrine is at Punderpoor, on the Bheema, to the westward of Sholapoor. The history of this incarnation conveys, unlike most hindoo legends, a moral lesson. The three principal gods of the hindoos are Vishnu, Siva, and Bramah, and the three goddesses Lakshmi, Durga, and Saraswati. Doorga or Durga, is often called Parvati or Parbutti, Bawan, Bowani or Bhovani, Kali, sometimes Devi, and she is spoken of under all these several denominations. Wittoba is a god of very questionable orthodoxy, but he is very popular among the Mahrattas, and, therefore, the brahmins admit him with the best grace they can into their pantheon. The same is the case with Kandoba, who is yet more popular among the lower orders of Mahrattas, and, if possible, less orthodox ; they are probably the ancient deities of the Mahratta race, which the pantheistic spirit of brahmanism has admitted as hindu divinities. In Isaiah lvii. 6, where the Jews are reproved for their idolatry, stones are mentioned as one of their objects of worship. "Among the smooth stones of the stream is thy portion ; *they*, they are thy lot, even to them hast thou poured out a drink offering, thou hast offered a meat-offering. Should I receive comfort in these ?" Veneration for stones may be traced among all nations ; the following instance from Scripture reminds one strongly of Hindu simplicity. "And Jacob rose up early in the morning, and took the stone he had put for his pillow, and set it up for a pillar, and poured oil on the top of it." (Gen. xxviii. 18)—*Chow Chow, p.* 251. *Ward's Literature and Mythology of the Hindoos. Moor, Hindoo Pantheon, p.* 416, 417.

WIZARD. See India, Ordeal.

WOADISHA. Tel. Cluytia collina, *Roxb.*

WOADUGU MARAM. Tam. Cluytia collina.

WOANI. Tel. Acacia ferruginea.

WODA, or Vada Chinta-kaia. Tel. Garcinia cambogia, *Derson.*

WODAHULLAY. Can. Acacia catechu.

WODALLA. Tam. Acacia catechu, *Willd.*

WODEN. See Basant.

WODISHA. Tel. Cluytia collina, *Roxb.*

WOFTANGIL. Kash. A grass of Kashmir, from which is prepared a yellow dye for shawl wool.

WOHAB. Hind. Aquila fulvescens, *Gray.*

WOH-KAYU-LAWANG. Jav. Cloves.

WOH-PALA. Jav. Nutmegs.

WOL. Dut. Wolle, Ger. Wolna, also Scherst. Rus. Wool.

WOLANDA PILLU. Tam. Hay.

WOLF.

Canis lupus,	Linn.	C. palipes,	Syk
Tola,	Can.	Lupus,	La
Wolf,	Eng.	Irpus,	"
Indian wolf,	"	Vulf,	Germ
Landga,	Hind.	Lobo, Loba,	Sp
Bherija,	"	Lupia,	"
Lukos,	Greek.	Vrika,	Sans.
Lupo, Lupa,	It.		

The wolf roams over British India, not singly, but always in large or small packs. If a single one appear, it may be assumed that others of the pack are near. They are bold even in the vicinity of towns, scarcely moving off from horsemen ; and in Central India, Oudh and the Panjab, they destroy large numbers of children. Their ordinary prey are deer and sheep, and in pursuit they display great sagacity, throwing out flanking parties on surrounding the game ; recently a sambar deer was seen to run close up to a railway train in Berar, but halt as the train moved on, and looking beyond, a body of wolves were observed in its pursuit. The wolves of the peninsula of India move a little to one side when pressed by a horseman, and a little exertion places them quite aloof. In the districts of the Sind'h Hyderabad collectorate not less han 315 wolves were killed during one month of March at an expenditure of Rupees 804, 51 hyænas at Rs. 223, and jackalls at Rs. 4-12. Wolves are numerous in the neighbourhood of Sultanpoor, and indeed, all along the banks of the Goomti river, among the ravines that intersect them and a great many children are carried off by them from towns, villages, and camps. Hardly any of the hindoo population, save those of the very lowest class who live a vagrant life and bivouac in the jungles, or in the suburbs of towns and villages, will attempt to catch or kill them. All other hindoos have a superstitious dread of destroying or even injuring them on whose hand a drop of wolf's blood has fallen, believes himself doomed to destruction. The class of little vagrant communities above mentioned, who have no superstitious dread of destroying any living thing, eat jackalls and all kinds of reptiles, and catch all kinds of animals, either to feed upon themselves, or sell them to those who wish to keep or hunt them.—*Tod's Rajasthan, vol.* 1, *p.* 4 *Sleeman's Journey p.* 206.

WOLFF, Reverend Joseph, a native of Germany, a Jew convert to Christianity, domiciled in England, who travelled as a missionary to the Jews through Central Asia, Cabul, to Jeddah, and to Bokhara, in 1844 made a noble effort to release Colonel Stoddart and Capt. Conolly.

WOLFSBANE. Eng. Aconitum napellus

WOMAN.

ifmann,	Anglo-Sax.	Frau, Weib,	Ger.
'imann,	,,	Ishsha,	Heb.
'imman,	,,	Donna,	It.
'emann,	,,	Mulier,	Lat.
urat, Ar. Hind. Pers.		Zan,	Pers.
'oman, Women, (pl) Eng.		Muger,	Sp.
mme,	Fr.	Pomli,	Tam. Tel.

Amongst the various races and tribes dwell-g in the south and east of Asia, the posi-)n of women is as varied as the tribes and ces of which they form a part. Very few rls receive any school education, and amongst e Persians, the mahomedans, and hindoos of dia, they are usually married before they ow up, and are afterwards taken to their hus-nds' houses. The daughters of non-Arian ;es are married later in life. The Kandian Ceylon, the Nair and Kamalar of Mala-r, and the Tibetan races in Kanawar, are lyandric: the Kulin brahmin of Bengal polygamic. Mahomedans can, by their r, marry four wives; they usually have but e, though if wealthy and disposed to do so, ey retain others as the harm or as mutai or olee wives, of whom Tippu Sultan is said to ve had nine hundred. The Aryan and Tura-in races of India, in the selection of their ves, follow very different customs: the one is)gamic, taking wives from other tribes than eir own; and the other endogamic, taking m from their own tribes. With mahome-ns, the selection is not restricted, but iongst mahomedans of Arab descent, a young in can claim to marry his mother's brother's ughter as his right. Except amongst the ilin brahmins, few hindoos have more than wife. Amongst some of the Turanian es, whose daughters grow up unmarried, ourting, as is customary in Britain and its onies, is common; but as most of the marri-s take place while girls are of tender years, where, as with the mahomedan and the yasth races, the women are gosha or secluded, l courting is inapplicable or impossible, the rothal arrangements are made by the pa-its direct, or by means of agents called di-ah. Amongst the Kol of Central India, marriage by capture still continues, as ongst some of the Turkoman races and ongst some in the Malayan peninsula; l young men amongst the Gond race oc-ionally serve for a wife. The wives of mahomedan, Kayasth and Rajput afford no -door aid to their husbands, but the Kumbi l Kurmi women, the Jat women, the Vella-Reddi, Kapalu and Okla, the shepherd, ngar, and kurumbar women, and the women nearly all the Turanian and non-Aryan s, engage in out-door work along with r husbands; and with some of the Tura-n races in the N. W. and N. E. borders of tish India, the field labour is almost entire-ly performed by the women. The Rajput women have always taken a large share in the management of the out-door duties of their husbands, and in their wars, to capture their foeman's wives was ever deemed the greatest proof of success. When Hector, anticipating his fall, predicts the fate which awaits Andromache, he draws a forcible picture of the misery of the Rajpoot; but, to prevent such degradation, the Rajpoot had recourse to the johur, or immolation of every female of the family. The very term widow (rand), is used amongst the populations of British India, in common parlance, as one of reproach. The rule for the Jews (Judges v. 25-30.) Deuteron. xxi. 10-13, "When thou goest forth to war against thine enemies, and the Lord thy God hath delivered them into thine hand, and thou hast taken them captive and seest among the captives a beautiful woman, and hast a desire unto her, that thou wouldest have her to thy wife; then thou shalt bring her home to thine house, and she shall shave her head, and pare her nails; and she shall put the raiment of her captivity from off her, and shall remain in thine house, and bewail her father and her mother a full month: and after that thou shalt go in unto her, and be her husband, and she shall be thy wife."

To a German mind, says Tacitus, the idea of a woman led into captivity was insupportable, and to prevent this the Rajpoot raises the poignard against the heart which beats only for him, though never to survive the dire necessity. It is then they perform the sacrifice johura, when every sachæ (branch) is cut off, and hence the Rajpoot glories in the title of Sacha-band, from having performed the awful sacha rite, which has every appearance of being the sacæa of the Scythic Gete, as described by Strabo.

We learn from the book of Esther that amongst the early Persians, the intercourse between women and men was much less circumscribed than after the spread of mahomedanism. Ladies were even admitted to banquets and received strangers in their own apartments, whilst they resided habitually in a kind of harem, separate from the dwellings of the men. At the present day, in countries where mahommedan manners prevail, and now including India, the women in the streets have a much meaner appearance than the men, because women of the better class are so little seen. But in buddhist Burmah all the young move about unrestrainedly dressed in their gayest and best, and the women engage largely in trade. Amongst the hindus before the Christian era the king's person, when within the palace, used to be attended by women, his guards and other troops

being stationed without the gates. Thus, Strabo says, Regis corpus mulieres curant, ea quoque de parentibus emptæ, qui regem custodient, et reliquis exercitus manent extra portas (IV. 15. p, 228); and, in Hyderabad in the Dekhan, the noble families still retain armed women as guards of their households.

The Bible shows progress in the Jewish views as to women. At the outset, the right of woman to choose her lot seems to have been wholly disregarded, as Abraham twice permitted Pharoah to have Sara, Judah condemned his daughter-in-law to be burned, and God threatened to give David's wives to his neighbour or to his son: Michal was transferred to Phatti from David by Saul, who had quarrelled with David, and kings habitually succeeded to their predecessors' wives. The social position of Indian women, even amongst the Aryan hindoos and mahomedans of Arabia, Arya and Moghul descent, is now, A. D. 1872, greatly improving.

Hindu poets very rarely dispraise women; they almost invariably represent them as amiable and affectionate. In this they might give a lesson to the bards of more lofty nations, and particularly to the Greeks, who both in tragedy and comedy pursued the fair sex with implacable rancour. Aristophanes is not a whit behind Euripides, although he ridicules the tragedian for his ungallant propensities.

In the Sanscrit and English dramas, the passion of Malati is equally intense with that of Juliet; but her unconquerable reserve, even to the extent of denying her utterance to him she loves more than life, is a curious picture of the restraint to which the manners of hindu women were subjected even whilst they were in enjoyment, as appears from the drama of considerable personal freedom. Megasthenes tells us that the Indians of his time did not communicate their metaphysical doctrines to women, thinking that if their wives understood their doctrines and learned to be indifferent to pleasure and pain, and to consider life and death as the same, they would no longer continue to be the slaves of others. We find from the later ceremonial sutra (Srauta and Grihya sutra) that women were not allowed to learn the sacred songs of the vedas, the knowledge of which constituted one of the principal acquirements of a brahmin before he was admitted to the performance of the sacrifices. Manu ix and 18 says, women have no business with the text of the vedas, thus is the law fully settled; having therefore no evidence of law, and no knowledge of expiatory texts, sinful women must be as foul as falsehood itself, and this is a fixed rule. The practice of the wife worshipping the husband is very ancient. In the drama styled Ratna-vali or the necklace, Vasava-datta, after worshipping the imag[e of] the deity, her attendant says,

The worship of the divinity concluded, [it] pleased madam to pay adoration to your l[ord.]

Vasava. Where are the flowers and u[n]guent?

Kanch. Here madame.

On which Vasava-datta worships the ki[ng.] This is conformable to the Bhavishya[tt]a Purana, which directs, "Having offered [ador]ation to the mind-born divinity, let the w[ife] worship her husband, with ornaments, f[low]ers and raiment. Thinking internally with [all] complacency, 'this is the god of love.'

The wives of the poorer classes of hi[ndu] householders rise at three in the morning [fre]quently to grind grain, and are occupied, [per]haps for three hours, in preparing as m[uch] flour as will last until the third day. [If] they have no grain to grind they must [still] rise at the same early hour, to milk the c[ows,] churn, and extract clarified butter. At [...] o'clock, after arranging their costume, [they] set off with their vessels to the well or t[he] river side, where they bathe and fill w[ater,] then return home. Some women bathe at h[ome] and fetch water afterwards, and rich men's [wives] have a servant, especially for attendan[ce at] the bath. When the women return with [the] water vessels filled they must prepare b[reak]fast. The men and boys of the family, [when] breakfast is ready, sit down in a line at [...] intervals and eat; when they rise, the w[omen] sit down. Breakfast finished, and the [men] off to their various duties, the wom[en are] busily employed in cleaning the house, fireplace, the plates and dishes and [...] vessels, and in preparing grain for gri[nding.] About three in the afternoon they have a [little] leisure, which they employ in attending [to the] children, or in combing out their ow[n] hair, and oiling it. In the evening th[ey are] again busy getting ready lights, pr[eparing] dinner, and spreading the beds.

To a careless observer, hindu life seem[s alto]gether stagnant and uninteresting. A[nd] although shut out by his social laws from [all] that to Europeans is of the deepest and [most] tender concern, the hindu existence [has a] romance of its own—often indeed of a [...]ful and lurid tinge, but still romance [...] not in the crowded bazaar, for there [is] change. We must wander to a remo[te se]questered village, where, under the sh[ade of] his ancestral trees, we may find the [hindu] living the life of tradition. He is, in [all] aspects, the man of a thousand year[s.] Clinging to immemorial usage, the [hin]du begins and ends his life much as [his an]cestors of legendary days were wont [to do.] The wondrous fascination of antiquity

n the wane; much of the ceremonial has in-
eed worn away, but the spirit is vital still.
here is a strange and sharp contrast between
e theories of hindu and mahomedan life.
y the latter, existence on earth is valued
ainly as a field and opportunity for action;
ith the hindu, human interest is confined
most entirely to the beginning and the end;
the life-struggle of the developed man he
ts but little store. His creed tells him that
ring the maturer years Fate is at the helm;
t it also comforts him with the assurance
at at the dawn and sunset of life human ef-
ts are permitted to have an influence for
al or woe. On the twelfth day after birth,
hindu child is presented to the pundit,
o, with solemn fervour, pours out the liba-
n of crimsoned water to the rising sun.
is accomplished, the women of the house-
d, placing the happy mother with the
ld in her arms in their midst, gather round
and sing songs of rejoicing. A feast of
brethren closes the ceremonies. Two years
s away. In the third year the nai or bar-
of the household enters on the scene. The
r of the child has to be arranged according
he usage of his caste; his ears have to be
ced and the rings inserted. These rites
y performed before the assembled village,
happy parents feel hopeful of the future of
r boy. From this time up to his tenth
the child is left much to himself. In
cold weather and the early spring he
s the village youth in their sports. In
rainy season, confined much in-doors,
often sits and listens with absorbing in-
st to the stories which have been trans-
ed from generation to generation, and
s to join in the song of thanksgiving
he plenteous downpour. When at length
tenth year arrives, it is incumbent on
father to instruct his child in the rudi-
ts of his craft. If a kayasth, he is initiated
clerkly lore, and learns to hold the pen
cipher. If a tiller of the soil, he is
ht to lay the seed with care, to tend the
d oxen, and to watch his father at the
gh. If a Kshatriya, he must endue
ody with manly strength by constant
ise, wrestle, and learn the use of weapons
e ancient dhanur-vidya—and fill his mind
high and martial thoughts. When
ime comes for his marriage, he has no
in the negociations, and is bound by
ecision of his parents in concert with
brahman and nai. But not seldom
the mother, with anxious solicitude,
ure forth disguised into the distant vil-
and in secret, judge for herself of the
elect, that her son may at least be
ed to a worthy partner. The marriage over, by the twelfth year the boy is sent to his guru. To do good actions, worship aright his dewta to restrain his breath, to reverence his guru, are instilled into his heart as the main virtues to be cultivated. The fifteenth year arrived, the lad must be doing for himself, and his father sends him forth with a blessing and a prayer—his offering to a Fate which he hopes to have propitiated. The youth's after-life is often a chequered one. Toiling, rejoicing, sorrowing, he spends his days where his lot has cast him. When at length old age finds him feeble and a burden on his children,—though a burden cheerfully borne by them,—he bethinks himself of his end. And strange indeed are his visions; for to the devout hindoo the death-bed and closing moments of life possess a deep and terrible interest, knowing that the heaven of Vaikantha is reserved for those only who have cared not for the glamours of the world. From the day of the death of her husband commence the widow's sufferings and privations. She is made to employ herself in the performance of devotional austerities which know no end. Constant fasting and bathing, abstaining from the use of certain articles of food, and going round the tulsi shrub, venerated by the hindus, or some idol in a temple, are the mortifications she is to inflict upon herself. At the celebration of certain joyous occasions which so frequently engage the attention and occupy the time of the wife of a living husband, she is not a guest, for her appearance on all such occasions is considered to be a bad omen. It is the pride of the wife, and she thinks it her peculiar privilege, to attend on all such occasions when invited; but the widow loses this of all the privileges most dear to her by the death of her husband. Even at the marriage ceremony of her brothers or sisters she cannot, consistently with the superstition prevailing among the hindus, take a lead or join other females who, because their husbands are living, can enjoy all the reasonable freedom and pleasures of life. The hindus invariably consider it an auspicious omen to come across the wife of a living husband when they leave home for the accomplishment of their intended purpose; but if they happen to come across a widow, they despair of success in the design, and proceed with reluctance or return back to curse the widow. Hence hindu widows systematically hold themselves aloof on all occasions and at all times. Even dear parents and brethren would not allow the widowed daughter or sister to come across or stand in the way when they are going out on purpose. This degrading superstition of the hindus is a source of unspeakable sorrow to the suffering

widow. Unlike the wife of a living husband, the girl-widow is abstinent and reserved. She cannot familiarly talk with her dearest and nearest relatives. Her every word and movement are subject to uncharitable construction. Among the brahmins her diet is rigidly regulated. She is welcome to a meal only once a day; and she must content herself with some unwholesome eatables in the evening, merely to subdue the cravings of hunger. She must devote her life exclusively to religious and melancholy contemplation, and spend her days, if convenient, in pilgrimages to some holy shrines. She is considered as a being wholly unfit for any of the duties of her life. A girl who is widowed at a tender age and knew not what conjugal happiness is, is not subjected to the humiliations above described immediately after the death of her husband. Until she arrive at the age of maturity she is shown some regard by her parents and relatives. Her natural ornament, the hair, is allowed to remain until that time. She is not prevented from wearing her usual ornaments and apparel. This state of the girl in her early widowhood is treated with some indulgence even by the brahmins. Among the Guzerati people whose creed and habits of living differ but very little from those of the Marathi hindu, widows even at a tender age are not prohibited from frequenting the temples and the mandir of maharajahs—the incarnate gods. They are, on the contrary, encouraged and advised, as the sure means of salvation, to go to the mandir and worship and prostrate before the man-god whose known character has secured a lasting place for that class of men in the annals of India. The practice of frequenting the temples is not so extensively prevalent among the Marathi hindus, though females, especially young widows among them, are not wanting who go daily as a rule to temples to hear the puran or kirtun of the hindu preacher. It is patent to all that the purani are anything but moral men. Their line of life has a two-fold object, to make money and to seduce young women. Files of vernacular prints furnish in abundance examples of young widows having been led into inextricable labyrinths of guilt and misery by the hindu purani and preachers. The prohibition of widow re-marriage entails upon the widow and her relatives an amount of misery and disgrace of which no description can convey an adequate idea to a foreign reader. Even a highly educated man who is void of moral principles is not seldom found beguiled in the temptations of this world. A woman, whether educated or otherwise, when widowed in the very flower of youth, however respectable her parentage, or whatever the high position and fame of her deceased lord, cannot, in the very nature of humanity, desire to live and die a widow. She ardently wishes, though not apparently for fear of incurring the supposed disgrace attached to widow re-marriage, that she herself and others like her could be permitted to marry another husband. Such a widow, in the very prime of life, however vigilantly watched and rigorously engaged in the performance of austere duties, cannot stand proof against that temptation which is most difficult to conquer. Whether in the superior or middle classes of the hindus, where the re-marriage of a widow is prohibited, the amount of sin is incredible. Where the widow is not dead to all sense of shame, she carries on intrigues in a way to elude notice, and it is not seldom that such an intercourse has proved eventually detrimental to her life. Intercourse, whether legitimate or illicit, must some time or other bring home to the mother a child. When the widow is thus situated, she tries all the means in her power and in that of her lover to conceal the fact from the world; but when these prove unsuccessful, she must pay for it the penalty of death, either by recourse to suicide or by an attempt to destroy the child in the womb. Elopements and seductions of various shades, sickening to describe, are the result of the prohibition of the widow's remarriage. Parents are known to have killed themselves by poison and drowning in consequence of the disgrace brought upon them by the conduct of their widowed daughters. Infanticide among the hindus other than the Rajpoots may be traced to this cause.

Besides the custom of baby-marriage as the source of early widowhood, there has been another practice among the hindus which brings untimely widowhood to the poor wife. An old widower, with one foot in the grave, especially among the brahmin and the banya races, is wedded to a girl of a tender age. In such a case the parents of the girl are actuated by mercenary motives in disposing of their child to an old man who, infatuated by an impotent love or by a strong desire to beget an heir to his property, grudges no amount of money, however large, for the purchase of the girl. The girl may be said to be widowed from the moment of her union with that man. The pitiable disparity of age between the sexes naturally causes discontent in the bride, who may not improperly take the hoary husband for her great-grandfather. Facts are known of such unions having ultimately proved the ruin and disgrace of both the families. To part with a daughter for gold to an old man whose days are numbered is to purchase for the value of that article eternal widowhood

with its concomitant evils, for one's child. Such a transaction of sale and purchase is a species of infanticide which is unhappily not cognizable by law. Amongst the hindoo races, the married girl, after the departure of her husband from this world, lives generally with her parents or brethren, if they be able enough to pay for her maintenance. Here, too, her life is a life of misery. The once affectionate and loving parents grow gradually indifferent and lukewarm in their affections. There are some who deeply feel for the condition of their daughters, and who would endeavour at any cost to make the object of their solicitude and tender care happy. But the tyrant custom of the prohibition of the widow re-marriage is an insuperable bar in their way. They have not the moral courage to break through the bondage of caste-system to re-settle their dear child by wedding her to a worthy man not belonging to their caste. Thus, when the widow is destined to drag her single existence under her parent's roof, she becomes by lapse of time an object of less kindness and affection even on the part of her parents. The household concerns, not excluding the duties of a menial, fall to her share. She must act as a cook and as a maid of all work. Her sisters-in-law, if her brothers be living, not unfrequently treat her with unkindness, and regard her with a jealous eye, if she happen to be in the good graces of her parents. If everything be kindness and love on the part of her parents, she feels nevertheless a kind of dependent and uneasy existence. But if she live with the parents of her deceased husband, she is treated as a creature who is little better than a beast. If the bereaved parents be kind and affectionate, they show some regard to her wants and comforts. But such good parents-in-law are few and far between. The hindu law of inheritance is not more indulgent to the widow. After the demise of the husband, she is not entitled to any thing more than bare maintenance and a little money for holy purposes.

Those who lose their husbands in an advanced age, and are blessed with a son or sons, are better situated in comparison. They are not exposed to such sufferings and privations as usually fall to the lot of the widow girl. The son, if kind and educated, gives every comfort in his power to his mother, and makes her happy for the rest of her days; but if he be cruel and ignorant, her fate is sad indeed.

In the absence of a son, she lives with her daughter and son-in-law, who, if they be kind and well-disposed, do not grudge her protection. The condition of a hindu female when left to her own resources after the death of her husband is very hard. Unlike her sisters in the west, she has not obtained that education in India which enables the European lady to live independent of others. Her European sister can act as a schoolmistress; a literary contributor; a teacher of music, of painting and drawing, and by knitting, &c. Knowledge and practice of these well nigh independent professions furnish the lady with ample means to support herself and a small family. Such is not the case of hindu females, and consequently a poor hindoo widow has no other alternative than to submit with Christian resignation to the drudgery of cookery, or grinding, or to some other menial life.

To be brief, the widow lives a life of toil and mortifications. Domestic drudgery is her inseparable doom. If she be able to read, she may spend a leisure which is short and hard-earned in the perusal of a pothee, or book, containing absurd tales in honour of some hindu gods or imaginary deities. Not knowing anything beyond the knowledge of an alphabet, and brought up in a religion and among the people devoted to the worship of stones and beasts, she cannot possibly soar to the truth of one eternal God to the exclusion of others, and cannot have those consolations which women enjoy, who believe in a future existence.

Some portions of the christian scriptures can be explained by the existing customs of the women of India. It is mentioned that two women shall be grinding at the mill, and two women almost always sit at the common hand-mill. Paul in his first epistle to the Corinthians xi. 6, says, if it be a shame for a woman to be shorn or shaven, let her be converted. And hindoo women cut off their hair at the death of their husbands, as a token of widowhood. A married woman's hair is considered an essential ornament, nevertheless thousands of young women approach the pagoda at Tripaty with beautiful hair, and there shave it off as an offering. The phrase good man of the house,—a hindoo or mahomedan woman never calls her husband by his name, but frequently speaks of him as the 'man of the house.' John iv. 27 relates how the people marvelled that he talked with the woman, and the Persian Testament has it, 'with a woman:' and perhaps this is nearer the design of the sacred writer; for in Eastern countries, except among the lower orders, a man is never seen talking in the street with a woman; it would be a great scandal to both parties.—*Pennant's Hindustan, v.* i. *p.* 56. *Tod's Rajasthan v.* i. *p.* 639-40. *Menu on Marriage. Yule Cathay,* i. *p.* 54. *Westminster Review. Forbes' Ras Mala, Hindu Annals. v.* ii. *p.* 259. *Hindu Theatre. v.* ii. *p.* 67, 122, 275, *Muller, Hindu Literature. Holy Bible.*

WOMEN'S CLOTHS. In Southern India, this description of cloth is chiefly manufactured at the town of Arnee in the collectorate of North Arcot; they are of various colours with borders chiefly used by brahmin women: they are of ordinary qualities, and sold at from 2 to 12 rupees each.

WOMUM SIRAGUM? Calculus cysticus.

WOND MARAM. Tam. Soymida febrifuga.

WONDUGU. Tam. Cluytia collina, *Roxb.*

WONTAY. Cam. Garcinia cambogia, *Desrous.*

WONTE. Tel. Camel. Camelus.

WON-THAY-KHYAY. In Tavoy, a small strong, compact, yellowish white wood.

WOO-AN, a small island lying near the western side of Haenun.

WOOD.

Arunyavu,	Can.	Hezm,	Pers.
Nath'h,	Duk.	Chob,	,,
Bois,	Fr.	Arunuyum,	Sans.
Wald,	Ger.	Davou,	,,
Lacaru,	Guz.	Bosque, Selve,	Sp.
Lakra.	Hind.	Kadu, Kambu,	Tam.
Bosco, Selva,	It.	Marm,	,,
Arunnuyum,	Maleal.	Chettu, Karra,	Tel.
Lakara,	Mahr.	Koia,	,,
Aruneya,	,,		

Every flowering plant is composed of an axis and the appendages of the axis; the former consisting of the stem and root, the latter of the leaves and flowers. The term wood is applied to those portions of the vegetable axis that are sufficiently hard to offer considerable resistance and solidity, so as to be used for purposes requiring various degrees of firmness and strength. In trees, shrubs, and undershrubs, the axis is said to be woody; in herbs it is termed herbaceous. In the former, stems are permanent, and do not die to the ground annually, as is the habit of the latter. A shrub, a tree, an undershrub, a bush, are merely gradations of magnitude in perennial plants; woods valuable for purposes of art and manufacture are derived from all of them. But as bulk and dimensions are necessary to make timber available for extensive use, by far the greater part of the ornamental woods are derived from trees. It seldom happens that the core of trees is exactly in the centre; they seem in Europe to thicken most rapidly in the direction in which they are most exposed to light and heat. Scotch firs thus exposed, measure twice as much in this direction as in the opposite. A healthy casuarina will attain an altitude of 50 feet, and a circumference, above the ground, of 30 inches. At the base, the section has the form of that of a pear cut lengthways, the larger diameter being 10 inches, the shorter 7. Measured across the core, we find the one radius 9½ inches, the other 3½; or nearly double that of the Scottish fir. In a tree of the same age 45 feet in length, two feet in girth, the greater diameter was 8 inches, the lesser 6—the larger radius being 5 inches, the lesser 3. Taking the tree in lengths of ten feet from the root, the seven rings continue to the last, the innermost having extended themselves upwards to the very top as the tree grew. But the eccentricity of the core has now greatly diminished, and the stem becomes nearly round—the predominance of the mass continuing on the same side as at the root. These peculiarities are most conspicuous in the casuarina; but they manifest themselves more or less in all trees. An India rubber tree planted in 1851, attained a diameter of 7 inches, the core being 4½ inches from the one side, and 2½ from the other; the two grew side by side. Very nearly the same law holds good with a teak and an acacia. In Europe the thickening is always on the south side of the tree: in India, so far as it appears, it is in general mostly due west. In all likelihood the excess of solar heat furnishes the explanation in both cases. North of the tropics the sun always shines more or less from the south, and gives out more heat from this than from any other direction. From the tropics to the line, the sun is so nearly vertical, that the mass of heat contributed to a tree or any other body perpendicular to the earth, is from east or west. But from dawn till noon the temperature of the sun is comparatively moderate—it is from mid-day till sunset, that the vast mass of heat is thrown off, the rays shooting from the westward. In this direction a tree thickens on the same principle that it expands in Europe to the southward. These researches will help to assist us to that marvel of vegetable life—the silicification or petrifaction of the living tree. Every one is familiar with the spongy stony substance called tabashir deposited at the joints of the bamboo. The fact is generally known that the teak tree often becomes in part petrified,—that is, the deposition of silica becomes so abundant, as to turn a portion of the trunk into stone, usually resembling the petrified wood of Egypt, Sind, Guzerat, Burmah and Trevicary, &c. In Upper India this is not at all confined to the bamboo or the teak—both remarkable for their siliceous secretions, forming in the former a beautiful enamel all over the stem, furnishing the sharp points of the leaves, and making the upper surface of the leaves of the latter eminently serviceable as sand-paper. The Ghunbhar wood found in the Nepal and Chittagong forests contains such quantities of silica that the carpenter who contracts to saw it by the foot, makes it a condition in his bargain—that it shall contain no stone. The ebony, the tamarind, the sissoo, and the al sal or jungle rose-wood, contain these secr-

tions, though in much smaller quantities. The most mysterious circumstance connected with the specimens from the petrified forests is that for every atom of carbon or other organic matter that has been removed, an atom of silica has come in its room, the structure remaining so perfect that under the glass it could not be discovered whether it was a petrified or living specimen under inspection.

In Europe, the durability of wood—that is, their capacity of remaining uninjured through long lapses of time,—has been found proportioned to the weight of charcoal yielded by them; there are many woods, heavy of themselves, that leave but a small proportional residuum in the retort after destructive distillation. We doubt if any where in Europe a piece of timber can be produced known to have endured 800 years: yet the fragments of teak which have formed the supports of the ceiling of the caves of Salsette, must have been in their places for above two thousand years, and are therefore the oldest pieces of timber known to man.

The most important application of wood, is in the building and repairing of houses and ships, and in the construction of machinery. For this purpose, the large trees, which come under the denomination of *timber*, are chiefly employed. The conservation of growing timber is an art of considerable importance, and inattention to this duty has allowed nearly every forest in India to be denuded of its principal trees.

In India and in all Asiatic countries, wood and timber are not only applied to those economic uses with which all are familiar, but they also furnish fuel to all classes, supplying the place of coal. Besides this, the influence of trees on climate is very considerable, tending as they do, to prevent the too rapid withdrawal of moisture from the soil, a point of great importance in a country where the heat of the sun is intense, and the supply of water is dependent only upon periodical falls of rain. It is impossible to ascertain the amount of timber used in India, but the quantity of firewood alone imported by sea into Madras during 5 years is given below, that for 1849-50 being estimated by the Military Board to be equal to 12,000 tons.

Years.	Billets.	Value, Rs.	Years.	Billets.	Value, Rs.
1845-46	63,61,816	29,536	1848-49	104,75,590	69,026
1846-47	42,77,013	22,746	1849-50	98,51,050	66,101
1847-48	56,78,794	31,974			

The above is exclusive of imports by Cochrane's Canal, and the trunk roads, which the Military Board estimated at upwards of 85,000 tons per annum. The trade reports of the Madras Presidency show that the exports of the following five woods alone, amounted in value to 3,64,000 rupees in 1854, viz:—

Sandalwood, cwt.	11,684	187,944	Ebony wood, cwt.		4,859
Redwood ,,	47,431	59,570	Teak, ,,		216,368
Sappan wood ,,	5,248	15,350			

The imports of timber into Great Britain alone, in 1850, amounted to ten millions of cubic feet, or 1,749,300 loads or tons.

In *Lamentations* v. 4 it is said our wood is sold unto us; but the poor hindoo, living in the country, never purchases wood for fuel; and when such a person removes to a large town, he speaks of it as a great hardship that he is obliged to buy his very firewood.—*Bombay Standard. Tomlinson.*

WOOD, Lieut. I. N. Auther of a Report on the river Indus in Bl. As. Trans. 1841; vol x.—Notes on the lower part of the Indus and of the craft thereon, in Bom. Geo. Trans. 1836-1838; reprint, vol. i. 89.—Journey into the Naga hills, Ibid, 1844, vol. xiii. 17.—Journey to the Oxus, Lond. 1841, 1 vol. 8vo. —Journal of a visit to the Laccadive Archipelago in Lond. Geo. Trans. 1836, vol. vi. 29.—*Dr. Buist.*

WOOD, Sir Charles, created Lord Halifax, for several years during the changes succeeding the Indian mutiny of 1857, the minister for India. His chief work was to amalgamate the Indian with the British army, and his plans needed many changes. His friends claimed for him credit for restoring the Indian finances, but in this he had no share.—*Howell-Thurlow, p. 22.*

WOOD ALOES.

Ak-yun . Burm. | Agallocha wood . Eng.

The aloes wood or eagle wood of the Old Testament. See Aloes-wood, Eagle-wood.

WOOD-APPLE TREE. Feronia elephantum, *Cor.*

WOOD-APPLE GUM, obtained from the Feronia elephantum, is very abundant, and forms the well known "East India Gum Arabic." Mr. Rohde mentions that from its ready solubility without residue, it gives the best mucilage for making black ink.—*M. E. J. R.*

WOOD-ASHES.

Tsau-hwui, Chin. | Rakh, Hind.

Used as a detergent remedy in disorders of the skin and hair.

WOOD-CARVING. See Carving.

WOOD CHARCOAL. See Charcoal.

WOOD COAL. See Coal.

WOODDU. Mal. Phaseolus max.

WOODDULU. Tel. Phaseolus mungo.

WOOD ENGRAVING. The following Madras woods have been found suitable, viz:—

Guava, Psidium pyriferum; the best.

Palay, Tam. Mimusops hexandra, a good wood, but liable to be attacked by insects.

Vepalley, Tam. Wrightea antidysenterica.

A fine close-grained wood, not quite so hard as the guava, but improving with age.

Jujube or Ber fruit tree, Zizyphus jujuba; rather soft.

Wood apple tree, Feronia elephantum, too coarse in the grain.

Satin wood, Swietenia chloroxylon, a close grained wood, but apt to split.—*Dr. Hunter.*

WOOD, FOSSIL. Fossil wood is in large quantity in Burmah, in Sind, and at Verdachellum and Ootatoor west of Pondicherry.

WOODIAH WOOD. ANGLO-TEL. Odina pinnata.

WOOD-MOTH. Wood-carrying moth.

Sack-trager,	GER.	Kundi Puchi,	TAM.
Mulnka Rasari,	TAM.	Dalme-Kattea,	SINGH.

The larvæ of this singular moth construct for themselves cases, which they suspend to a branch frequently of the pomegranate, surrounding them with the stems of leaves and thorns, or pieces of twigs bound together by threads, till the whole presents the appearance of a bundle of rods about 1½ inch long. The male at the close of the pupal rest, escapes from one end of this covering; but the female makes it her dwelling for life, moving about with it at pleasure, and when alarmed, draws together the purse-like aperture at the open end. There are five ascertained species of these in Ceylon Psyche Doubledaii, *Westw.*, Metisa plana, *Walker*, Eumeta Cramerii, *Westw*, E. Templetonii, *Westw.*; and Cryptothelea consorta, *Temp.* The Singhalese regard them as human beings, who as a punishment for stealing wood in some former stage of existence, have been condemned to undergo a metempsychosis under the form of these insects.—*Sir J. E. Tennant's Ceylon, p.* 432.

WOOD OIL.

Telia Gurijun,	HIND.	Siu-yu,	CHIN.
T'ung-tsze-yu,	CHIN.	Peh-t'ung-yu,	,,
		Hung-t'ung-yu,	,,

Wood oil is the term applied to the oils of several species of Dipterocarpus, D. lævis, D. turbinatus. This class of oils is obtained for the most part in Assam, Arakan, Burmah, and the Straits: they are usually procured by tapping certain trees of the order Dipterocarpeæ, and applying heat to the incision. The oil which flows from the wound is a mixture of a balsam and volatile oil, and when applied as a varnish to wood or other substance, the oil evaporating deposits a hard and durable coat of resin. They are chiefly used as natural varnishes, either alone, or in combination with coloured pigments, also as a substitute for tar in paying the seams of shipping, and for preserving timber from the attacks of white ants. They are said also to be useful as an ingredient in lithographic inks. The oils generally receive the names of the localities from which they are imported. Some of them differ considerably in colour and consistence, but they all possess the same balsamic odour, and are derived from various species of the noble family of Dipterocarpeæ. At the Madras Exhibition of 1855, were three good samples of wood oil from Canara: also a very interesting series of ten oils from various parts of the Madras Presidency and Burmah, where the mode of extraction is as follows:—about the end of the dry season, that is in March or April, several deep incisions are made with an axe into the heart of the wood, and a good sized piece scooped out; into the hole fire is placed, and kept burning until the oil begins to run, when it is received into a bamboo, and allowed to run slowly drop by drop. In Malacca, also, it is obtained from a large tree of the Dipterocarpeæ, which is very common in the dense jungles of the Malayan peninsula, and grows to a great height. When not tapped too soon, the base of the trunk is often of immense girth. The wood is reddish brown and has a smell not unlike that of English oak, the bark is smooth, the leaves alternate, pinnate and exstipulate, fruit a one-seeded drupe, seed angular and anatropal. The oil when permitted to remain at rest divides itself into two layers, the upper consisting of a clear chesnut colored liquid balsam, and the lower being in appearance like flakes of granulated sugar, and consisting probably of the superior resin deposited by the action of the atmosphere. The wood oil, called Gurjun balsam or Telia Gurjun, as found in the bazar generally occurs as a brown oily-looking semi-transparent liquid, in odour strongly resembling a mixture of balsam of copaiba with a small portion of naphtha. One kind yielded by the Dipterocarpus lævis, a native of Chittagong, Pegu, Assam, &c. It has been successfully used as a substitute for balsam copaiba, to which it bears a great resemblance in its physical and chemical properties. Gurjun oil is, however, the product of several species of Dipterocarpus, and known generally as wood oil. Gurjun balsam contains fixed resin, essential oil, and water. If the latter be not separated, it boils with explosive violence. The separation is effected by the dried muriate of lime. A small portion of the essential oil may be obtained by distillation with water in the common way. Gurjun oil is a good substitute for copaiba balsam in the treatment of gonorrhœa, given diffused through almond mixture or gum water. Dose ten to fifteen minims, repeated thrice daily, or as often as necessary. A compound tincture of Gurjun is an efficient substitute for French well known specific for the treatment of gonorrhœa. Dose, twenty to thirty minims, in a little milk or sugared water. Captain Hislop

gave an account of his visit to the island of Cheduba, where the wood oil tree is the most conspicuous in growth and size of the larger trees of these summits. One was felled on the west hill which measured in diameter, at the respective ends of a 60 feet length, 24 feet 5 inches, and 3 feet 6 inches; and another on the summit measured 21 feet 4 inches in girth at 6 feet from the ground. In felling the above mentioned tree the oil ran in a stream from it, and it must have contained seven tons.

Wood oil of Chittagong much resembles the "Teak wood oil," the wood oil from Pegu, but is less liquid than the latter, though used for the same purpose. It is a very clear and liquid substance, forming a natural varnish when applied to wood or other substances.

Rangoon wood oil has the usual resinous smell of this class of oils.

One of the wood oils merits notice as being one of the substances of which the well-known and much prized China lacquer is made.

Wood oil is used in Singapore for painting the beams and wood-work of native houses, and may also be mixed with paint when not exposed to the sun.

In China the cold drawn wood oil, Peh-t'ung-yu, is pale and is used for lamps and for varnishing furniture and the better class of umbrellas. A darker thick oil called Siu-yu, is obtained by heat and pressure from the seeds and fruits of the Elæococcus and Jatropha. It is used in making putty and in caulking and painting ships and boats. There is a reddish kind called Hung-t'ung-yu. The best wood oil of China comes to Han-kuow from Shin-chau-foo.

Sissoo-wood oil from Dalbergia sissoo is an empyreumatic medicinal product.

Camphor-wood oil, from the Dryobalanops camphora, belongs to the class of volatile oils. It is used largely in Singapore as a substitute for turpentine, and sells at from 15 to 20 cents a bottle.

Deodar or Shemanatahu oil, from the Erythroxylon areolatum, is an empyreumatic medicinal oil.

A wood oil in Tinnevelly, is an empyreumatic product similar to tar, chiefly used medicinally by native practitioners.

Teak wood oil is a dull ash-colored oil procurable in most of the large bazars of India; when allowed to rest for some time it separates into two layers, the one an upper dark colored clear stratum and a lower and more solid deposit. Its chief use is for applying to wood work of all sorts, either alone as a natural varnish or in combination with certain resins.

M. Guibourt observes of the Gurjun oil or balsam, that Mr. Lowe had found that the filtered balsam formed a brown transparent liquid, which yielded by distillation as follows in 100 parts—Essential oil 65, Hard resin, 34, Acetic acid water 1. According to Mr. Lowe, the volatile oil possesses all the characters of that of copaiba, and the hard resin, (which he regards as pure copavic acid, exempt from the soft resin, which, according to him, exists in the greater part of the copaiba of commerce) appears to him indicative of superiority as a medicine. Mr. Lowe recognized in the new resinous balsam the singular property of becoming solid when exposed in a closed vessel to a temperature of 230° F. Copaiba presents no similar phenomenon.

The new balsam distilled with the addition of a small quantity of an oxidizing agent, as chlorine, hypo-chlorite of lime or bichromate of potash, yields an essential oil of a fine blue, whilst ordinary copaiba, containing soft resin, affords hardly any colored essential oil; and cold sulphuric acid produces with copaiba a purple coloration similar to that obtained with cod-liver oil.

To obtain the oil, a large incision is made in the trunk of the Dipterocarpus turbinatus tree at about 30 inches from the ground, on which a fire is lighted and kept up until the incision is charred: soon after this, the liquid begins to flow. It is conducted by a little trough into a vessel placed to receive it. The average produce of one of the better trees in a single season is 30 gallons. Wood oil is also produced from Dipterocarpus incanus, D. alatus, and D. costatus. The first of these three is reputed to yield the best sort, and in the greatest quantity.

Wood oil from Moulmein, when filtered, is a transparent liquid, of a somewhat dark brown when seen by transmitted light, but appearing opaque and of an obscure green if viewed by reflected light. It possesses, therefore, in a very marked degree, the dichroism observable in all resin-oils obtained by the action of fire. This character determines the nature of wood oil, and shows that it is not simply a natural product like copaiba; but that it is in part the result of a liquid modification of the Dipterocarpus resin, effected by the agency of heat. Moulmein wood oil is of somewhat greater consistence than olive oil; it has a sp. gr. of ·964, and possesses an odor and taste very analogous to those of copaiba. It dissolves in twice its weight of absolute alcohol, with the exception of a minute residue which is deposited upon repose.

The most curious property of the Dipterocarpus wood-oil, is that of solidifying when

heated in a closed vial to 266° F.; at this temperature the oil becomes turbid and so gelatinous, that it is not displaced upon the inversion of the phial. After cooling, the solidification is yet more perfect; but a gentle warmth, assisted by slight agitation, restores its former liquidity. The resin of Vateria Indica is insoluble in alcohol, and very imperfectly so in ether; whilst the green resin of wood oil is easily soluble in either of these menstrua.—*Pharmaceutical Journal and Transactions. Roxb. ed. Carey, vol.* ii. *Indian Field. Journal de Pharmacie et de chimie September* 1856, *pp.* 189,193. *Pharmaceutical Journal, vol.* XIV., *p.* 65, *vol.* XV., *p.* 321. *Dr. O'Shaughnessy. Beng. Phar. p.* 378. *Rohde MSS.*

WOOD-PECKERS, of the genera Picus, Leiopicus, Hypopicus, Yungipicus, Vivia, Sasia, &c. of Eastern and Southern Asia, are numerous; for instance,

Picus analis, *Temm.* Java.
„ cabanisi, *Malberke.* China.
„ cathpharius, *Hodgs.* Bootan.
„ himalayanus, *Jardine.* Himalaya.
„ majoroides, *Hodgson.* Darjeling, Nepal.
„ macei, *Viellot.* Bengal, N. India.
„ himalayanus, *J. & S.* Himalaya.
„ scindeanus, *Gould.* Sind'h.
„ squamatus, N. W. Himalaya.
Leiopicus mahrattensis, *Latham.* Dekhan, Darjeling.
„ brunnefrons, *Vigors.* Himalaya.
Hypopicus hiperythrus, *Vigors.* do.
Yungipicus moluccensis, *Gmelin.* Java, Malacca.
„ pygmæus, *Vigors.* Himalaya.
„ canicapillus, *Blyth.* Arakan, Tenasserim.
„ hardwickii, *Jerdon.* India.
Vivia innominata, *Burton.* Nepal.
Sasia abnormis, *Temm.* Malacca.
„ ochracea, *Hodgs.* Assam.
Hemicircus canente, *Lesson.* Malabar.
Chrysocolaptes sultaneus, *Hodgs.* Darjeling.
„ goensis, *Gmelin.* Peninsula, Central India.
Mulleripicus pulverulentus, *Temm.* Himalaya to Archipelago.
„ hodgsonii, *Jerdon.* Coorg, Malabar.
„ javensis, *Horsf.* Malacca, Java.
Gecinus squamatus, *Vigors.* Himalaya.
„ striolatus, *Blyth.* All India.
„ occipitalis, *Vigors.* Himalaya to Burmah.
Chrysopholegma flavinucha, *Gould.* do. do.
„ chlorolophus, *Viellot.* do. do.
Venilia pyrrhotis, *Hodgs.* S. E. Himalaya.
Gecinoulus grantia, *McClell.* do.
Micropternus phaioceps, *Blyth.* Himalaya.
„ gularis, *Jerdon.* Malabar.
Brachypternus aurantius, *Linn.* India, Ceyl...
Brachypternus chrysonotus, *Lesson.* S. Indi...
„ dilutus, Sind'h
Chrysonotus Shorei, *Vigors.* India.
„ intermedius, *Blyth.* India to Pe...
„ rubropygialis, *Malh.* Malabar.

The Sind wood-pecker (Picus Scindeanus) is distinguished from the other pied-sp... by having the sides of the body din... white, and a broad streak of black do... the side of the neck from the base... the lower mandible. The pied wood-pe... is P. himalayanus. The Mahratta wood-pe...er (P. mahrattensis) also is not uncommon... the beautiful green wood-pecker (Picus sq...matus) is seen in the depths of solita... of the N.W. Himalaya, creeping up the tr... of ancient pines, or flying wildly across... valleys, uttering its loud scream as it alig... on the side of a tree.—*Adam, Horsfield, Jer...*

WOOD SORREL. Oxalis acetosella.

WOODUGA. TEL. Alangium hexapetal...

WOODY DALBERGIA. Dalbergia arbo...

WOOD STRAWBERRY. Fragaria ve... *Linn.*

WOOL.

Yangmau,	CHIN.	Pashm, Put, P...
Uld,	DAN.	Welna, ...
Wol,	DUT.	La, Laa, P...
Laine,	FR.	Wolna, Seherst, ...
Wolle,	GER.	Lena, S...
Oonn,	GUZ. HIND.	Oo, Woo, Sa...
Lana,	IT. LAT. SP.	Ull,
Bulu,	MALAY.	Bochu,

The table-land of the peninsula, com...cing with the Neilgherries, and procee... along Mysore to the Deccan, Candeish, Guzerat, presents large tracts of co... affording a favourable climate, and abun... pastures for numerous flocks of sheep. from thence we proceed in a north-east di...tion, passing Marwar, Malwa, Rajpootana, the district of Hurriana, and the provin... Delhi, we shall see, supported on the na... pastures of the country, immense herds... cattle, and numerous flocks of sheep, latter affording wool employed by the na... for making blankets (Kumlee) of diff... degrees of fineness, which form a conside... article of the commerce of these provi... Again, the Himalaya mountains, on t... southern face, present a European cli...mate, remarkable however for being influe... by the periodical rains. The tempera... varies according to the elevation; but t... afford everywhere rich pastures, and sup... a fine breed of sheep, of which the woo... employed by the mountaineers to form t... clothing. The northern face of these mo...tains is as remarkable for its dryness as t... southern is for its moisture; the cold... excessive, and the animals which are p...

:here are covered with shaggy hair, or with :ong wool, and a fine down. It is here that the shawl wool goat finds its most congenial :limate. Mr. Moorcroft, who was deputed in 1814 to that part of Little Tibet in Chinese Tartary where the shawl goat is pastured, or the purpose of opening to Great Britain he means of obtaining the materials of the nest woollen fabric, found that the Hoonea vere obliged to send all their best wool to lashmere. He mentions that this was caused y strict injunctions to all the owners of flocks ot to sell any shawl-wool except to the Cashmerians or their agents, in consequence of a epresentation having been made that the ouaree merchants had bought some and that he Cashmerians would suffer if any of this ind of wool were to pass into other hands.

In the year 1819, considerable advantage as anticipated from importing this wool ito England; as it was valued at eight iillings per pound. Byragee wool, howver, when imported, was found to be unleable; as of 189 bales of Shawl and Bygee wool, imported in the years 1821, 322, and 1823, costing exclusive of freight id charges £5,444, the gross sale proceeds nounted only to £809. This wool was ought from the Hoonea, who keep sheep ith the shawl wool goats, by the people of :unawur, and brought by them to Rampore, ie capital of Bissehur, on the Sutlej. Speciens of the same kind of wool, procured by r. Hodgson from the Bootea who visit Ne-l, were forwarded to the Court of Directors the East India Company, in 1835, by Dr. 'allich. Of this the sorted wool was valued London at from 10*d.* to 11*d.* per pound; me in the unsorted state at 5*d.* to 7*d.*; and me was sold in the London market in 1834 from 2*d.* to 7*d.* per pound; the low price as chiefly owing to its dirty and mixed state. :tention was turned in England to the subst of Indian wool by Mr. Southey, of Colean Street, addressing a letter, 24th Novemr 1836, to the Committee of Agriculture of e Royal Asiatic Society, respecting some ool imported from Bombay. He suggested ore attention being paid to the assortment the wool, and improvement in the breed of e sheep; and stated that in 1835 there re imported into London 773 bags, and in Liverpool 624 bags of Indian wool which re sold by public auction at 4½*d.* to 1*s.* 2½*d.* r pound. The wool was chiefly white, but th black hairs occasionally interspersed; i he understood that it was produced in the ovince of Guzerat. In the following year, r. Southey again called attention to the subt, stating that the quantity exported from mbay had enormously increased; but that what came to England was entirely of middling and secondary quality, and had, consequently, realized no higher prices than from 4½*d.* to 11½*d.* per pound. The great and rapid increase of the exports of wool from Bombay is evident from an inspection of the following extract from the official Report of the Commerce of Bombay for 1836-37;

1833-34	lbs. 69,944	1835-36	lbs. 1,196,664
1834-35	„ 486,528	1836-37	„ 2,444,019

The report of 1837-38 goes on to say, "The quantity of wool exported has increased from 2,444,019 lbs. to 2,700,086 lbs., valued at 98,564 rupees."

Sir A. Burnes, writing on the wools of Cabool and Bokhara, says—1. The wool of Turkistan is obtained chiefly in the neighbourhood of Bokhara and Samarcand, and is more celebrated than that of Cabool. This is sent to Umritsir in the Punjab, where it is used to mix with the shawl wool of Tibet, in making what are called Cashmere shawls. It is the produce of the goat of Bokhara and not of the sheep of Toorkistan, and is called "put," in contradistinction to pashm, which is used to express the fleece of the sheep. 2. The wool or put of the goat of Cabool is not at present exported, being entirely consumed in the native manufactures. It is procured from goats, and chiefly from the hill country of the Hazara to the west of Cabool, and between that city and Herat, which has an elevation of about 6,000 or 8,000 feet above the level of the sea. 3. The countless flocks of flat-tailed sheep in Cabool, produce an abundance of wool. The fleece is of a glossy white colour, and is in Cabool called pashm-i-burrak, and the fabrics prepared from it burrak, in contradistinction to puttoo. It sells at from two and a half to two Cabool rupees the seer, or sixteen pounds. It is brought in from all directions for sale in Cabool, and Sir A. Burnes states that he "can scarcely put a limit to the supply, since the extent of pasture land in those countries is not over-rated at four-fifths of the whole surface of the country, and a very large portion of the population, such as the Lohani and Ghilgee, are shepherds, who remove from pasture to pasture, and rear their flocks with great care and attention. Nature, however, does as much as the people; for aromatic plants, in which sheep delight, are exceedingly abundant, and it is universally believed that they have considerable effect on the quality of the wool."

Wool obtained from the fat-tailed variety of sheep is used in the manufacture of cloths and carpets, and is also exported to India. It is of wide distribution; the sheep abound at Peshawur, Kabul, Kandahar, Herat, and other places. Kelat and the surrounding country produces sheep's wool in great abund-

ance. This sheep is apparently indigenous also to the Salt Range.

Kirman is a tract of country close by the Persian Gulf, to the south of Persia. Its wool finds its way into the Punjab in considerable quantities. It is a soft delicate wool, but its principal use, at present, unfortunately appears to be the adulteration of genuine pashm.

Wool from the Persian gulf called Kirmani wool finds its way to Amritsar pretty largely from both Karachi and Bombay. It is one of the staples used in adulterating the "pashm," or genuine shawl wool.

The Lena shawl wool is the produce of the goats of the Tibetan Himalaya. It used to be a prevalent opinion that these goats were found in Kashmir, but that celebrated valley is far too warm and damp for them. The best shawl wool is produced in the vicinity of Garoo, Mansurowur, and the elevated lands to the eastward. The shawl wool is the fleece of the goat, next the skin only; the outer coat is coarse hair, and the two colours are white and light brown. The dogs of Tartary have also a soft down below the hair, very little inferior to that of the goats. Goat's hair is very commonly produced in almost every district of the Panjab, and called "jat." It is used for making ropes, also for matting, and for the strong bags wherein grain, &c. is carried on the backs of oxen. Grain dealers use rugs made of it in the shops in which the grain is poured out when being winnowed or weighed. At Dala and Gyani, in Hundes, four or five fleeces of wool, according to size, sell for one rupee, which averages 1½ to 2 annas, or 3 pence the pound. Shawl wool is produced in a variety of districts in Thibet. Carmenia or Carmania wool is a kind of goat's hair, brought from Carmania, a country of Asia Minor.

The wool of Eastern Turkestan is known as Turfani wool, so called from the city of Turfan, it is this exquisitely fine wool from which the exquisite shawls and other fabrics of Kashmir are made.

The following wools are used in the Punjab.

(*a.*) Pashm, or shawl wool, properly so called, being a downy substance, found next the skin and below the thick hair of the Tibetan goat. It is of three colours, white, drab, and dark lavender (Tusha). The best kind is produced in the semi-Chinese provinces of Turfan, Kichar, and exported via Yarkand to Kashmere. All the finest shawls are made of this wool, but as the maharajah of Kashmere keeps a strict monopoly of the article, the Punjab shawl weavers cannot procure it, and have to be content with an inferior kind of pashm produced at Chathan, and exported via Leh to Umritsur, Nurpur, Loodianah, Jelalpur, and other shawl-weaving towns of the Punjab. The price of white pashm in Kashmere is for uncleaned, 3*s.* to 4*s.* per lb.; ditto cleaned, 6*s.* to 7*s.* per lb.; of Tusha white pashm uncleaned, 2*s.* to 3*s.* per lb.; cleaned, from 5*s.* to 7*s.*

(*b.*) The fleece of the Dumba sheep of Kabul and Peshawur. This is sometimes called Kabuli pashm. It is used in the manufacture of the finer sorts of choga, an outer robe or cloak with sleeves, worn by Afghans and other mahomedans of the western frontier.

(*c.*) Wahab Shahi, or Kirmani wool. The wool of a sheep found in Kirman, a tract of country in the south of Persia, by the Persian Gulph. It is used for the manufacture of spurious kinds of shawl cloth, and for adulterating the texture of Kashmir shawls.

(*d.*) The hair of a goat common in Kabul and Peshawur, called Pat, from which a texture called pattu is made.

(*e.*) The wool of the camel. From this a coarser kind of choga is made.

(*f.*) The wool of the country sheep of the plains. Regarding the production of wool in the Himalayan or Sub-Himalayan portion of the Panjab, the Revenue Report, for 1861, states that 'there can be no doubt that the valleys of the Sutlej, Ravee, Chandrabaga (or Chenab), Namisukh, and other tributaries of the Indus, supply grazing grounds not to be surpassed in richness and suitableness in any part of the world. The population inhabiting them are chiefly pastoral, but owing to sloth and ignorance, the wool they produce is but small in quantity, full of dirt and ill cared for in every way.' The Government of the Panjab have made efforts to improve the breed by the importation of Merino rams, but hitherto with little success. However, a truss of Merino wool produced in the Hazara hill district to the northwest of the Panjab, and sent to England in 1860, was there valued at 1*s.* 6*d.* per lb.

Raw pashm of the Thibetan goat is used in the manufacture of Kashmere shawls of the kind called Tusha, produced in Thibet.

A considerable and increasing quantity of wool is exported for India, mostly all of it latterly, from Calcutta.

	lbs.	Tons.	Value, £.
1850— 1	4,682,074	2,090	68,335
1— 2	7,057,161	3,151	100,612
2— 3	12,060,799	5,384	172,098
3— 4	14,409,479	6,432	205,601
4— 5	13,113,727	5,854	207,264
5— 6	16,109,728	7,192	272,942
6— 7	18,484,666	8,252	314,215
7— 8	18,635,396	8,319	387,103
8— 9	15,688,196	7,010	349,895
9—60	19,562,897	8,733	436,672
1860—61	21,384,405	9,505	478,144

But in addition to these exports, vast quantities of wool are woven into blankets of various degrees of fineness, for the use of the people, called cum'l or cumli, also chad'r.

Mr. Powell mentions that all or most of the mammalia of the Himalayan regions and other similarly situated localities at an elevation of 11,000 to 13,000 and 14,000 feet, which are consequently subject to severe winters and high rarity of atmosphere, whether domesticated or wild, such as the dog, yak, karghan, &c., possess a wintry inner coat of pam, of different degrees of fineness. The pashm of the goat is alone the marketable commodity; but the hair of the yak and Kirghiz camel is in parts cropped, and both in a cleaned and coarse state is made into cloth of different degrees of fineness for Kirghiz (nomadic) tents, clothing, bedding, saddle bags, ropes, &c., &c. The hair picked from marketable pam at Kashmir, supplies material for a different branch of manufacture, viz., of ropes, saddle bags, and hair cloth of different kinds, qualities and uses.

Antelope wool of Lahaul, called in Tibetan Tsodky-i-lena, or properly b-Rtsodky-i-lena, is very precious.

Ibex hair, or wool of the teringole, or kin, the ibex, is the wool that makes the famous and rare ibex shawls.

Sheep's wool, black and white of Lahaul, called luggi-bal, was selling in 1866 for 6 cutcha seers per rupee; it is exported to Kulu and Kanawar.

Yak's wool of Rupshu and Zangskar, called Kullu, is the soft under hair of the yak, used to make bags for sheep loads, and the felt soles of shoes.

The Rampur chadr is a soft wool fabric manufactured from the wool of the sheep of Rampur and Spiti, which are there the beasts of burden. The wool of the Dumbah or large-tailed sheep of Peshawur and Kabul is called Kabli-pashm, and is manufactured into the choga or sleeved cloaks worn by the Afghans.

Pattu fabrics are made from the pat wool of Kabul.

Kirmani wool is beautifully soft and very white.

The pashm of Changtan and Turfan are of the first class, and are monopolized by Kashmir.

The pashms of Rodak, Ladak, Spiti, Rampur, Bashahir are a second class wool, and form the staple export to the shawl manufacturing cities of the Panjab.

The export trade in wools of the N. W. frontier, and beyond it in Kabul, Bokhara and Kirman, is extensive, and large quantities are exported to Karachi and Bombay.

Good ewes appear to be obtained in Coimbatore and Baramahal; but Jalna and Beder used to be the best places whence to obtain the white-woolled breed. The results obtained both at Bangalore and on the Neilgherry Hills, from crossing the white-woolled sheep of the country with Saxon, Merino and South-down rams, are stated to have been most satisfactory, both as to quantity and quality of wool, and size of carcass. At the Madras Exhibition of 1855, of specimens of woollen manufactures, the most remarkable were those from Hoonsoor, comprising white and colored blankets of various textures made in the native loom, some being imitations of English articles, and a decided improvement upon the country cumbly, and cheap in price. Among them was the description of blanket furnished to invalids and time-expired men proceeding to England. These are not manufactured for the European troops, being too thick, heavy and unsuited to the climate. English blankets are therefore provided instead; the comparative cost is as follows:

1	Hoonsoor Blanket...		...	1	12	0
1	Europe	do red.	...	4	8	0
1	Do.	do white ...		5	8	0

The jury considered this manufacture worthy of encouragement, and observed that means should be devised to improve the manufacture, especially as wool is abundant. The description of wool from which these were manufactured was then of recent introduction. In the Mysore country sheep thrive well, but the wool is coarse, and little used except for the manufacture of native blankets. About the year 1840, General Cubbon took charge of a flock from the Madras Government, which had been collected the year previously for the purpose of introducing Merino wool into the country; but that flock was useless, it having been attacked with rot. He then collected one at a farm about 60 miles west of Bangalore, and imported 3 or 4 rams annually from Sydney; these amalgamate so well with the country sheep, both in figure and size, that

in the 4th cross it is not possible to distinguish farm bred from the imported ram. There were in 1850 about 6000 sheep in Mysore with Merino blood in them. Rams from the farm had been distributed to the collectorates of North Arcot, Bellary, Salem and Coimbatore. During the year 1850, 25 rams were sent to the Punjab by order of the Government of India. The wool had been very highly reported on by Messrs. Southey and Son, and several parcels had been sold in London as high as 1 shilling and 6 pence per lb., while the country wool, and that imported from Bombay, averaged only *4d.* to *5d.* per lb. There can be no doubt that when the Merino sheep is naturalized, wool will become a valuable article of export. A mercantile firm in Bangalore exported the wool of the Mysore country to England, in considerable quantity, and had realized a very fair profit. Eventually the Merino will be produced as cheaply as ordinary wool. Up to the year 1850 the quantity and value of wool annually exported from Madras was lb. 1,28,413, value Rupees 15,816. For a very large black cumbly from Kurnool closely woven, fine and soft in texture, the jury awarded, as the best specimen of the ordinary woollen manufactures of the country, a second class medal. A check cumbly from Chittledroog, was found deserving of honorable mention. The best specimen of woollens was found in the tariff, being a blanket made of corded wool of excellent quality and reasonable in price. A red cumbly of Mysore was exhibited in this collection, and was of good quality.

At the Great Exhibition of 1851, some fine merino wool was exhibited from the table-land of Mysore, and indigenous wools from the hilly country of the north-west frontier, some from Lahore, and other kinds from the dry and cold elevated climate of Tibet. Of the last, were some very fine specimens from Lieut. Strachey, many of the animals there being furnished with a down or hair-like wool under the coarse common outer wool. It is this which is chiefly employed for the shawls and the shawl-wool cloth. Though woollen fabrics of superior quality are not likely to be fabricated for the wealthy of India, yet as there are great diversities of climate in the different parts of Eastern and Southern Asia, some very substantial woollen cloths and blankets are made in different parts, amongst others, fine shawl-wool cloth in Cashmere; also the kind called puttoo; a fabric, named Pureepuz, the pile of which, on one side, is formed of loops. Felted blankets and cloaks have been manufactured from the table-land of Mysore, as well as from the north-west frontier, and from Nepal and Tibet.

The only woollen fabrics produced by the Chinese are felts for the soles of shoes and winter hats, and a sort of rug or carpet. It is not woven in looms from the yarn, but is made in small pieces by a fulling process which mats the fibres together. The consumption of it by shoe-makers is very great, and nearly as large for winter hats among the common people. The rugs are woven with colored threads in rude imitation of figures, and are extensively used in the northern provinces; the pieces are a few feet square, and sown together for carpets or bedding. Hair and wool are both employed in their construction. The art of knitting is unknown, and of course also the fancy designs and worsted work which are made by ladies in the west.—*William's Middle Kingdom, vol.* II. *p.* 126. *Royle, Arts &c. of India, p.* 498. *W. E. Underwood. Reporter for the Jury of the Madras Exhibition of* 1855. *Royle Prod. Resources. Calcutta Catalogue of the Exhibition of* 1862. *Compendious Description. Dr. Cayley. Moorcroft's Journey to Lake Manasarowara, Asiatic Res. vol.* lxii. *Captain Gerard, Account of Kunawar. Powell, Handbook, Econom. Prod. Panjab p.* xxvi.

WOOL OR COTTON-TREES. Eriodendron, *sp.* Salmalia, sp.

WOOLAVALU. TEL. Dolichos uniflorus.

WOOLEVE MIN. TAM. Caboose.

WOOLLEN RUGS. See Rugs.

WOOLLIGADDA. TEL. Onion.

WOOLLY CALTROPS. Tribulus lanuginosus.

WOOLLY GRISLEA. Grislea tomentosa.

WOOLLY MOON-SEED. Menispermum villosum.

WOOLLY QUINCE. HIND. Cydonia tomentosa.

WOOLUNTHU. TAM. Phaseolus mungo.

WOOMA MARA. CAN. Calophyllum inophyllum.

WOON. a district in East Berar.

WOON. BURM. A Burmese governor or minister. This word literally signifies "burthen," as woon gye, great Woon; Woon douk, Prop of the woon.—*Yule, p.* 3.

WOON. URIA. A tree of Ganjam and Gumsur, extreme height 60 feet, circumference 5 feet, and height from the ground to the intersection of the first branch, 5 feet. No use is made of the wood, the tree is prized on account of its fruit, which is pickled and eaten in other forms, the leaves are used for eating from; the flowers are eaten. The tree is scarce.—*Captain Macdonald.*

WOONDI, also Taringi. CAN. male tree of Calysaccion longifolium, *Wight.*

WOON-DOUK. A Burmese minister of the second order.—*Yule, p.* 8. See Hlwot-dau. Woon.

WOON-GAN. BURM. Ballast.

WOON-GYE. Great woon, a minister of Burmah. See Hlwot-dau. Woon.

WOONJAH-MARAM. *Acacia amara.*

WOO-PEI-TZE. BURM. Galls imported from China, which are said to be produced by an aphis: they are more bulky than common galls, of very irregular shape, and hollow.

WOORALA-TEL. SINGH. Clove oil.

WOO-SEU-SHAN, a small island lying near the western side of Hae-nun.

WOOSHERI-KAIA. TEL. Phyllanthus emblica.

WOOSHERI-KE-PU or Wooshiri-kaia. TEL. Phyllanthus emblica, Myrobalan emblica.

WOOSTA-KAIA. TEL. Solanum pubescens

WOOTHULU. TEL. Phaseolus mungo.

WOOT-THA. BURM. A tree of Moulmein. A strong wood for ordinary purposes.—*Cal. Cat. Ex.* 1862.

WOOTZ, or Indian Steel. The ore from which it is made is a magnetic oxide combined with quartz, generally in the proportion of 48 parts of quartz to 52 of oxide of iron. It is found in many parts of the south of India, but Salem is the chief seat of the manufacture, and there the ore is prepared by stamping and separating the quartz either by washing or winnowing. The furnace in which the ore is smelted is from three to five feet high from the surface of the ground, and the ground is hollowed out beneath it to the depth of eight inches or a foot. It is somewhat pear-shaped, being about two feet diameter at the ground and tapering to about one foot diameter at the top; it is built entirely of clay. Two men can finish one in a few hours, it is fit for use the next day; the blast is furnished by a pair of bellows each being a goat skin with a bamboo nozzle: a semi-circular opening about a foot and a half high and a foot in diameter at the bottom is left in the furnace, and before each smelting it is filled up with clay: the furnace is then filled up with charcoal, and kindled; a small quantity of ore, previously moistened to prevent its receiving the charcoal, is laid on the top of the fuel, and charcoal is thrown over it to fill up the furnace: in this manner ore and fuel are added and the bellows plied for four hours or thereabouts, when the process is stopped, and the temporary wall in front of the furnace having been broken down, the bloom is removed by a pair of tongs from the bottom of the furnace, and is then beaten with a wooden mallet to separate as much of the vitrified oxide as possible: and, while still red hot, it is cut through with a hatchet and in this state sold to the blacksmiths, who perform all the subsequent operations of forging it into bars, and making it into steel. The process of forging into bars is performed by sinking the blooms in a small charcoal furnace and repeated heatings and hammerings to free it as much as possible from the vitrified and unreduced oxide of iron: it is thus formed into bars about a foot long, an inch and a half broad, and about half an inch thick. In this state it is full of cracks and exceedingly red short. These bars are cut into small pieces to enable them to pack in a crucible. A quantity, amounting to a pound and a half to two pounds, is put into a crucible along with a tenth part by weight of dried wood of the Cassia auriculata chopped small; these are covered with one or two green leaves of the Calotropis gigantea or Obulus laurifolius, and the mouth of the crucible filled up with a handful of tempered clay, which is rammed so as to exclude the air perfectly. As soon as the clay is dry, twenty to twenty-four of the crucibles are built up in form of an arch with their bottoms inwards, in a small furnace urged by two goat skin bellows, charcoal is heaped up over them, and the blast kept up without intermission for about two hours and a half, when it is stopped and the process is considered complete. The crucibles are removed from the furnace and allowed to cool, they are then broken and the steel which has been left to solidify is taken out in a cake having the form of the bottom of the crucible. When the fusion has been perfect, the top of the cake is covered with striæ, radiating from the centre, but without any holes or rough projections on it: when the fusion has been less perfect the surface of the cake has a honeycombed appearance, caused probably by particles of scoriæ and unreduced oxide in the bar iron, and often contains projecting lumps of iron still in the malleable state. The natives prepare these cakes of steel for being drawn into bars by annealing them for several hours in a charcoal fire actuated by bellows, the current of air from which is made to play upon the cakes whilst turned over before it at a heat just short of that sufficient to melt them; by this means the excess of carbon is detached. The process of smelting iron differs according to circumstances in different parts. In some, the ore is collected in the form of sand from the beds of rivers; the iron stone is collected either from the surface or from mines.—*Rohde, MSS. Mad. Lit. Journ.*

WORAGALLI, a name of the town in maps called Warangal. See Worungul.

WORM. Several creatures receive this common name; a tailless batrachian, the Ichthyophis glutinosus, is an immense earth

worm, common in Sikkim. It is a native of the Khasia mountains, Singapore, Ceylon and Java.

Amphetrite or sea worm of Java, lives in holes of the great solid madrepores. The gills of these lovely creatures are in the form of spiral ribbons of brilliant orange green and blue. These gaudy plumes are alternately extruded and retracted, and, seen through the pellucid water, present a very singular and beautiful appearance.—*Adam's Travels, p.* 51. *Hooker Him. Jour. vol.* ii. *p.* 25. See Reptiles.

WORMIA COROMANDELIANA. SPR. syn. of Dillenia pentagyna, *Roxb.*

WORMIA TRIQUETRA. ROTTL.

Deeyapara, SINGH.

A moderate sized tree, common in the moist warmer parts of Ceylon up to an elevation of 2000 feet.—*Thw. En. Pl. Zeyl. p.* 4.

WORM KILLER. ENG. Aristolochia bracteata.

WORM PIPE FISH. One of the Syngnathidæ.

WORM SAW-WORT. Somraj. HIND. Serratula anthelmintica.

WORM-WOOD.

Afsuntin,	AR.	Artemisia absinthum	LAT.
Yin ch'in hau,	CHIN.	Bubuk,	MALAY.
Dhowna, Mustaru,		Buraujasif kohi,	PERS.
Murwa, ,,	HIND.	Dona,	SANS.
Domolo,	JAV.	Mashipattiri,	TAM.
Gund-mar,	KUSH.		

This European plant is found in the Indian bazars. The Worm-wood of the Old Testament is the Artemisia abrotanum.—*O'Sh. Disp. p.* 414.

WORUNGUL. A town 90 miles N. E. of Hyderabad in the Dekhan. It is famed for its manufacture of superior carpets, the trade in which has considerably declined for want of patronage. In the town of Hunnumcondah, the head-quarters of the Worungul district, are the ruins of a famous temple, now fast falling to decay. The structure is composed of hard black granite, elaborately sculptured. Four large columns, highly carved, support a roof of solid granite slabs, although the legend runs, that a thousand pillars once supported the fabric, but a few now remain standing. Inside the pavilion is a gigantic bull (couchant), sculptured out of black trap, highly polished, which is an admirable specimen of workmanship of its kind. The temple is entered upon wide steps of solid black trap rock. The landing is in a porch supported by two advance columns, with elegantly sculptured bases, having massive parapets between them. The capitals and entablatures are likewise most exquisitely carved, with eaves hanging over them about five feet over their bearings. The building claims attention for its great antiquity, built, it is said, a thousand years ago by rajah Burthop Roothroo, to whom also is attributed the gigantic works scattered over the Worungul district, such as the great wall and fort of Worungul, and the embankment and masonry adjuncts of the Pakhal lake, &c. In the road from Hyderabad to within forty miles of Worungul, barren rocks, which intensify the heat of the sun, and arid plains, are the prevailing feature, and water is both scarce and bad. At Bonagherry, 25 miles from Hyderabad, is a hill fortress, a droog, planted on the summit of a precipitous rock, rising abruptly from the plain to a very great height; the road extends only to Hunuumcondah, a distance of 90 miles from Hyderabad.

WOSK. RUS. Wax.

WOTAY KOROSHANUM. TAM.

Wotay Koroshenam, TAM. | Wontay Koroshanam TE.

This is a bright yellow, biliary concretion found in the gall bladder of certain camels. It is highly prized as a beautiful yellow paint but is very expensive.—*Ainslie.*

WOTHALAY. TAM. Acacia catechu, *Willd.*

WOTIANGIL. HIND. Carpesium, *Sp.*

WOTU. CAN. Loranthus falcatus.

WOUTAY. CAN. Garcinia cambogia.

WOU-WOU. See Simiadæ, Wow-Wow.

WOWLI. MAR. Ulmus integrifolia.

WOW-WOW. Hylobates agilis.

WRESTLING in India is a favourite amusement for the rich, who keep largely overfed men for the purpose of being pitted against each other. These are so full of flesh, that the distinctive forms are almost hidden, though this is more owing to the development of muscle than to deposit of fat. On one occasion to add to the interest of a mela, wrestlers of reputation from Agra, Muttra, Cawnpore and other places were sent for, and for three mornings successively the rajahs and others were entertained with some splendid wrestling matches. There was no cruelty or brutality exhibited, but fair manly trials of strength and dexterity which elicited applause, and which attracted on the last day a crowd of at least 50,000 people.—*Delhi Gazette.* See Kushti.

WRIGHTIA, a genus of plants belonging to the natural order Apocynaceæ,—of which the following Indian species are known,

antidysenterica.	tinctoria.
coccinea.	tomentosa.
mollissima.	Wallichii
Rothii.	

The Toungzalat of Burmah, a species of this genus, is a beautiful wood of British Burmah. A cubic foot weighs lbs. 55. In a full grown tree on the good soil the average length of the trunk to the first branch is 40 feet, and average girth measured at 6 feet from the ground is 5 feet. The Beejee-koorwee URIA, of this genus, is a tree of Ganjam and

umsur, extreme height 25 feet, circumference feet, and height from the ground to the intersection of the first branch, 8 feet. It is tolerably common, and is burnt for firewood. The milky juice is used for wounds.—*Dr. Brandis and Cal. Cat. Ex.* 1862. *Captain Macdonald.*

WRIGHTIA ANTIDYSENTERICA. *R.Br.*

Nerium antidysentericum, *Linn.*; *Ains.*; *Roxb.*

-thou.	BURM.	Girimallika,	TEL.
nessi bark tree,	ENG.	Kalingamu,	„
al leaved wrightia,	„	Kodisa pala chettu,	„
derjau,	HIND.	Kodisa chettu,	„
eerd,	SANS.	Kodisa pala,	„
pali,	TAM.	Kola mukki chakka,	„
ppaula,	„	Kutajamu,	„
daga pala,	TEL.	Manu pala,	„
la chettu,	„	Pedda ankudu chettu,	„

The wood.

lavarani,	ENG.	Veppallay,	TAM.
lay wood.	„	Palava renu.	TEL.
dhii-ki-lakri,	HIND.		

The bark.

nessie,	FR.	Chiri,	SANS.
rayia,	GUZ. HIND.	Kutaja,	„
raija,	„	Veppalei,	TAM.
daga pala,	MALEAL.	Pala codija,	TEL.
lapatta,	„	Manupala,	„
rte-de-pala,	PORT.		

The seed.

san-ul-assafir,	AR.	Indrayava,	SANS.
drajow,	GUZ.	Veppalei arisi,	„
ir,	PERS.		

A small tree common in Mysore and the lly parts of southern India, found in the ll jungles of Kotah and Mewar, a native of e coast of Malabar, of Ceylon, and the Isle France, common in many parts of India, also Tavoy: the wood is of little value, but the rk was formerly in request under the name Conessi, and is still esteemed by the natives dysentery and bowel complaints. It appears have lost its value in commerce, by not beg distinguished from the bark of Wrightia nctoria, which grows in the same places. e very bitter seeds are boiled in milk, and ven in hemorrhoids and dysentery, and in coction in fever and gout; also as an thelmintic. The bark of the root is astrinnt and febrifuge, and is used as a specific dysentery and bowel complaints. Its medinal virtues are worthy of attention. The rk was formerly in request under the name Conessi, and is still esteemed a valuable ug by the natives in dysentery, and in most ordered states of the bowels. Its milky ce is also used as a vulnerary.

The tree has peculiarly-scented flowers with orm resembling those of the jasmine. The od is white, of a fine grain, and susceptible polish, and is used by the turner and inet-maker.

The seeds are covered with a kind of downy tuft, somewhat resembling the down of the thistle. Two kinds of indurjuo seeds are distinguished, the *sweet* and *bitter*. The former has a pleasant taste not unlike that of oats, which they also resemble somewhat in appearance; but are longer and more slender. An infusion of this roasted seed is given as a safe and gentle restrainer in bowel complaints; the decoction is employed in fever cases. The latter are intensely bitter, and used as a vermifuge. The bark was greatly lauded more than a century ago by Geoffroy, and it appears to be a remedy of no mean value. A new vegetable alkaloid extracted from the bark is resinous and uncrystalizable, of a powerfully bitter and somewhat acrid taste, insoluble in water, but very soluble in alcohol, ether and chloroform, only one part procurable from one thousand parts of dry bark; it is supposed that the seeds contain it in much larger quantities.—*Cat. Ex.* 1862. *Voigt. Fl. Andh. Faulkner. M. E. J. R. O'Shaughnessy, p.* 445. *Eng. Cyc. Ind. Ann. Med. Sci. Aug.* 1856, *p.* 397. *Hind. Theat. vol.* ii. *p.* 100.

WRIGHTIA COCCINEA is a large tree; flowers externally green, internally deep orange red, having something of the perfume of the pine-apple.—*Riddell.*

WRIGHTIA MOLLISSIMA. WALL.

Khilawa,	HIND.	Dudhia,	HIND.

Grows in the Naggery Hills in Kumaon, Bijnore and Gurhwal, and is abundant in some moist forests. It grows in the Siwalik tract near the Indus up to 3500. It is fine grained, light and durable, its wood is used by workers in carving and in turnery. It grows to the height of 15 feet. Its wood is light yellow, soft and white, not very durable, fine grained, polishes well; used chiefly for combs, and also for agricultural implements. The yellow juice might be turned to account, but the timber is of no value. For combs it is taken as far as Umritsur.—*Drs. Cleghorn, J. L. Stewart, Mr. Thompson. M. E. J. R.*

WRIGHTIA PISCIDIA. G. DON. syn. of echaltum.

WRIGHTIA ROTHII. G. DON. Var. *β.* a tree of Ceylon.

WRIGHTIA TINCTORIA. R. BR; *W. Ic.*

Nerium tinctorium, *Roxb.*

Bhur-kuri,	BOMBAY.	Hya maraka,	SANSC.
Kala-kuri,	„	Pallay maram,	TAM.
Kala-kura,	„	Palava-ranu,	„
Kala-kuda,	„	Chitti ankudu,	TEL.
Dyer's Wrightia,	ENG.	Amkadu,	„
Kala-koodoo,	HIND. MAHR.	Tedla pala,	„

A small tree, found in the Coimbatore, Godavery and other forests of the Madras Pre-

sidency, and very common in all the forests of Bombay. If affords a very beautiful wood, white, hard and close grained ; coming nearer to ivory than any Dr. Roxburgh knew. In the Coimbatore jungles, it attains a considerable size, but is not much in use there, but that of the Godavery is most valuable for turning. Pale green soft leaves ; deciduous in the cold weather ; flowers in March and April ; white follicles in pairs, from twelve to eighteen inches long, which as they ripen the ends of each pair curiously join. The wood is used by turners and cabinet-makers. It is a common tree in the Coimbatore jungles. The leaves afford an inferior kind of indigo, hence the Mahratta name. It is extracted by scalding.—*Drs. Wight, Roxb. Fl. Ind. Gibson, Riddell, and Cleghorn, Captain Beddome.* See Dyes, Nilam pala.

WRIGHTIA TOMENTOSA. Rom. et Sch. *W. I.*

Nerium tomentosum, *Roxb.*

Koyila mokiri,	Tel.	Putta or Puta,	Tel.
Pedda pala,	,,	Jilledu,	,,
Nelam-pala,	Malbal.		

A small tree, not very uncommon in the central province of Ceylon, grows in the Circars and lower Godavery jungles. Wood appears close grained, not used. The juice is a permanent yellow dye. Bark given internally for scorpion bites.—*Thw. En. Pl. Zeyl. p.* 193, *Captain Beddome, Voigt.*

WRIGHTIA WALLICHII is found in the Tenasserim provinces and on the slope of the Neilgherries from about the middle of the ascent to an elevation of between 4000 and 5000 feet.—*Mason. W. Ic.*

WRIGHTIA ZEYLANICA. R. Br.

W. antidysenterica, *R. Br.* | Sooddooidda, Singh.

Common in the south of the island of Ceylon.—*Thw. Enum. Pl. Zyel. p.* 193,

WRITING.

Haraf (s) Haruf (pl.)	Ar.	Scritura	It.
Raqm ; Irqam	,,	Scriptura	Lat.
Tahrir	,,	Navasht	Per.
Ecriture	Fr.	Escritura	Sp.
Sohrift	Ger.	Ayuthu	Tam.
Likhawat	Hind.	Rashathee	Tel.

Compared with other nations the use of letters in India is recent. Though, as Professor Muller mentions, we read in the Old Testament of writings, engravings, pens and books—in Exodus xxiv. 7; xxv. 16; and xxxii, 15, and 16, at least 1500 B. C.; in Job xiii, 26, xix, 23 and 24 ; perhaps about the same age, and subsequently in Psalms xl, 7 ; xlv, 1 ; lvi, 8, and lxix, 28, and in Proverbs iii, 3, at least 1000 years B. C.,—the first authenticated inscriptions in India are those of the third century before Christ, engraved at Kapurdigiri, Dhauli, Girnar, &c.

In the ten Books (Mandala) of 1017 hym
in the Rig Veda, the art of writing is n
even alluded to. At the time when the son
of the Rishi were collected there is no
lusion to writing materials, whether of pap
(papyrus) or bark (liber) or skins, nor is the
any allusion to writing during the whole
the Brahamana period of Vedic literatu
Even during the Sutra period all the evide
obtained from them but leads to the sup
sition that though the art of writing then
gan to be known, the whole literature of I
dia was still preserved by oral tradition. T
statements of Megasthenes and Strabo
Nearchus, however, show that, in their ti
the art of writing was known in India,
that it was practised before the time of Al
ander's conquests, nevertheless the origi
the Indian alphabet cannot be traced
much beyond the date of Alexander's inva
The Lalita vistara, however, one of the
nonical books of the buddhists, describe
kya Sinha's entry into the writing school
pi-sala), and the alphabet that he is descr
as learning is the common Sanscrit alpha
But in the times even of Nearchus and
gasthenes, letters do not seem to have
a vehicle of literature. Nearchus descr
the people as writing on compressed cot
Megasthenes as making inscriptions on
stones, and Curtius says they wrote on
soft rind of trees. The inscriptions gene
supposed to have been engraved by As
three hundred years before the present
with a view to promulgate the doctrine
Buddha, are therefore the oldest literary
mains of India, but are upwards of a thou
years later than the era when the tal
were engraved on Mount Sinai.

In the Homeric poems there is no men
of writing, but at the time of Pesistratos,
the final collection of the Homeric poems
place, this was undoubtedly a collection of
ten poems. There is no mention of wri
materials, whether paper, bark or skins, at
time when the songs of the Aryan rishi
collected, nor is there any allusion to wri
during the whole of the Brahmana pe
Even during the Sutra period all the
dence obtained but leads to the suppos
that though the art of writing then beg
be known, the whole literature of India
preserved by oral tradition only. The b
mans of India, part of the east Aryan
even now-a-days, learn the Brahmans Sa
invariably from oral tradition and le
them by heart. The Grihya Sutras des
every event in the life of a brahman, from
birth to his death, but not a word is incl
ed about his acquiring a knowledge of writ
Writing was not known during the Brahm

period. Before the time of Panini and at the first spreading of buddhism in India, writing for literary purposes was unknown. Liber, the inner bark of a tree, indicates an early source of writing materials, βιβλος, i e, βυβλος, the inner bark of the papyrus, indicates another source, though now translated book, and even the word book, is the beech wood. Writing was practised in India before the time of Alexander's conquest, a summary of the statements of Megasthenes, Strabo and Nearchus would show that the people of India then knew letters, but that these were not used as a vehicle for literature. Curtius says they wrote on the soft rind of trees, Nearchus mentions compressed cotton, and Megasthenes notices inscriptions on mile stones. The same Lat or Bud'h characters found on the pillars at Delhi, Allahabad and elsewhere, are also found engraved on rocks. The ancient Bud'h alphabet is really the simpler and more elegant form of the refined Sanscrit. The Allahabad inscription is similar to that at Delhi, but has four short lines additional. There is a stone before lodged in the Museum of the Asiatic Society at Calcutta, which was found at Bairath near Bhabra, between Delhi and Jeypur, and has an inscription in the Bud'h character.

The same character is also found in two inscriptions at Junir, of which one is on the Naneh ghat. It is in keeping with the inscription on the Delhi pillar and on the rock at Girnar. The Girnar inscription was supposed by Mr. James Prinsep to be in the Pali language.

No Indian alphabet, however, can be traced back much beyond Alexander's invasion, for Nearchus says the Indians made paper from cotton. Moreover, the first well authenticated inscriptions in India are of buddhist origin, those of Asoka on the rocks of Kapurdigiri, Dhauli and Girnar, of the third century before Christ. These inscriptions call themselves lipi, writing; or Dharma lipi, sacred writing; and the engraver is Lipi Kara, and this last word being also used in the Sutras of Panini it may be adduced as evidence that he knew the art of writing.

The Semitic race, however, were acquainted with letters at least 1800 years B. C. Job not only gives one of the earliest notices we possess of the practice of writing, but in chapter xix. 23 describes four different modes of recording events. Oh that my words were now written! Oh that they were printed in a book! that they were graven with an iron pen and lead in the rock for ever! and Ezekiel iv. 1 is ordered to take a tile and portray upon it the city of Jerusalem. Ezekiel had long resided at Babylon, where events were recorded on tiles two feet long, one foot broad, and four inches thick; the drawing or inscription was made on the brick of soft clay, which was first hardened in the sun and then burned in a kiln, and the bricks at Babylon are found thus marked, seemingly by a stamp, while those found in Assyria seem to have been cut by the hand. In South Eastern Asia, children are still, as alluded to in Jeremiah xvii. 13, taught to form the written characters by tracing them in clean sand, also by writing them with a soapstone or potstone pencil or with charcoal, on a board painted black or white, or on the leaves of a black book. The leaves of the palms are used in all the two peninsulas, in Burmah and Ceylon, as books and as diaries, or for accounts in trade. The characters which have been used for Sanscrit, as seen inscribed on sculptures, have been manifold; the Kutila as at Vijayamunder, in Udayapur, and on a stone slab from a temple at Ranode and at Oujein. An old form of character is engraved on the Allahabad column, and that on one of two bronze tridents found at Gopendara in Garhwal was in this old character, the other being in nearly modern Deva-Nagari. The latter has been largely employed in writing Sanscrit in somewhat differing forms and, also, as it is now used, but another form of it is known as Kanouj-Nagari. The character on the Allahabad column is Deva-Nagari in transitu, identical with that of the Gaya inscription, and also like Mr. Wathen's inscriptions from Gujarat and those of Mahabalipur. The character of the Gaya inscription is known to be of the eleventh century. A seal was found at Aseerghur in Kandesh, engraved with a Deva Nagari, resembling the Gaya or Gour, approaching the Allahabad. That on the Bhitari Lat or pillar at Ghazipur, is not pure Sanscrit, nor easily intelligible, but its character is the same as Allahabad No. 2, or Kanouj Nagari, with numerous mis-spellings. At the ancient village of Maguta, district of Bhushana, on a stone slab, is an inscription in Sanscrit verse, the language and poetry superior to anything seen by the Bengal Asiatic Society's Pandit, Kamalakanta. The character used in the inscriptions is called the Kulda, and is midway between the Deva Nagari and the Gauri. Some of the vowel inflections wanting. The inscriptions at the Budda Gaya vaulted cavern, or Nagarjuni, are in old Pali, of date B. C. 280 to B. C. 247, and the character used in the inscriptions, old Lat. Those at Mathiah near Bettiah, at Behra, and at Rediah, are in Pali, of date 315 B. C., and the character used in the inscriptions is

old Pali. The characters used in the inscriptions found on ancient sculptures in Southern Asia and India, may be briefly named as under :—

Allahabad Lat,	Palmyrene,
Allahabed Gupta,	Parthian,
Amaravati,	Pehlvi,
Aramæan,	,, modern Alphabet,
Arian or Bactrian,	,, Sassanian,
Bengali,	Phœnician of M. de Luynes,
Bhilsa,	,, Numismatic of ditto,
Chaldæo-Pehlvi or Parthian.	Punic of M. de Luynes,
Devanagari,	Punjabi,
Gujarat Copper Plate,	Sah Kings of Saurahstra,
Gujerati modern Alphabet,	Semitic,
Kistna,	Sinaitic,
Kufic,	Syriac, 5th century,
Kutila,	,, modern,
Lat or Indian Pali,	Telinga,
Nerbudda,	Tibetan,
Pali, old, of the Burmese	Western Caves.
,, modern,	Zend.

Mr. H. T. Prinsep gives the following list of transitions of the Indian alphabet from the time of Asoka, with some of the most marked local varieties at present in use, viz., those used in the sculptures of

Asoka's edicts of the 3rd century, B. C.	Nerbudda,
Western caves,	Kistna,
Sah inscription at Girnar,	Telinga, modern,
Gupta inscription at Allahabad,	Tibetan modern.
Valabhi Plates from Gujarat.	Square Pali,
Kutila inscription of the 10th century A. D. at Bareli,	Gujarati,
	Punjabi,
	Kashmiri,
	Bengali,
	Devanagari,

and he gives the following ten modifications of the Sanscrit alphabet from B. C. 543 to A. D. 1200, viz.,

Fifth century B. C., Rise of Buddism.
Uncertain; Western Caves.
Third century B. C., Sanscrit inscriptions of Asoka, Junagarh.
Second century A. D., Gujerat dated Plates.
Fifth century A. D., Allahabad inscriptions of the Gupta dynasty.
Seventh century A. D., Tibetan alphabet formed from Sanscrit.
Ninth century A. D., Kutila inscriptions from Bareilly, A. D. 992.
Eleventh century A. D., Bengali alphabet as now modified. Adisur, 1065 A. D.
Modern Deva-Nagari alphabet.
Old Pali alphabet of the Burmese, compared with A. D. 200.

At present, in the south and east of Asia, the Roman and Italic characters, with slight diacritic points, are used every where by the British, French, Dutch, Portuguese, Spanish and Danes, alike in writing, printing and engraving, and the simplicity and the facility with which they can be read, will, before a hundred years pass bye, commend them to the many races now occupying these regions. The Arabic letters and the Arabic numerals are, with some modifications, in use amongst the mahomedans of Arabia, Persia, Tu[…] Turkestan, Afghanistan, Beluchistan and [In…] and its forms receive the names of T[…] Naskh, Talik, Naskh-Talik, Shafia, R[…] and Shakastah. The Cufic alphabet i[s] now in use. Amongst the hindu r[…] of British India, the Devanagari chara[cter] with some modifications, is applicable t[o] Sanskrit, Hindi and Marathi; many of t[he] letters of the Bengali and Urya are modifi[ed] forms of the Devanagari, but so changed [as] to need to be studied separately; the Malya[…] lam and the Tamil tongues have each th[eir] own distinct forms of letters; the Telugu a[nd] the Karnata characters are almost identi[cal]. The Burmese, the Mon or Talieng have [their] distinct characters, the Malay language i[s] written with letters modified from the Ara[bic] and the Chinese continue to use a charact[er] intended to be a painted illustration of t[he] object to be indicated; the characters of t[he] Japanese are also distinct. Most of the n[on-]Aryan races of British India, even yet, at t[he] close of the 19th century, use no written c[ha]racter; they affix their marks to docume[nts] the implement or weapon in use with them, [a] dagger, a staff, a balance, a trowel, & [and] those of them who now write with letters h[ave] adopted one of the alphabets of the more a[d]vanced nations around them. The hel[ot] predial slave races known in the peninsula, the pariah, the Holar, the Mhang, the M[…] have no knowledge of letters; they have for t[…] thousand years, been dwelling as the vil[lage] labourers, in daily, hourly, contact with pe[ople] following the bud'hist and brahminical te[ach]ings, but they have not acquired either the r[eli]gion or the learning of their masters. The [Gu]jar and Chamar of N. India are all illiter[ate]. The great Gond nation, now partly under [ma]homedan rule, partly under British domi[nion] have no written character of their own, [and] very few of them know how to read or wri[te]; the same remark is applicable to the Bhil, [the] Mondah, Ho or Kol, the Kond or Ku,—[per]haps all the Kolarian races. The Ahir, [the] Med, Mer, or Meena, the races in Bustar, [all] of the forest or mountain races, the Ch[…] Saurah, Suar, Chensuar, or the Yanadi of [the] eastern side peninsula, the Toda, Kotah, [Ba]daga, or Irular of the Neilgherry Hills, k[now] how to read or write, nor is it known that [any] of the Kurb or Kurumbar, the shepherds [of] the peninsula of India, can read or write. T[his] is remarkable, because with their great flo[cks] they must have numerous sales, the writ[ten] record of which would be useful to them; b[ut] this remark is equally applicable to m[any] other races engaged in trading transactio[ns] such as the Binjara or Lambara, who till [re]cently were the chief carriers throughout I[ndia].

dia, the Chakili, Muchi, or Chamar, leather workers; the Mali, or gardener races; the Beldar or Wuddars, labourers, road makers, tank diggers, who take great contracts for roads and other public works; and the smaller broken tribes, such as the Beder or Veddah of the peninsula and Ceylon, the Rhodia of that island, the Yerkala, the Kai-kara, the Bhourah, the Makwa, and many others; the Mongol and Manchu of Central Asia have characters which they use in writing. It is not known whether the tribes near the Chinese frontier and Tibet, the Gyami, Gyarung, Takpa, Man-yak, Thochu, Sok-pa, Horpa, have any knowledge of letters, and the same remark is applicable to the broken tribes in Nepaul, particularly to the languages of the Kiranti group in East Nepaul. It is not known that any of the tribes near the valley of Assam, the Aka, Dofla, Abor, Bodo, Dhimal, Koch'h, Garo, Naga, Mishmi, Miri, Mikir, Singpo, Sheudu or Khassya have any written tongue. The Reverend Dr. Mason and Mrs. Mason have taught letters to the Karen, but the Ku-ki, Ku-mi, Ka-mi, Pwo, Tak-pa, Khampa, Kham-ti, Shan and other tribes in the north of Burmah are not known to have any means of intercommunication other than speech. The Thai race in the south of the Malay peninsula have a literature, but the negro, negrito, alfuro or papuan races, in the Andamans and eastwards to New Guinea, are all alike without any writing characters.

Notwithstanding the numerous languages in the Archipelago, the writing characters are only eight or at most nine in number. The Javanese alphabet, like all others in the Archipelago, is written from left to right, each letter is distinct and unconnected, and the writing is perpendicular and not slanting. It is the character used for the Javanese proper, the Sunda, the Bali, and it is believed the Lombok, and including Palembang in Sumatra, it is current among twelve millions of population. But in prior times, other characters to the extent of twelve in number, have prevailed in Java.

In Sumatra, beginning from the west, the first evidence of a native written character is among the Batak, and it is singular that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each other. The form of the Batak letters is horizontal.

The Korinchi alphabet, among the people of this name in Sumatra who border on Menangkabau, has 29 characters and consists of horizontal or slightly raised scratchings.

The Rejang is the alphabet of Lemba and Pasummah on the western side of Sumatra. It consists of 23 substantive characters, formed of upright scratches or strokes, and on the whole it is more complete than either the Batak or Korinchi.

The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the straits of Sunda, has its own peculiar alphabet, which consists of 19 substantive letters with double or treble consonants, making them up to 44. It has a great deal of that angular linear and meagre form which characterizes the other Sumatran alphabets.

The Achin and Malay of Sumatra are written in the Arabic character.

The Bima alphabet formerly in use amongst the Bima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes.

In Celebes are two distinct alphabets, one of them the Bugi, at present in use over the whole island, and which extends to Bouton and Sumbawa and wherever the Bugi nation have settled or colonized. The modern Bugi has 23 substantive characters, consisting mostly of small segments of circles running horizontally. The Bugi letters have no resemblance to those of Sumatra, or Java, or even to the obsolete alphabet of Sumbawa. The other alphabet of Celebes is now obsolete.

The ninth and last alphabet of the Archipelago is the Philippine, that of the Tagala nation of the great island of Lucon or Luconia and consists of 13 characters. It is the only one existing in the whole of this group, and seems at one time to have been used among the civilized tribes of the neighbouring islands, having spread even to Magindanao and Sulu. The forms of the letters are rather bold and more complex than that of the Sumatran alphabets.

In the Archipelago, thus, are nine distinct alphabets, every one of which appears to be a separate and a native invention. But they are not only distinct from each other, they differ equally from all foreign alphabets. They are the produce of five large islands only out of the innumerable ones which compose the Archipelago. The most fertile and civilized island, Java, has produced the most perfect alphabet, and that which has acquired the widest diffusion. The entire great group of the Philippines has produced, and that in its greatest and most fertile island only, a single alphabet; even this one is less perfect than the alphabets of the western nations, in proportion as the Philippine islanders, when first seen by Europeans, were in a lower state of civilization than the nations of the west of the Archipelago. The tongues spoken, nevertheless, are very numerous; viz :—

	Languages.	Spoken at	Written character used.	Religion and books.
	1 Malay ...	Singapore..	Arabic	
	2 Javanese..	Java... ..	Javanese	
	3 Sassak ...	Lombok ...	...	Indigenes of Lombok, a pure Malay race, professing mahomedanism.
Celebes.	4 Macassar..	S. Celebes near Macassar.	Native...	Mahomedans.
Celebes.	5 Bugis ...	Large part of S. Celebes	Native distinct from Macassar.	Do.
Celebes.	6 Bouton ...	Boutong ...	....	A large island S. of Celebes.
Celebes.	7 Salayer...	Salayer ...	....	A smaller. do.
Celebes.	8 Tomore...	E. peninsula of Celebes; Batchian.... ...	....	Pagans.
			NOTE.—The people speaking these five languages of Celebes are of pure Malayan type, and all but the Tomore race are equal in civilisation to the true Malays.	
Celebes.	9 Tomohon.	Plateau of Minahasa.	These nine languages, with many others, are spoken in the N. W. Peninsula of Celebes, by the people called Alfuros. These languages are falling into disuse, and Malay is becoming the general medium of communication. Most of the people are being converted to Christianity.	
Celebes.	10 Langowen			
Celebes.	11 Ratahan..	S. E. coast of do.		
Celebes.	12 Belang,...			
Celebes.	13 Tanawanko	West do.		
Celebes.	14 Kema ...	East do.		
Celebes.	15 Bantek ...	A suburb of Menado.		
Celebes.	16 Menado...	Chief town.		
Celebes.	17 Bolanghitam..	On N. W. coast between Menado and Licoupang		
	18 Sanguir islands & Siau..	....	Two groups of islands between Celebes and the Philippines. The inhabitants resemble the people of Menado.	
	19 Salibabo islands, also called Talaut.			
	20 Sula islands.. ...	....	E. of Celebes, Malays of the Molucca type, Mahomedans.	
Bouru.	21 Cajeli......	3 villages on the eastern side of Bouru.	These people are allied to the natives of Ceram. Cajeli people are mahomedans.	
Bouru.	22 Wayapo...			
Bouru.	23 Massaratty			
	24 Amblau...	An island S. E. of Bouru	Mahomedans.	
	25 Ternate...	The northernmost island of the Moluccas	Inhabitants somewhat mixed with the indigenes of Gilolo.	
	26 Tidore ...	Next island of Moluccas	Inhabitants undistinguishable from those of Ternate.	

27 Kaloa islands..	North of Batchian.	
28 Batchian... ...	....	Mahomedans; inhabitants, like the ... ing.
29 Gani.. ..	A village in the S. peninsula of Gilolo	Moluccan-Malay; Mahomedans.
30 Saboe ...	Villages in N. Gilolo.	Inhabitants ... Alfuros. They ... digenes of ... type, but brown ... and Papuan hair ... features. Pagans.
31 Galela ..		
32 Liang, &c. ...	Villages on the N. coast of Amboyna	Of mixed Malay ... Polynesian type. ... are mahomedans ... christians.
33 Morella and Mamalla ..	Do. in N. W. do	Mahomedans.
34 Batu merah ...	A suburb of Amboyna.	Inhabitants of ... Molucca Malay ... mahomedans.
35 Lariki, Asilulu Wakasiho. .	In W. Amboyna	Mahomedans ... Ternate.
36 Saparua... ..	An island east of Amboyna	Inhabitants of ... brown Polynesian ... and speaking the ... language as the ... Ceram, opposite.
37 Awaiya...	Villages on the south of Ceram.	Indigenes of ... sian type, now ... tians.
38 Camarian.		
39 Teluti and Hoya...	Villages on the S. coast of Ceram.	Mixed brown ... or Polynesian, ... Malay type, ... ans
40 Ahtiago and Tobo....		
41 Ahtiago... ...	Indigenes, inland from Ahtiago	Alfuros? of ... or brown ... type. Pagans.
42 Gah...	E. Ceram...	Alfuros of ... Ceram.
43 Wahai	N. coast of Ceram..	Inhabitants of ... of the N. ... Ceram of mixed ... speak several ... this language. ... medans.
44 Goram	Small islands E. of Ceram.	Of mixed race, ... medans.
45 Matabello ...	Small island S. E. of Goram.	Brown Papuans ... lynesian race. ...
46 Teor	Small island S. E. of Matabello.	Do. do.
47 Ke Islands ...	....	On the W. of the ... Islands. True black ... puans. Pagans.
48 Áru do. ...	....	W. of N. Guinea ... True Papuans.
49 Mysol coast ...	....	N. of Ceram, ... civilized Papuans ... mixture of ... Malays.
50 Mysol interior.	....	True Papuans. ... gans.
51 Dorey	N. coast of N. Guinea	Do. do. ...
52 Teto ...	....	Intermediate between the true and the ... Papuans. Pagans.
53 Vaiqueno in East Timor		
54 Brissi in W. Timor ...		

55 Savu. ... 56 Rotti. ...	....	Islands W. of Timor, of mixed race with apparently much of the hindu type.
57 Allor ... 58 Solor ...	....	Islands between Flores and Timor. Inhabitants of dark Papuan type.
59 Bajau or Sea Gypsies	....	A roaming tribe of fisherman of Malayan type all over the Archipelago.

The most ancient Arabic character was the Kufic. It seems to have been the alphabet of the Arabians of Mecca. Some learned writers generalize about the propriety of every language having its own natural alphabet, forgetting that a new alphabet has not been born with every tongue. The single alphabet of Phœnicia has been modified for all the languages of Europe, and of Asia west of the Indus, and for all the languages of Northern Africa, except that the Tuarik of the great Western Desert have an alphabet of native growth. The received Roman, Grecian and Hebrew alphabets, have together all the consonants needed for Arabic, except three. When Europeans began to print Greek, they copied all the contractions of the manuscript, though these must have enormously increased the trouble of printing. After that, without the slightest real advantage, it was customary in dictionaries to give Anglo Saxon quotations in type, which was copied from the handwriting of the Anglo-Saxon manuscripts. German quotations in the modifications of Gothic type used in Germany, Danish in that used in Denmark, and so forth :—gradually these trammels have been thrown off, all but the Greek type. In Africa, amongst the Kirghis, and amongst mahomedans of India, a holy man, to cure sickness, writes an invocation on a board or slate or paper, which is washed off and given to the sick person to drink.—*Lubbock Origin of Civilisation, p.* 16. *Crawfurd Dictionary of the Archipelago Prinsep Antiquities by Thomas, Wallace, Malay Archipelago, vol.* ii. *p.* 292-295. *Jameson.*

WRONGON. MALEAL. Arsenic.

WRY-NECK. Of the smaller British land-birds, few occur in India, and these are mostly rarities in the west, but the wry-neck is not uncommon, though little observed.

WUBOIKA. RUS. Calico.

WUCHNAK. MAHR. Aconitum ferox, *Wall.*

WUD, a name of Buddha.

WUDA. AR. Cowrie.

WUDALU. TEL. Phaseolus mungo, *Linn.*

WUDDAR. See India, Waddar.

WUDUGA. TEL. Alangium hexapetalum, *L.*

WUFAT-NAMA. AR. the history of one's death.

WUGI, a great maritime people of Celebes, the Maccassar men. See Bugi, India.

WUJAH-UL-MULK. See Kalmuck.

WUJERABAE. See Hot Springs.

WUJJU. See Kelat.

WUKAMA MARAM. TAM. Diospyros cordifolia, *Roxb.*

WUKEEL, or VAKIL. AR. HIND. PERS., an agent.

WUKKU. TAM. Crotalaria juncea.

WUKNA MARAM. TAM. Diospyros cordifolia.

WUL. SW. Wool.

WULENA. HIND. Sterculia Wallichii.

WULHE KEERAY. TAM. Convolvulus repens, *Linn.*

WULLABHIPUR. See India.

WULLEE, or Wali. AR. a saint who can perform miracles.

WULLEK, of the maps of India, is supposed by Colonel Tod to be the ancient city of Balabhi. It is now an inconsiderable village. See Balhara.

WULL-ELLU, also Ellu. CAN. Sesamum orientale.

WULLI KIRAI, or Vulli Kirai. TAM. Convolvulus repens.

WULLY-KOLA. BENG. HIND. Musa sapientum.

WULUR, a lake 12 miles long, in Kashmir, through which the Jhelum flows; on its little island are the remains of one of the ancient temples of Martund.—*Adams.*

WUL-WALA. TEL. Dolichos uniflorus, *Linn.*

WUMA MARA. CAN. Calophyllum inophyllum, *Linn.*

WUMB. MAR. Nephelium longanum.

WUNDE. CAN. Female tree of Calysaccion longifolia, *Roxb.*

WUNGU, or Ketangi wood, of Java, is often used instead of teak : the grain is somewhat finer; when in full blossom, it is perhaps the most beautiful tree existing.

WUNI, of Java, affords a reddish wood.

WUNJAH MARAM. TAM. Acacia amara, *Willd.*

WUNJOOLI MARAM. TAM. Cedrela toona, *Roxb.*

WUN SENTAKI. See Japan.

WUNT. SANS. The second titular honor given to a hindu in India, as Raja Eshwara Doss, Dyawunt Bahadur, also Raja Indrawunt Bahadur.

WURAK. HIND. PSHTU. Rhamnus virgatus, also R. Persica?

WURD. ARAB. Rosa centifolia, *Roxb.*

WURDA, tributary to the Wein gunga, rises in the Satpoora mountains in lat. 21° 44′ lon. 78° 25′ and runs generally N. W. to S. E., length about 250 miles. It receives the

Payne Gunga, 320 miles. About 8,000 sq. miles are drained. It is fordable, except at the height of the rains; then navigable for 100 miles above its mouth. See Sanatoria. Wardah.

WURFEL. Ger. Dice.

WURFEL-SALTPETRE. Ger. Nitrate of soda.

WURIA. Hind. Corylus colurna.

WURNA SANKRA. Sans. Mixed castes, said to be employed in Northern India to include new castes admitted into the Hindu religion. The only mixed castes to be found in Southern India, consist of illegitimate children, the offspring of the dancing girls attached to the temples, of whom the girls are brought up to their mothers' occupations, and the boys as temple florists and musicians.

WURRIALE. Guz. Hind. Fennel seed, Nigella sativa.

WURRUS. Mar. Bignonia quadrilocularis.

WURZEL. Chenopodiaceæ.

WUSAWEH. See India.

WUSEEAT NAMEH. Arab. A will or testament.

WUSEEQA. A bond or written agreement.

WU-SUNG. See Shanghai.

WU-TSAU. China. Tiger poison. This is a well prepared extract from a root grown in the interior of China, which presents all the appearance of Aconitum ferox. A very minute quantity of the Wu-tsau when put on the tongue, produces intense tingling and numbness in the tongue and lips, after it is chewed. The Wu-tsau is the name of the plant from the root of which the poison is prepared. It is used by certain tribes in the interior of China.

WUTTAN. Ar. Hind. Pers. A native country, a patrimony, a property. The term Wuttundar is fondly cherished by a class of hereditary officers in Central India as their distinctive appellation, and means there a holder of native or home rights.—*Malcolm's Central India. vol.* i. *p.* 176.

WUTTU, a Rajput race in the tracts along the Sutlej, about Pakpatta.

WUZAET. Ar, a daily performance of duty.

WUZEEREE, one of the largest and most important tribes in Afghanistan, brave, warlike but predatory. They hold the rugged and lofty hills adjoining the south-west portion of the Kohat district (that is, the western part of the Meeranzye valley and the hills round Bahadoor-kheyl,) and the north-western border of the Dehra Ishmael Khan, that is, the valley of Bunnoo, and the plains of Murwut and Tank. These hills run down to the point where the great Suleeman range commences; near this point the Goomul range debouches from the hills almost opposite Tank. The valley of the Goomul forms the Golaree Pass through which a large portion of the traffic to and from Affghanistan and Central Asia enters into India, and scarcely inferior to the Khyber Pass of Peshawur or the Bolan Pass of Sindh. The hills on either side of this pass are held by Wuzeeree; the Wuzeeree hills form the western limit of the Joorduk Pass, which is the main line of communication between Bunnoo and Kohat. Just to the east of this pass lies Bahadoor-kheyl, and also the villages of Kharrah and Latumur, at which three places the Trans-Indus mines are situated. The Wuzeeree hills also command the outlets of the Koorum and Goombelie rivers into the Bunnoo valley. The Wuzeeree tribe are numerous and sub-divided into various sections. The birth place of this race would seem to be the snowy range, which runs to the south-east of Jelallabad and Cabul. From this range they appear to have moved downwards towards the Derajat border. They are noble savages of pure blood, pastoral habits, fierce disposition and wild aspect. They can muster probably (were the whole tribe united), as many as 20,000 or 30,000 fighting men, and if combined might make themselves formidable. But though they are less addicted to internecine contests than other hill tribes, and are so far united, they are yet not apt to join all these forces together against an external foe. They are bold and ferocious: but as soldiers, not equal to the most martial tribes. Many of them live in tents, or in temporary dwellings resembling tents; in the winter frequenting the more genial climes of the lower ranges, and in summer retreating to feed their flocks in higher altitudes. Some of them have engaged in cultivation and have encroached on the weaker tribes of the plains; of these, again, many will only cultivate during the cold months; and as the heat approaches will reap their crops and retire to the mountains. But the tendency to extend their cultivation, and even to settle in the plains, has of late years been increasing among the Wuzeeree. The tribe generally is quite independent, both of the Kabul and the British governments; but some members of the clan who have taken up their abode as cultivators in the Bunnoo valley have become British subjects. Many sections of Waziri have, ever since British connexion with the frontier, maintained peaceable relations with the British. These people, driving the aborigines of Bunnoo before them, have occupied pasturage grounds on the western border of the valley, and have taken possession of cultivated lands in the same vicinity, amounting to about one-third of the culturable area of the valley. Under the Sikh regime, there were constant

disputes between these Wuzeeree and the government (inasmuch as revenue could in those days only be collected by force of arms), and also between them and the Bunnoo people, who asserted claims they could not enforce, to a patrimony which had been gradually usurped. In 1848, Major Edwardes effected a settlement with these Wuzeeree and with all the inhabitants of the valley on behalf of the Sikh government; he confirmed them in their possessions, and arranged with them for the regular payment of their dues to the ruling power. These Wuzeeree continue as valued agriculturists and tax-payers. The condition of these people is satisfactory to themselves and creditable to British rule. Three sections of the Wuzeeree tribe misbehaved, namely, the Cabul-kheyl, the Mushood Wuzeerees (both of which entirely dwell in the hills and have no possessions in the plains,) and the Omerzye Wuzeeree, which latter clan originally cultivated in Bunnoo and afterwards rebelled. The Cabul-kheyl Wuzeeree inhabit the northern portion of the Wuzeeree hills, not far from the right bank of the Koorrum. They are near neighbours of the Tooree. They overlook the western portion of Meeranzye and they adjoin the Bahadoor-kheyl subdivisions of the Kohat district. They were a wild lawless set, always ready to join with the Tooree, Zemoosht Affghan, and Orukzye, in any mischief, such as raids on the Bungush and Khuttuk villages of the Kohat district. In the autumn of 1850 they signalized themselves by an audacious attack on Bahadoor-kheyl and its salt mines. For this purpose they assembled in considerable force and induced many of the Khuttuk villages round Bahadoor-kheyl itself to league with them. The affairs with the Omerzye have been serious. Like other Wuzeeree, they at first cultivated in the Bunnoo valley lands which had been wrested from the Bunnoochee of the neighbourhood. The head of these Bunnoochee was a local chief named Bazeed Khan. The Omerzye used to pay their revenue through this man, who was responsible for the collection. Some of the Omerzye used to reap the harvest, go off to the hills, deserting their land, and leaving Bazeed Khan to pay instead of them. The Mushood section of Wuzeeree is strong and mischievous. They inhabit the most southern of the Wuzeeree hills. It is the section which occupy both sides of the Goleeree Pass. Even they were hardly strong enough to attack the caravans of hardy, well-armed traders from central Asia. But they plundered any travellers they could, and they perpetually carried off the herds of camels chiefly belonging to merchants that grazed near the foot of the hills. Surrounded by the Wuzeeree hills, and adjoining the western border of Bunnoo, is the small valley of Dour, inhabited by a distinct race, and containing about 8,000 inhabitants. This valley originally belonged to the Dooranee kingdom. It was, together with other outlying tracts, formally ceded to Runjeet Singh by the tripartite treaty of 1838; but afterwards, in 1847, the British relinquished all claim to it on behalf of the Sikhs. The people of Dour more than once expressed a wish to come under British jurisdiction, but the offer was not accepted. During the treaty negotiations of 1855, the ameer of Kabul's representative urged that the valley once formed an integral portion of the Dooranee empire, and that His Highness now wished to take it, provided that the British did not claim any title. The government replied that the British did not desire to assert any claim, nor to interfere with the ameer, if he chose to re-annex it to his kingdom.

Below the Wuzeeree limits, a little south of the Goomul river, are the Sheorani hills, stretching from the latitude of Dehra Ishmael Khan downwards to nearly the latitude of Dehra Futteh Khan, a distance of fifty miles. In these hills is the lofty square-shaped mountain called Tukht-i-Suliman or Solomon's Throne, which gives its name to the Sulimani range, running for 300 miles parallel to the Indus and forming the western frontier of British India. At the base of this mountain runs the important Zerkunnee pass, the high road for caravans to and from Kandahar. The Sheorani are of Pathan lineage, of inferior stature to the Wuzeeree; they are warlike and predatory, and quite independent. The number of their fighting-men has been set down at 10,000; but this is found to be high. They can muster 1,000 men within a day's notice; in the course of three or four days they could muster 3,000 more. They adjoin the British tracts of Tak (partially) in the north, then Kolachee, then Durrabund, and lastly Choudwan—all in the Dehra Ishmael Khan district, and forming the border plains of the Upper Derajat up to annexation. With all the above tracts the Sheorani were long at feud. They would attack towns, burn villages, and carry off prisoners and cattle. The people of the plain would make reprisals and retaliation, and thus the feud would be inflamed. The Sheorani were so much feared, that the arable lands skirting the base of the hills were all left untilled, and the neighbouring plain villages paid them regularly one-fourth of their produce to buy off depredation, the Sikh government being unable to restrain them.

South of the Sheorani hills on the conterminous of the Dehra Ishmael Khan and Dehra Gazee Khan districts, there dwell

the small Pathan tribe of Oshterani, mustering about 1,000 fighting-men. They are brave and pugnacious, but not predatory. They dwell chiefly in the hills, and are, so far, independent; but many of them possess and cultivate lands in the plains at the foot of the hills, and consequently within British territory. Before annexation they used to be quite as violent as their neighbours, especially during the continuance of a deadly feud with the Kusranee. The quarrel was, however, composed by Major Edwardes before annexation, and subsequently they have evinced a good and friendly disposition. On the border of the Oshterani hills, and nearly opposite to Dehra Futteh Khan, is the Vooch or Korah pass, faced by the British outposts of Doulalwalla and Vehoa. This point is of some topographical importance, as constituting the boundary line between the Pathan and Belooch tribes. The internal history of this remarkable tribe is fully set forth in the volumes of Mr. Elphinstone and Major Edwardes.—*Recd. Govt. India, No.* 2.

WYALA. TEL. Vitex negundo, *Linn.*

WYANG, in the Gillolo Passage, 9 miles S. E. of Syang, is the most northerly of a range of islands stretching from Syang to Waygiou.—*Horsfield.*

WYANG. A play or theatrical representation of the Javanese.

WYNAAD, a district in the Madras presidency, on the western slopes of the western ghats, in which coffee plantations have been larger and successfully formed. There is little forest land remaining, save in the mountain ranges adjacent to the differents ghauts. From the Pariah Pass to Sultan's Battery, a distance of some forty miles, the traveller meets with nothing but open grass land interspersed with paddy-fields, instead of those dense jungles breathing fevers and pestilence. Perhaps, as late as the present century, much of that arid grass land described as extending from Pariah Pass to Sultan's Battery was forest. This may be traced from the fact of the different temples and places held sacred by the natives being almost invariably surrounded by a patch of heavy forest. This quiet yet rapid destruction of valuable land has been caused principally by the encouragement given to Rhagi cultivation, where a patch of noble forest is felled for the production of one crop of miserable grain, and then left to generate a mass of rank weeds and stunted bushes, while the same wasteful process is repeated year after year on the adjoining virgin land. In 1860, a tax was levied in lieu of the export duty, which has been abolished. The amount is two rupees an acre on land actually planted with coffee, such coffee being three years old. The tax is not excessive, if we take the average yield of an acre to be 6 cwt., worth 40s. per cwt; the rate is far less than the Ceylon 2½ per cent. In 1860, the coffee estates were as under:

			In Coffee 3 years old.	In Coffee under 3 years.
		Acres.	Acres.	Acres.
South Wynaad.........	25	9,740	2,708	1,849
South-East Wynaad..	16	5,414	1,244¼	185¼
North Wynaad.........	24	8.995	1,928	2,876
Total...	75	24,149	5,880¼	4,910¼

From these figures it appears that in 1860, in Wynaad alone, and exclusive of Mysore, Coorg, &c., there were 75 separate properties with a total acreage of 24,149, of which considerably more than one third is in bearing. Taking the coffee—young and in full bearing, together, we presume Wynaad produced about 40,000 cwts. of the berry. Native cultivation probably makes up 50,000; all the rest of the coffee plants growing in Southern India produce more than an equivalent, say 100,000 cwts. in all. In regard to *quality*, prices current in which Cannon's Mysore ranks with Mocha, have decided the point in favour of Madras. The Wynaad forest lands are principally contained in the four Umshom adjoining the teak forests, viz., Moonanad, Ganapathyvuttum, Ellornard, and Poolpully dasum of Koopatode. They contain blackwood, &c., and much bamboo land, in many places the land is well fitted for coffee. The destruction of these forests not containing teak for the bonâ fide cultivation of coffee, may be considered legitimate; but not so for raggee, which spoils the land for ever from being cultivated for coffee. Government also possess some forest lands towards Periah and Teriate, and in several spots over Wynaad. In the teak belt are several bands of Coorumbur, some of the Jani, and others of Mooly caste; they amount to about,

Coorumbur......200	Panniar and Pooliar 100
Gurchea......... 50	Chetty and Squatters 50

The former live entirely in the forest. They are the only axe-men, and without them it would be difficult to work a forest. The Coorumbur, through their headmen, are held responsible, and the Chetty are also responsible for their Panniar or farm slaves. The Coorumbur has no lack of labor. His services are constantly called for by the wood contractor and the planter. They will not leave their haunts in the forests for any time.—*Rep. Con. For. p.* 26, *and* 1861-62 *p. I.*

WYN-GANGA, or Ban Ganga. See Wurdah.

WYN-STEEN. DUT. Tartar.

X

X is the 24th letter of the English alphabet, and has been borrowed from the Greek. At the beginning of words it has the sound of Z, at the end of words and in the middle of some, it takes the sound of ks, as in lax, axis, but in the middle of other words it has the sound of gs, as in example, exhaust. It has been sometimes the practice to represent the Sanskrit ksh by the letter x, but ksh is an acknowledged compound of k and sh, and its representation, therefore, by a single letter is not advisable nor is it necessary.

XA-KA, a mode of writing the name of Sak'hya. See Buddha.

XALBANE or Χαλβανη. Gr. Galbanum.

XANADU, the seat of Chengiz khan in China.

XANJURA. Hind. Commelyna obliqua.

XANTHIUM ORIENTALE. Linn.

X. indicum, *Kon.*

Bun-okra,	Beng.	Tala noppi chettu,	Tel.
Paraswapu chettu,	Tel.		

Grows is most parts of India.

XANTHIUM STRUMARIUM.

Si-rh,	Chin.	Khagarwal,	Hind.
Ts'ang-rh'	"	Lane-tsuru,	"
Gohru,	Hind.	Wangan-tsuru,	"
Tsur,	"		

This plant was formerly used in medicine, in Europe, and its burs and the prickles on them are still employed in India and China; its seeds yield a lamp oil and are made into a flour. An extract is prepared from the roots and in China applied to ulcers.—*Smith.*

XANTHO, a genus of Crustacea of which are known in S. E. Asia

Xantho hirtissimus, *Edw.* Red Sea.
" rufopunctatus, *Edw.* Mauritius.
" asper, *Edw.* Red Sea.
" scaber, *Edw.* Sunda Islands.
" Lamarckii, *Edw.* Mauritius.
" Reynaudii, *Edw.* Indian Ocean.
" Peronii, *Edw.* New Holland.
" impressus, *Edw.* Mauritius.
" lividus, *Edw.* Mauritius.
" hirtipes, *Edw.* Red Sea.
" punctatus, *Edw.* Mauritius.
" incisus, *Edw.* Australia.
" radiatus, *Edw.* Mauritius.

XANTHOCERAS SORBIFOLIA.

The tree.

Wan-kwang-kwo, Chin.

This beautiful flowering tree is common in Peking, the N. of China, at King-chah or Pek-chih-li.—*Smith.*

XANTHOCHYMUS, a genus of plants belonging to the natural order Guttiferæ. Of these the X. pictorius, the most important, is a native of the valleys among the Circar mountains; the X. tinctorius of Linnæus has lanceolate acuminate leaves, wrinkled petioles and fruit 1-4 seeded.

The Mot-mooshun-hoonoo, Can., of Canara and Sunda is a large Garcinia, or a Xanthochymus. It occurs above the ghats only, where common, to the south abundant. Juice is not used medicinally, wood good, fruit is eaten.—*Eng. Cyc. Madras Exh. Jur. Rep.* See Clusiaceæ, Stalagmitis pictoria.

XANTHOCHYMUS MANGOSTANA. *Ainslie,* syn. of Garcinia mangostana, *Linn.*

XANTHOCHYMUS OVALIFOLIUS is found in the Rangoon, Pegu and Tounghoo districts, but is rather scarce; it was at one time supposed to yield gamboge.

XANTHOCHYMUS PICTORIUS. Roxb.

Stalagmitis pictorius, *G. Don.*

Rata,	Ghorka.	Dampel ?	Tel.
Dampel,	Hind.	Chikati mraku,	"
Iswaramamadi,	Sing. Tel.	Tamalamu,	"

This beautiful tree is remarkable for its black flowers. It grows in the mountainous districts of India. Is very plentiful in the Rangoon, Pegu and Toungboo districts. It was formerly supposed to be one of the trees yielding gamboge, but the product is found not to possess the elements of gamboge.—*Rohde, MSS. Hind. Theat. vol.* ii. *p.* 101.

XANTHOPHYLLUM, *Species.*

Sa-phew. Burm.

A very large tree, growing in Martaban, where it is used for posts and rafters. There are two species of Xanthophyllum in Tenasserim.

XANTHOPHYLLUM FLAVESCENS. Roxb. A large tree, a native of the hilly parts of the province of Chittagong.—*Roxb.* ii. *p.* 222.

XANTHOPHYLLUM VIRENS. Roxb.

Gundee. Beng.

A large timber tree of the forests of Sylhet, wood remarkably hard and useful.—*Roxb.* ii. *p.* 221.

XANTHOUS TRIBES. See India.

XANTHOXYLACEÆ. Lindl. A natural order of plants, comprising 8 Gen. 37

sp., viz :— 3 Brucea ; 22 Xanthoxylum ; 1 Blackburnia ; 1 Lacruris ; 4 Toddalia ; 4 Arlantus ; 1 Euryconia ; 1 Pteleea.

XANTHOXYLON, a genus of plants belonging to the Xantholaceæ, of which the following are S. Asia species.

X. alanthoides, *S. & Z.* Japan.
,, alatum, *Roxb.* Nepal, N. India.
,, avicenniæ, *D. C.* China.
,, budrunga, *D. C.* Assam.
,, hostile, *Wall.* Himalaya.
,, limonifolium, *Wall.* Khassya.
,, nitidum, *D. C.* China.
,, obovatum, *Wall.* Khassya.
,, ovalifolium, *W.* Shevagherry hills.
,, piperitum, *D. C.* Japan.
,, planispinum, *S. & Z.* Japan.
,, rhetsa, *D. C.* Peninsula of India.
,, schinifolium, *S. & Z.* Japan.
,, sepiarium, *W.* Pulicat Hills.
,, triphyllum.
,, violaceum, *Wall.* Nepal.

This genus now includes Fagara, extending northwards into the temperate zone, and species of the same genus occur in China and Japan, and extend in India to Simla in 31° N. latitude, where X. hostile, differing little from X. alatum, is found. Other species run southwards along the Himalaya to Nepal and Silhet, and then to the Malayan and Indian peninsulas, whence we may trace them to the African islands on the east of that continent. In India, X. budrunga, rhetsa, alatum, and hostile, are used, wherever they are indigenous, for the warm spicy pepper-like pungency of their capsules, a property which is participated in by their bark and other parts. The capsules and seeds of X. hostile, called tej-bul by the natives, are employed in northern India for intoxicating fish, and chewed as a remedy for tooth-ache ; they are also given as the Faghureh of Avicenna, as X. piperitum and avicenniæ are in China and Japan, and are considered an antidote against all poisons. Dr. Royle has no doubt that in many cases they would be of considerable use as a stimulant remedy. The bark of yellow hercules (Xanthoxylum ochroxylon), and the pods of Acacia tortuosa are used for tanning in the West Indies.—*Roxb. Fl. Ind. Royle Ill. Him. Bot. p.* 157.

XANTHOXYLON ALATUM. ROXB.

Shuh-tsiau,	CHIN.	Ch'uen-tsiau,	CHIN.
Ch'uen-tsiau,	,,	Pepper-wort,	ENG.
T'sin-tsiau,	,,	Durmur,	HIND.
Hwa-tsiau,	,,		

A native of Nepal and the hilly countries north of Bengal, Robilcund, and Oude, eastward to China, flowering in Calcutta in the hot and rainy seasons ; every part of the plant possesses a peculiar aromatic pungency, and the jet black seeds are used medicinally by the natives.—*Roxb. Smith.*

XANTHOXYLON AVICENNIÆ. syn. of Fagara avicenniæ, *Roxb.*

A native of China, a powerful stimulant, used as an antidote against poisons.—*Red.*

XANTHOXYLON BUDRUNGA. *DC.*

Fagara budrunga, *Roxb.*

Toung-than,	BURM.	Young-tha-ji,	BURM.

A tree of Assam, and in Silhet is called budrung ; the seeds, which have a warm spicy flavour, the natives use medicinally. It is a small thorny tree, the dry capsules of which are found in the bazars of India, under the name of Kek-ka-la. The seed abounds in a rich aromatic oil. The bark and large thorns of the trunk are used in India and the seeds are sold in the bazars under the name tejbul or tezbul. The tree is about twenty feet high in the Pegu and southern parts of the Tounghoo districts, where it grows on the banks of streams ; in the Pegu and southern parts of the Tounghoo districts it affords a plentiful supply of oil-seeds, which has not yet been taken advantage of ; the fruit is about the size of a pea, and the outer coat contains an exceedingly fragrant balsam.—*McClelland.*

XANTHOXYLON HOSTILE. WALL.

X. aromaticum.

Timber,	HIND.	Tirmal,	HIND.
Timbur,	,,	Tezmal,	,,
Timbru,	,,	Timur,	,,
Tirmar,	RAVI.		

Seed.		Bark.	
Tezbul,	HIND.	Kababa,	HIND.

This scandent shrub is common in north-west India and the North West Himalaya to near the Indus, in Kaghan, in Kashmir and Kamaon. It is strongly armed with prickles, hence its name hostile. Its twigs serve the natives as tooth-brushes ; thicker branches useful in carving and turnery, are made into walking sticks and clubs, used by the faqirs, also to triturate the hemp plant in preparing their beverage. In using a triturator possessing pepper-like aromatic qualities, they save the pepper, which is usually added to the hemp plant. The capsules and seeds are employed for intoxicating fish, and are chewed as a remedy in toothache. Honigberger used the seeds and the bark together with the prickles which are attached to it by their bases. The aromatic fruit is used as a condiment. The capsules and seeds are used for intoxicating fish, and are supposed to be the Faghureh of Avicenna.—*Thirty-five Years in the East by Honig. p.* 365. *Mr. Thompson. J. L. Stewart. Cleghorn Punjab Report, Kulu and Kangra p.* 8.

XANTHOXYLON PIPERITUM.

Wu-chu-yu, CHIN.

It grows in India, in Japan, and in China ; furnishes a powerful aromatic, used by the Chinese in the room of ginger and pepper. The active principle resides chiefly in the fresh leaves, the dry bark, and the pericarp.

The physicians of the country, in sore throats, apply a poultice made of the bruised leaves and rice flour. In India X. budrunga, X. rhetza, X. alatum, and hostile, are used, wherever indigenous, for the warm, spicy, pepper-like pungency of their capsules, a property which is participated in by their bark and other parts—*O'Sh., p.* 642. *quoting Lindley's Flora Medica, p.* 215. *Royle p.* 157.

XANTHOXYLON RHETSA. *D.C.*; *W & A.*; *Rh.*

Fagara rhetsa, *Roxb.*

Mulila,	Malea.	Rhetsa maram,	Tam.
Kattoo-keena-gass,	Singh.	Rachcha manu,	Tel.

Grows in the central province of Ceylon and near Colombo, also on the coast hills of peninsular India, the Circars, the Anamallay, the western forests generally; in the Tamil language Rhetza-marm means council-tree, as it is under the branches of this tree that the hill people assemble to discuss all matters of public interest.—*Thw. En. Pl. Zeyl.*, i. *p.* 69, *Voigt. p.* 185. *Roxb. Fl. Ind.* i. 417.

XANTHOXYLON TRIPHYLLUM. Juss. *W. Ill. and Ic.*

Xanthoxylon zeylanicum, *DC. Prod.*	Fagara triphylla,
	Loonoo-ankenda-gass.
Evodia triphylla, *D.C.*	Singh.

Very abundant in Ceylon up to an elevation of 5,000 feet. A var. *β.* occurs near Ratnapoora. A resin is obtained from this tree, but judging from the specimens it appears to be produced in too small quantities to be useful in a commercial point of view.—*Thw. En. Pl. Zeyl.* i. *p.* 69.

XATIFAH. Malay. Carpets.

XAVIER. Francis Xavier, or Father Francisco Xavier, was a joint founder, with Loyola, of the order of Jesuits, and was subsequently canonized by his church. The Jesuit body of christians have been the most politic of all proselite makers. Every where their's has been a career at least of temporary triumph, in China, India, and the regions of the south Pacific. When, in 1549, St. Francis Xavier, by his mission in the Peninsula of India, had opened the way into the region of the further East, he proceeded with his Bible to the islands, to preach the gospel in the name of the Supreme Church. In 1547, the salvation of Malacca from the Achinese was ascribed to the sudden appearance of Saint Francis Xavier, the apostle of India, who was then on his pilgrimage through the East, and had recently made 600 or 700 converts among the pearl fishers of Manaar. At the period of his arrival, Malacca was threatened by a formidable invasion from the opposite island of Sumatra, which was delayed though not abandoned. He visited Ternate in 1546. He afterwards returned to Malacca and visited Japan between the years 1547 and 1549, and, by his efforts, the christian religion was fairly established by 1550, but in the year 1597 their persecutions began, and numbers, variously stated at from 300,000 to 1,000,000, were massacred and hurled from rocks. Xavier quitted Japan for China in 1551, and died on the 2nd of December 1552, at Shan-Shan, on the Canton river, not far from Macao.—*MacFarlane. Geo. and His. - of Japan, p.* 3, 6. *John's Indian Archipelago vol.* i. *p.* 163. *Hough, Christianity in India,* ii. 1 iii. 188; *Abbe du Bois,* 3. *Bikmore,* 307.

XEMA RIDIBUNDA. Larus ridibundus, or 'Black-headed Gull' of Europe, Asia, N. Africa, is not rare in India, but is less common than the nearly affined X. Brunneocephalus.

XENODERMUS. See Hydridæ.

XENOKRATES. The name of Dhanakakata is found in no less than four of the cave inscriptions, in all of which it has been read by Dr. Stevenson as the name of a man whom he calls Xenokrates, a Greek. But according to General Cunningham's reading of these inscriptions the name is considered to be that of the city or country to which the recorders of the inscriptions belonged.—*Cunningham Ancient Geog. of India, p.* 530.

XENOPHANES. See Nyaya.

XENOPHON, with ten thousand Greeks, conducted by the younger Cyrus, marched from Sardis to the neighbourhood of Babylon. The object of Cyrus was to place himself on the Persian throne in the place of his elder brother Artaxerxes Mnemon, but Cyrus fell at the battle of Kunaxa within six months of the commencement of the expedition. It set out in March or April 401 B. C., and after the death of Cyrus, they commenced their retreat; this occupied them one year, and in Oct. or Nov. 400 B. C., they recrossed the Bosphorus of Thrace to Byzantium. Their travels have been traced by Mr. Ainsworth. The ferries of rivers in India and the south of Asia are crossed in various ways, but on the Tigris and Euphrates, the upper Indus and its affluents, the practice of three thousand years still continues. Xenophon's ten thousand were ferried over on inflated skins, and three slabs in the British Museum show the representation of the king of Assyria crossing the Euphrates in this mode.

XERXES ii. B. C. 424. See Hindu, Kasra-i-shirin.

XIENG-MA, or Chang-mai, modes of spelling the Zimmay of the Laos. It is on the Menam river, between 19° and 22° N. L. Xieng-mai or Chieng-mai is the capital of Laos. It is built at the foot of a high mountain and contains 50,000 souls. Salt is much used in barter. The women are more labori-

ous than the men. The Laos of the capital carry on trade with the province of Yunnan in China, on mules through forests and mountains, which require a month's journey. They employ elephants largely in war. See Laos.

XIMENIA AMERICANA. Linn.; *Roxb. W & A.*

Ximenia Russelliana. *Wall.*

Pen-lay-hsee,	Burm.	Nakkera,	Tel.
Konda nakkera	Tel.	Ura nakera,	"

This tree grows in the forests near the Godavery. Its fruit is used in medicine, and the powder of its yellow colored wood is used by the Coromandel brahmins in their religious ceremonials. The fruit resembles the flavour of the peach, as does the kernel of the nut. The leaves also smell like the common laurel, and probably contain prussic acid. In Masulipatam and Guntur the ryots distinguish two kinds—this and a small stunted kind, which grows in their fields, and which they say never attains a larger size. They use the bark medicinally for their cattle.—*Elliot, Beddome.*

XIMENIA ÆGYPTIACA. *Roxb.*

Balanites Ægyptiaca.

Pen Lay h'see,	Burm.	Hingen; Hingot, Hind.

Grows in the Kotah district: the shell of the nut is used to make crackers in fireworks. Wight gives Ximenia olacioides, 1861.—*Gen. Med. Top. p.* 109.

XIMENIA RUSSELIANA. Wall. syn. of Ximenia Americana, *Linn.*

XING. See Chantaburi.

XIPHIAS GLADIUS, and X. platypterus, the Sword fish. Xiphias glaudias has been renowned since the times of Ælian and Pliny for its courage in attacking the whale, and even a ship; like the thunny and bonito, it is an inhabitant of the deeper seas, and, though known in the Mediterranean, is chiefly confined to the tropics. The dangerous weapon with which nature has equipped it is formed by the prolongation and intertexture of the bones of the upper jaw into an exceedingly compact cylindrical protuberance, somewhat flattened at the base, but tapering to a sharp point. In strange inconsistence with its possession of so formidable an armature, the general disposition of the sword-fish is represented to be gentle and inoffensive; yet the fact of its assaults upon the whale has been incontestably established. In the seas around Ceylon sword fishes sometimes attain to the length of twenty feet, and are distinguished by the unusual height of the dorsal fin. Those both of the Atlantic and Mediterranean possess this fin in its full proportions, only during the earlier stages of their growth. The Indian species are provided with two long and filamentous ventral fins and have been formed into the genus Histiophorus. Histiophorus immaculatus was previously known only by a single specimen captured in the Red Sea, by Ruppell, who conferred upon it the specific designation of "immaculatus."—*Tennent's Sketches of the Natural History of Ceylon, pp.* 328-330.

XIPHIDIUM. See Hæmodoraceæ.

XIPHILINE. See Polyandry.

XUDONIA. Gr. Quince.

XULLA ISLANDS, four in number, are of considerable magnitude and height; the S. E. point of Xulla Bessey is in lat. 2° 28' S. and long. 125° 58' E., and is well inhabited and cultivated. See Papuans.

XYGOPHYLLUM SIMPLEX. Linn.

Gudhalauee,	Sind.	Putlanee, Sind.

XYLO-ALOE. Eagle-wood.

XYLOBALSAMUM, a decoction or expressed juice of the young twigs of Balsamodendron Berryanum. An inferior quality of opobalsam is obtained from the fruit and twigs of the Amyris Gileadensis, that yields the superior quality. Xylobalsamum of the ancients is the wood of Balsamodendron gileadense, *Kunth.* M. Fee ascribes to B. Berryanum three distinct products; Balsam of Mecca, a wood called Xylobalsamum, and fruits termed Carpo-balsamum. Tradition is rich in anecdotes relative to the origin of this balsam, the mahomedans affirm that it sprung from the blood of the slain in Mahomed's conflict with the tribe of Harb, and that the prophet used the balsam for the resuscitation of the dead. It is much used in medicine by the hakims as a stimulant, tonic, and somewhat astringent remedy, and as an external application to indolent sores. It is also employed as a perfume and cosmetic.—*Faulkner; Fee.*

XYLOCARPUS. *Species.*

Ke-an-nan. Burm.

A tree of Tavoy, furnishing very durable timber. It seems to be the same as that described by Dr. Mason as growing on low lands near the sea coast, and producing a red wood which turns black on being anointed with petroleum. It is much used for sandals, and canoes are occasionally made of it. This tree grows in Tavoy, is found very abundant along the sea shore from Amherst to Mergui and in the Mergui Archipelago. It is very common in the mangrove swamps. Its maximum length is 20 feet, and maximum girth 4 cubits, and when seasoned it floats in water. It is a very good, fine and strong wood, splits with difficulty. It is used by Burmese for parts of houses, posts, flooring, walls, &c., and is recommended by Captain Dance for handspikes, helves, spokes and handles of tools, also for shot boxes and packing cases. Its inedible fruit, says Dr. Mason, is not like that of

e Cocos de mer, but as the tree grows near e shore, the fruit falls into the sea, on which floats.—*Dr. Mason, Captain Dance.*

XYLOCARPUS ECHINATUS ? ? ?

Ah Nan. Burm.

A tree of Moulmein, a very strong wood ed for making gun stocks and sword scabrds.—*Cal. Cat. Ex.* 1862.

XYLOCARPUS GRANATUM. Kæn.

rapa Moluccensis, *Lam.*		Granatum litoreum *Willde*	
roos, Pussoor,	Beng.	Penlay-oong,	Burm.
n-lay-pyoun,	Burm.	Sea cocoanut,	Eng.
n-lai-ung,	,,	Madahul,	Malay.

The term xylcocarpus is from ξύλον, wood, d καρπός, fruit. This grows in the south of ylon, in the Sunderbuns, and in the forests the delta of British Burmah; wood used for use posts and musket stocks. A cubic foot eighs lbs. 47. In a full grown tree on good il, the average length of trunk to the first anch is 20 feet, and average girth measured 6 feet from the ground is 12 feet. Captain ance also says its maximum girth is 4 cubits id maximum length 20 feet. Very abunnt all along the sea shore from Amherst to ergui. When seasoned it floats in water. It used by the Burmese for all parts of houses, sts, flooring, walls, &c., is a very good, fine, rong wood, and splits with difficulty. Recommended for handspikes, helves, spokes, id handles of tools, also for shot boxes and cking-cases. Fruit ripens in June and July. he Carapa of Guiana was first described by ublet. It yields fruits, the almonds of which e white, solid, oily, and bitter. The oil he scribed as being used by the Galebi savages anoint their skins and hair, in order to ep off insects. This, the sea-cocoanut of masserim, is not the famous Cocos de mer the Seychelles, so long the wonder of the orld; but a tree very common in the manove swamps; and growing near the shore, fruit falls into the water and floats out up the sea, which gives rise to its name. The uit is not edible, but is exceedingly astrinnt, and is regarded by the natives as a speciin cholera. The Xylocarpus is also mention as a tree with elegantly veined wood, used India in cabinet work, and its bitter root employed in bilious fevers. A starchy bstance, used as an article of food, is also and beneath the bark of the capsule.—*Shaughnessy, p.* 246. *Drs. Mason. Brandis, l. Cat. Ex.* 1862, *Thwaites, p.* 16, *Captain ance.*

XYLOCOPA LATIPES, a carpenter bee of ibuan.

XYLOCOPA TENUISCAPA. Westw.

rpenter Bee.	Eng.	X. latipes,	*Drury.*

A hymenopterous insect, which perforates ge beams of timber as also trees, by boring les through them. On one occasion, at Kurnool in the Ceded Districts, one of them was seen to kill a sparrow by a single thrust of its sting. Any intruder within the precincts of their nests instantly becomes an object of suspicion and attack, and as the unlucky sparrow was flying towards the corner of the hospital, the bee assailed it, struck it with its sting, and the bird fell dead. On raising the skin from the bone, a small reddened spot on the fore part of the skull indicated the point at which the fatal weapon had entered.—*Drury. Tennent's Sketches of the Natural History of Ceylon, p.* 418.

XYLOPHYLLA ANGUSTIFOLIA, one of the small Euphorbiaceæ, shrubs growing to the height of three feet, the color of the flower is yellow and red.—*Riddell.*

XYLOPIA AROMATICA. Its fruit is the Piper Æthiopicum.

XYLOPIA PARVIFOLIA. *L. H. et T.*

Nattou, Singh.

A plant of the southern parts of Ceylon at no great elevation.—*Thwaites Enumeration Plantarum Zeylanica Part* i. *p.* 9.

XYLOTRECHUS QUADRIPES. *Chevrolat.* The large and rapid introduction of coffee growing into Ceylon and India, has shown that the plant is liable to be attacked by many enemies, and ignorance of that has been the cause of much loss. Coffee trees in Coorg have also been injured by the rot, a disease resulting from improper pruning. The rot attacks and decays the centre of the stem. In Coorg, when the tree is attacked by the borer the leaves became yellow and droop. The insects are generally about the diameter of a small quill, are always confined to the wood, and never enter the bark until the larva has done its work, passed through the pupa stage, and is about to escape in the form of a beetle. The eggs are deposited by the females near the root of the tree, and the pupa bores a tunnel up the heart of the plant. In the peninsula of India, Borer is a name given to the larvæ of certain coleopterous beetles, which injure coffee trees. There are two, the white and red borer, and the chief of these is the X. quadripes.—*Dr. Bidie on Coffee Planting.* See Coffee.

XYPHOSUR, so called from the long sword-like tail.

XYRIDACEÆ, Lindl., an order of plants with 1 Gen. 6 sp. of Xyris in the E. Indies.

XYRIS INDICA. Linn.

Dali doob,	Beng.	Kotsjelliti pullu,	Mal.

A plant of China and India, a species of Xyris with conspicuous yellow flowers on imbricated scaly heads, often seen in the Tenasserim paddy fields. It is said by Agardh to be used as a remedy in itch and leprosy.—*Mason.*

Y

Y is the twenty-fifth letter of the English alphabet; it derives its form from the Greek Y, hence it is called in Spanish and French the Greek I. At the beginning of words and syllables it is a consonantal element; in the middle and end of words it is a vowel, being precisely the same sound as i. It is sounded as i long when accented, as in defy, rely; and as i short when unaccented, as in vanity, glory, synonymous. In a great number of English words derived from the Saxon, the Saxon letter g has become y, as gear into year; daeg into day; gealew into yellow; in Bengali, when uncompounded, its power is that of j, the reverse of the sound in the German alphabet, where j has the sound of y.

YABAGARE. Turki, a woody shrub growing at the snow limit, N. of Karakoram.

YABIS. Hind. Hyssopus officinalis.

YABISAT-I-KARUH, in Persian medicine, Epulotica.

YABOO, a small horse of the mountains near Kabul.

YABRUZ. Pers. Atropa mandragora, *Linn.*

YACUT. Arab. Ruby.

YADALA, also Bandi kattu tige, Tel. Combretum ovalifolium, *Roxb.*

YADASANG-PATI. Sans. from yadas, a water animal, and pati, lord.

YADAVA. Sansc. Jadon. Hind. a descendant of Yadu: also a tribe of Rajput landlords and cultivators dwelling in considerable numbers about Agra and Mathura, in the Central Doab and in eastern Malwa. The raja of Karouli is of this tribe; they profess to be descendants of Krishna. Some of their subdivisions are held in little esteem, and are termed Bagri by their neighbours; but they are spirited farmers and rising in wealth and consideration.—*Wilson Glossary.*

YADDU METTE, or Eddu-matta chettu. Tel. Nelsonia tomentosa, *Dietr.*

YADNUPAVITA. The zonar or poitu.

YADU, a race some of whose branches have taken a prominent part in the history of Central Asia, in the valley of the Indus, in the countries now styled the Punjab, Rajputanah and Sind'h, known in ancient times as the Gete, the Yuti, and now represented by the Jat, Jut, Jet or J'hut, and by the Yadu Bhatti of Jessulmir, all dwelling along the valley of the Indus and to the east in Rajputanah. A multipli[city] of scattered facts and geographical dis[tinc]tions fully warrant the belief that the Ind[u] race had dominion in Central Asia, and w[ere] again, as mahomedans advanced, rep[elled] upon India. Budh was an ancestor of a b[ranch] of the great hindu people, of a time p[rior] to authentic history. He is traced u[p to] Brahma, from whom he descends thr[ough] Atri, Samudra, Chandra or Soma, and Vri[has]pati. Budh is said to have married I[la,] daughter of Ikshwaku, with whom, there[fore,] he was a contemporary, and the descenda[nts] of this union were, in succession, Puru[ravas,] Ayu or Yaou; Nohas or Nohus, and Ya[yat.] Ayu or Yaou is claimed by the Tartar a[nd] Chinese genealogists as their great progenit[or;] from Yayat sprung three great lines, t[he] Yadu, Puru and Oora or Oorvasa, from e[ach] of whom came many dynasties ruling on t[he] Indus, in Hindustan, Assam, Ava and Ch[ina.] The great Hya was a branch of the Yadu, i[ts] five members of it formed Panchalika or P[an]chaldesa, and the seed of Bajeswa at one ti[me] occupied all the countries on the Indus. Of t[he] three lines, the Yadu, Puru and Oora, t[he] Yadu became the most illustrious. T[he] descendants of Budh and Ila were know[n as] the Chandravansa, Somavansa, and Induva[nsa,] all of these terms meaning the Lunar ra[ce,] but the fame of the Yadu eclipsed the p[rior] designations, and throughout India the Lu[nar] race came to be styled Yaduvansa. The Y[adu] held territories in Hindustan about Allahab[ad,] but seemingly in small republican states, m[any] of which were staked and lost at play. T[he] relatives then fought for dominion, for eight[een] days, on the field of Kuru Khet. There [was] no battle of armies, but a series of single c[om]bats with treacherous, cruel, surprises, d[uring] which nearly all of the Yadu fell, and at t[he] close, of those remaining, several, amo[ng] whom Krishna was one, emigrated. The st[ory] is told in the Mahabbharata. After the co[m]bats, the Yadu seem to have left the Gang[es,] to have been expelled from Dwarica, [to] have crossed the Indus, passed Zabulis[tan] and founded Ghuzni and Samarcand, but [to] have swept back on the Indus into Guz[erat] and the Indian desert from which they ex[pell]ed the Langaha, Jobya, Mohila, &c. and fo[unded]

YADU.

l successfully Tannote, Derrawul and Jesalmir, in S. 1212, the present capital of the hatti, the lineal successors of Krishna. hey are now known as the Bhatti of essulmir, the Jharijah of Cutch Bhooj, the ibes occupying Kerouli and Subbulghur the Chumbul, and the Sumaitcha on the humbul. The great Tuar tribe are also id to have been of Yadu origin. The hatti and Jharijah trace their descent om Budh and Krishna, and they may be id to occupy the Indian desert from the itlej to the ocean. Budh seems to have en a descendant of the first man, Brahma, d to have been the first emigrant from ca-dwipa or Scythia, into Hindustan, viz.: out B. C. 2400. Between Budh and rishna was a period of 1200 years. But ud'h was deified by his descendants, and in ndu mythology he is described as of Lunar igin, the son of Soma or Chandra or Indu, e moon, by Rohini. The date of the otheosis of Budh is not known. There em to have been fifty-six clans of the Indu Lunar race.

The Yadu was at one time the most illusious of all the tribes of India, and became e patronymic of the descendants of Budh, ogenitor of the Lunar or Indu race. Yushtra and Baladeva, on the death of Krish- and their expulsion from Dehli and Dwa-a, the last stronghold of their power, re-ed by Mooltan across the Indus. The two st are abandoned by tradition; but the sons Krishna, who accompanied them, after an termediate halt in the further Doab of the e rivers, in the cluster of hills still called du-ca-dang, "the Yadu hills"—the Joude of nnell's geography, they eventually left the dus behind, and passed into Zabulisthan, med Ghuzni, and peopled these countries, en to Samarcand.

The annals of the Bhatti of Jessulmir, ich give this early history of their found- mix up in a confused manner the cause their being again driven back into India; that it is impossible to say whether it s owing to the Greek princes who ruled these countries for a century after Alexder, or to the rise of mahomedanism. But, iven back on the Indus, they obtained ssession of the Punjab and founded Salanpoor. Thence expelled, they retired, as ove related, across the Sutlej and Garah o the Indian deserts; whence expelling the ngaha, the Johya, Mohila, &c., they nded successively Tannote, Derrawal, and sulmir, in S. 1212, the present capital of Bhatti, the lineal successors of Krishna. atti was the exile from Zabulisthan, and usual with the Rajpoot races on any such event in their annals, his name set aside the more ancient patronymic Yadu. The Bhatti subdued all the tracts south of the Garah, but their power has been greatly circumscribed since the arrival of the Rahtore. The Jharijah is the most important tribe of the Yadu race next to the Bhatti. Its history is similar. Descended from Krishna, and migrating simultaneously with the remains of the Hericula, there is the strongest ground for believing that their range was not so wide as that of the elder branch, but they settled themselves in the valley of the Indus, more especially on the west shore in Sewisthan; and in nominal and armorial distinctions even in Alexander's time, they retained the marks of their ancestry. The place where they found refuge was in the cluster of hills still called Yadu-ca-dang, 'the Yadu hills:'—the Joude of Rennell's geography.

The most common epithet of Krishna, or Heri, was Shama or Sama, from his dark complexion. Hence the Jharijah bore it as a patronymic, and the whole race were Sama-pootis (children of Sama), whence the titular name Sambus of its princes. The modern Jharijah, who from circumstances has so mixed with the mahomedans of Sind as to have forfeited all pretensions to purity of blood, partly in ignorance and partly to cover disgrace, say that the origin is from Sham, or Syria, and of the stock of the Persian Jamsheed: consequently, Sam has been converted into Jam; which epithet designates one of the Jharijah petty governments, the Jam Raj. The Bhatti and the Jharijah are the most conspicuous of the Yadu race; but there are others who still bear the original title, of which the head is the prince of the petty state of Kerowli on the Chumbul. This portion of the Yadu stock would appear never to have strayed far beyond the ancient limits of the Suraseni, the Suraseni of Vrij, the tract so named, thirty miles around Mat'hura, their ancestral abode. They held the celebrated Biana; whence expelled, they established Kerowli west, and Subbulgurh east, of the Chumbul. The tract under the latter, called Yaduvati, has been wrested from the family by Sindia. Sri Mat'hura is an independent fief of Kerowli, held by a junior branch.

The Yadu, or as pronounced in the dialects, Jadoon, are scattered over India, and many chiefs of consequence amongst the Mahrattas are of this tribe. There are eight sacha of the Yadu race, four of whom are:—

Yadu ...	...Chief, Kerowli.
Bhatti ...	...Chief, Jessulmir.
Jharijah ...	...Chief, Cutch Bhooj.
Sumaitcha...	...Mahomedans in Sind.

The Tuar, though acknowledged as a sub-

division of the Yadu, is placed by the best genealogists as one of the 'thirty-six,' a rank to which its celebrity justly entitles it. We have in almost every case the etymon of each celebrated race, but for the Tuar there is none; and we must rest satisfied in delivering the dictum of the Bardai, who declares it of Pandu origin. The Yadu race followed the faith of Budha or Jaina; in fact, Nemnath, or familiarly, Nemi (from his dark colour called Arishta Nemi), was of the Yadu race, not only the contemporary, but the very near kinsman of Krishna, they both being the sons of Basdeo and Samadru, the elder and younger of ten brothers. Colonel Tod supposes the Yadu to have been all originally budhist, and of Indo-Getic origin, as their habits of polyandrism alone would almost demonstrate; and as the best informed of the Jain sect assure us that Nemnath, the twenty-second Budha, was not only a Yadu, but the near kinsman of Krishna. He regards the Yadu to be the Yu-te, or ancient Gete of the Jaxartes, amongst whom, according to Professor Neumann, from Chinese authorities, one of the Shamanean sages sprung, eight hundred years before Christ. The Yadu is undoubtedly one of the chief of the races of Indu, or Chandra, 'the moon', and the term Nemeswar probably means the founder of this race; from Nema, foundation, and iswara, 'lord.' The traditions of the Jit claim the regions west of the Indus as the cradle of the race, and make them of Yadu extraction; thus corroborating the annals of the Yadu, which relate their migration from Zabulisthan. The Yadu of Jessulmir, who ruled Zabulisthan and founded Guzni, claim the Chagitai as of their own Indu stock, a claim which Colonel Tod deems worthy of credit.—*Tod's Rajasthan, vol.* i. *p.* 85.

YADU BHATTI. This race is supposed to be the original Yuti colony from Central Asia. See Aharwarrah, Bactria, India, Khengar, Krishna, Jessulmir, Mysore, Yadu.

YADVA. See Krishna, Yadava, Yadu.

YÆ-HING-KHYAN-THA. Burm. One of the Cinchonaceæ.

YÆ-KHA-OUNG. Burm. Ficus dæmonum, *Kon. Roxb.*

YÆ-PA-DAING. Burm. Herbertianum, *Wall.*

YÆ-THA-PAN. Burm. Ficus glomerata, *Roxb. Willde.*

YAFFA. A district of Yemen, surrounded by those of Lahej, Sanaa and the Hadramaut provinces, and reaching inland to the Jabal Yaffai mountains 6,500 feet above the sea level. The Yaffai tribe is the most powerful in Yemen.

YAFFAI, a native of Yaffa.

YAG. See Kunawur.

YAGA, a burnt-offering, formerly ma[de on] a grand scale by kings. See Yagna.

YAGASI. Tel. See Peah Saul.

YAGHI. Turk., rebellious, a term ap[plied] to such chiefs as refuse their obedien[ce or] homage to government, even though the[y] company this refusal with no violent [act of] rebellion. It is best rendered, perhap[s by] the English word refractory. It is th[e cor]ruption of the Arabic word baghi.—*F[errier's] Journey into Khorasan, p.* 45.

YAGINE. Burm. Rottlera, species.

YAGNA. Sans. from yaja, wor[ship], burnt sacrifices. See Yaga.

YAGNAHA. Sans. from yagna, a sa[crifice] and han, to destroy.

YAGNA VARMA. See Inscriptions.

YAHIA. See Abdul Latif.

YAHSAB. See Saba.

YA-HUD, or Yahudi. Ar. Jews.

YAIBANE, in the teak forests of [...] are the Yaibane, manufacturers of sil[k, who] cultivate the mulberry tree, Morus I[ndica] for feeding silk-worms which they re[ar, the] hills being better adapted for the gro[wth of] the plant than the plains, besides whic[h the] plantations are not exposed to the b[rowsing] of cattle. The silk they produce i[s said] to be of a coarse kind, more owing [to the] imperfect way in which it is wound o[ff than] to any fault of the cocoon. They [are a] most industrious people, young and [old of] both sexes being employed without in[termis]sion in some part of the process, [which] seems to require incessant attention. [The] cocoons seemed to be large and ve[ry fine] and were produced at the rate of 2,[...] one rupee, and the silk when wound [was] valued at five rupees per viss. They [could] give no information about the teak [...] though living in the midst of them. [The] men come up from the plains at certai[n sea]sons to cut and remove timber, but [of] this they knew nothing, and seemed [to care] still less about the matter. The Yai[bane are] however a very happy and prosperou[s people] with the reputation of being possessed [of con]siderable hidden wealth, which for s[afety] they bury in the forest.—*Selec. Rec[ords, Go]vernment of India, Foreign Dept. N[o.]* 13.

YAJNAVALKYA. See Mitakshara.

YAJNA VARMA. See Inscriptions.

YAJNIKA. See Inscriptions.

YAJNO-PAVITA. Sans. Th[e ...]

YAJUR. Sans. The name of [one of the] Vedas, religious books of th[e ...] Taittiriya, or th[e ...] more of pray[ers ...] ship than t[...] veda are [...]

l as inhabiting the heavens, the skies, the ,ys of the sun, the waters, the vegetables, &c. ;e Arian, Brahmadica, Inscription, Hindoo, ada, Vidya.

YAK. Bos grunniens.

ı-niu.	CHIN.	Yakmo, the female, TIB.
ık, the male,	TIB.	

Vigne was informed that the yak is and wild on the northern slopes of the imalaya, where they descend on Yarkand. the Western Himalayas, the wild yak is lled Brong or Dong, and the female Brong-hBri, which is commonly pronoun-d Dond-di. Its existence is commonly be-ved in by the Tibetans in Ladak, who y it inhabits the grassy plains on the upper urses of the Sutlej and Sangpo, on the rthern slopes of the Himalaya that descend on the plains of Yarkand, and in the dis-ct of Gnari, north and north east of Garo. it none of the recent travellers, Vigne, Wood, the brothers Cunningham, have seen one. ıe Messrs. Schlagentweit state that in wes-n Tibet, particularly in Ladak, there are no ore of the yak in a wild state at present, though ey have no doubt that they have formerly isted there. They seem to have been ex-pated there, the population being, though y thin, a little more numerous than in bet in general. As Ladak has been more ited by travellers than any other part of bet, the want of the yak here has probably ven rise to the idea that they are no ore to be found in a wild state at . Amongst all quadrupeds animals the yak found at the greatest height; it stands best cold of the Snowy Mountains, and is least ected by the rarefied air. But at the same ne, the range of temperature in which a yak n live is very limited, the real yak can rcely exist in summer at heights of 8000 t. They often found large herds of wild k, from thirty to forty, on heights of ,600 to 18,900 English feet; and on one casion they traced them even as high as ,300 feet—a remarkable elevation, as it is y considerably above the limits of vegeta-n, and even more than 1,000 feet above snow line. Hermann and Robert Schla-ntweit frequently found wild yak on both es of the range which separates the Indus m the Sutlej, near the origin of the Indus l near the environs of Gaarto, but the atest number of them was at the foot of Karakoram range, as well as at the foot the Kuen-Luen in Turkestan. The wild k or bison (D'hong) of Central Asia, the erb progenitor of the domestic yak, is the gest native animal of Tibet, in various ts of which country it is found. It is tameable and horridly fierce, falling on the hunter with horns and chest, and if he rasp with his tongue it is so rough as to scrape the flesh from the bones. It is hunted by large dogs, and shot with a blunderbuss; the horn is used as a drinking cup in marriage feasts and on other grand occasions. The wild yak does not come so far south as Rupshu, but a few are met with during winter and early spring on the Nubra ranges; they migrate, however to the loftier slopes of the Karakoram before the end of April. The yak wanders about singly or in small herds, preferring secluded valleys to open hill-sides, passing the day among the snow, where, like deer and bears, it may often be seen at mid-day stretched out at full length asleep. Captain Peyton's collection contained an entire skeleton and a few magnificent heads, procured by himself. The horn of the largest measured 2 feet 4½ inches round the curve, 1 foot in its greatest circumference, and between the tips 1 foot 8 inches. Dr. Adams learned however, that much larger measurements are recorded. The prevailing colour of the wild yak is black, with a grayish tinge on the head. In its native state it is shy and timid, and the same to some degree when domesticated. The tame yak now takes the place of its half bred, called zho. The yak is the chief beast of burden in Rupshoo, and furnishes the Tartars with nearly all their wants. The tame domestic yak is often handsome, and a true bison in appearance. It is invaluable to the mountaineers of Northern India from its strength and hardiness, accomplishing at a slow pace 20 miles a day, bearing either two bags of salt or rice, or four to six planks of pine wood slung in pairs along either flank. Their ears are generally pierced and ornamented with a tuft of scarlet worsted; they have large and beautiful eyes, long silky black hair, and bushy tails: black is their prevailing colour, but red, dun, party coloured and white are common. In winter flocks graze below 8000 feet, on account of the great quantity of snow above that height; in summer they find pasturage as high as 17,000 feet, consisting of grass and small tufted carices, on which they browse with avidity. Much of the wealth of the people in East Nepal consists in its rich milk curd, eaten either fresh or dried, or powdered into a kind of meal. The hair is spun into ropes and woven into a covering for their tents, which is quite pervious to wind and rain, though in the dry climate of Tibet this is of little consequence. The bushy tail forms the well known chowree or fly flapper of the plains of India, and its hair is greatly esteemed by the women of the plains to add to their back hair. The female

drops one calf in April, and the young yak are very full of gambols, tearing up and down the steep grassy and rocky slopes. Their flesh is delicious, much richer and more juicy than common meat; that of the older yak is sliced and dried in the sun, to form jerked meat, called schat-t-chew, dried meat, which is eaten raw, and is a palatable food. The yak loves steep places, delighting to scramble among rocks, and to sun its black hide perched on the glacial boulders which strew the Wallanchoo flat, and on which these animals always sleep. Their average value is from two to three pounds. The yak, though indifferent to ice and snow, cannot endure hunger so long as the sheep. Neither can it bear damp heat. The yak is ridden and its pace is easy. Yak are bred in Busahir, whence they are sent for sale.

In Spiti the yak is a highly useful animal —with it the people plough, and carry loads; it furnishes also milk, and hair to make ropes. In the severest weather this animal appears to enjoy itself in the snow, and is often to be seen with icicles of several inches in length hanging to its nose, and a foot or more of ice hanging to the hair which falls from its neck and shoulders. Long hairs hang over the eyes and prevent their freezing. The total number of yaks in Spiti is 439, and of jubboo or half-yak and cows, 412; they have also the ghoont, asses, sheep, goats, dogs and cats. The Tibetan Dzo, called Chubu in the Himalaya, also zho and zo, is a mixed breed or hybrid from the bull yak or Bos grunniens, and the common Indian cow, the Zebu. In some valleys, their numbers exceed those of the pure yak. The hybrid between the yak and the Indian cow is very fertile. They are most useful domestic animals to the inhabitants of the Himalaya, are brought down to lower places, where yaks do not exist, and where consequently they cannot mix either with yaks or with the Indian cow. The Brothers Schlagentweit had occasion to see and examine the offspring of the hybrid as far as to the seventh generation, neither much altered nor deteriorated; and were informed that there was never found any limit as to the number of generations.—*Dr. Adams. Vigne's Travels. Cunningham's Ladak. Dr. Hook. Him. Journ. Schlagentweit.*

YA-KA-NGI-NE. BURM. A tree of Moulmein, wood used in ordinary house building.—*Cal. Cat. Ex.* 1862.

YAKAULEY. TAM.? a Tinnevelly timber of a light brown colour, used for building purposes.—*Col. Frith.*

YAKKA, a race formerly occupying the interior of Ceylon. The Yakka, previous to the arrival of Gautama, were demon-worshippers; neither was their conversion general. *Forbes' Eleven Years in Ceylon vol.* ii. p

YAKONIN, in Japan, generally an of with two swords, but known to the foreig as, or supposed by them to be, a governm officer of the police or custom-house. A yak onin is understood, in fact, to represent paid officer of the Japanese government.—*Hodgson's Nangasaki, p.* 21.

YAKSHA, in hindoo mythology, is a ki of demi-god attendant on Kuvera, the god wealth, and employed by him in the care his gardens, &c., situated on mount Kaila The Yaksha demi-gods were supposed to b much courted by the Apsarasa or nymphs Indra's heaven, but that they had wives their own is clear from the Meghaduta. Th name is said to be derived from Yaksha worship, either because they worship Kuv ra, or are themselves worshipped by me.—*Williams' Story of Nala, p.* 203.

YAKSHADUPHA. SANS. Dammer.

YAKUT. AR. HIND. MALAY. a ruby. Yak rumani, a first class ruby.

YAKUT. See Shaman.

YAL. HIND. Rosa macrophylla.

YALAKKI. CAN. Cardamom.

YALAK-KI RAJANA. See Oryza sativ

YALKAMA, the name of Balkees, quee Sheba. See Balkees.

YALLO. See Kazzilbash.

YALUM. MALEAL. Elettaria cardamom *Maton.*

YAM. ENG.

Kan-chu CHIN. | Chu-yu Ch

Colocasia antiquorum, *Schott.*, and seve other species of Colocasia, of the Araceæ Arum tribe of plants; of these there occur India C. cucullata; C. esculenta, C. fornic C. indica, C. odora, C. nymphœifolium, Arum lyratum, and species of Diosco The different species of yams have a w range. In the West Indies there are seve varieties, having distinctive names, accordi to quality, color, &c., as the white yam, t red yam, the negro yam, the creole yam, t afoo yam, the buck yam, Dioscorea triphyl which is found wild in Java and t East; the Guinea yam, the Portuguese ya the water yam, and the Indian yam, &c. T last is considered the most farinaceous a delicate in its texture, resembling in size th potato: most of the other sorts are coarse, bu still very nutritive and useful. The comm yam, Dioscorea sativa, is indigenous to th Eastern Islands and West Indies. The Guin yam, D. aculeata, is a native of the East. Th Barbadoes or winged yam, D. alata? has widely extended range, being common t India, Java, and Brazil. The yam species a climbing plants, with handsome foliage, of th

simplest culture, they succeed well in any light, rich, or sandy soil, and are readily increased by dividing the tuberous roots. The Indian, Barbadoes, and red yams are planted in the West Indies early in May, and dug early in the January following. If not bruised, they will keep well packed in ashes, the first nine, and the second and last twelve months. The Portuguese and Guinea yams are planted early in January and dug in September. Creole yams and Tanias are dug in January. Sweet potatoes from January to March. In most tropical countries large crops of the finest descriptions of yams, cocos, &c., could be obtained, but the planting of ground provisions is much neglected. From the tubers of yams of all sorts, and particularly the buck yam, starch is easily prepared and of excellent quality, some varieties of the buck yam are purple fleshed, often of a very deep tint, approaching to black, and although this is an objection, because it renders more washing necessary, yet even from these the starch is at last obtained perfectly white ; the buck yam, especially when grown in a light soil, is equal to the potato, if not superior to it. It does not, however, keep for any length of time, and therefore could not be exported. Yams and sweet potatoes thrive well in the northern parts of Australia ; indeed the former are indigenous there, and constitute the chief article of vegetable food used by the natives. The yam was introduced into Sweden, where it succeeded well, and bread, starch and brandy were made from it, but it prefers a warmer climate. When cooked either by roasting or boiling, the root is nutritious, and possessed of a flavor between that of rice and the potato. Dressed in milk, or mashed, they are a delicacy. The yam frequently grows to the enormous size of forty or fifty pounds weight, but in this large state it is coarse flavored and fibrous. An acre of land is capable of producing 4½ tons of yams, and the same quantity of sweet potatoes, within the twelve months, or nine tons per acre for both, being nearly as much as the return obtained at home in the cultivation of potatoes. The kidney rooted yam, Dioscorea pentaphylla, is indigenous to the Polynesian islands, and is sometimes cultivated for its roots. It is called Kawan in the Fiji islands. D. bulbifera, a native of the Archipelago, is also abundantly naturalised in the Polynesian islands, but is not considered edible. There are seven or eight kinds of yams grown in India ; D. sativa grows in Ceylon, and D. batatas in China. Two kinds found in the Tartar country are of a remarkable fine flavour, one weighing as much as eighteen pounds, the other three pounds. In the Fiji islands, some of the yams, of which there are upwards of 50 varieties, grow to the enormous size of 50 to 80 lbs. in weight. Their general average however is from 2 to 8 lbs. Captain Hill states that the New Zealand yam if boiled, are heavy and wet, cut into slices after boiling and then fried with a little butter nearly dry decidedly good, not exactly mealy, but nearly so.—*Smith's Mat. Med. Roxb. Flor. Indica. Voigt. Hort. Calc. Simmond's Comml. Products, p.* 363, 4.

YAM. Chin. a post house. In the time of the embassy sent by Shah Rukh, every yam was situated opposite to a city or town, and in the intervals between the yam were many kargu and kidifu. The word kargu is applied to a tower of some sixty cubits in height, where two men are constantly on duty. The tower was so placed that the next kargu is in sight from it, and when any event of importance occurs, like the approach of an enemy's army, the men on watch immediately lighted a fire, and this being seen from the next kargu, they make haste to light another. A double system of horse and foot posts was also found by Ibn Batuta, established in India in A. D. 1333. The posts of Timur are noticed by Clavijo (p. 105), and Baber describes his own post between Agra and Cabul, using the word yam, but adding that it was called in India dak-choki, the term in use in all India to this day. Pauthier thinks yam to have been taken from the Chinese yi-ma, "horse-post." Burnes was told of the continued existence of both post and fire beacons between Yarkand and Pekin. The distance is more than five months journey as usually travelled, but an express went in thirty-five days, and under very great emergency in fifteen.—*Marc. Pol. p.* 335 *Erskine's Baber, p.* 393. *Yule Cathay*, i. *pp.* 138, 159.

YAMA. Sans, he who is free from the influence of the passions.

YAMA, in hindoo mythology, the king of death and hell, and regent of the south. Yama, or Dharmarajah, resembles both the Grecian Pluto, the king of hell, and Minos, the judge of departed souls, and in hindoo mythology he is the regent of the south, or lower division of the world, mythologically called Patala, or the infernal regions. Yama is described as of a green colour, with red garments, having a crown on his head, his eyes inflamed, and sitting on a buffalo, with a club and pasha in his hands. "His dreadful teeth, grim aspect, and terrible shape," says Mr. Ward, "fill the inhabitants of three worlds with terror." As Dharmarajah he is described as of a divine countenance, mild and benevolent. The virtuous only see the

latter: the wicked are judged by Yama, surrounded by all his terrors. If the dead have been virtuous, they ascend to a place of happiness; if wicked, they are sent to a particular hell, to undergo the punishment appointed for their especial crimes. Yama is called Srad'ha deva, or lord of the obsequies, and presides over the ceremonies of Srad'ha. At the time of offering the oblations to the manes of deceased ancestors, he is invoked by the priest under several names, of which Mr. Colebrooke has enumerated fourteen. The priest thus addresses him. Salutation to Yama, salutation to Dharma Rajah, or the king of the Deities, to Antaka, the Destroyer! to Vaiwaswata, or the Child of the Sun! to Kala, Time! to the Slayer of all Beings! to Audhambara or Yama, &c. &c. The hindus make daily oblations of water to Yama. The second day of the month Kartica is sacred to him and his sister, the river goddess, Yamana or Jumna, who entertained him on that day; in consequence of which an annual festival is held, in which sisters entertain their brothers. On this occasion an image of him of clay is made and worshipped, and then thrown into the river. He is also worshipped on the fourteenth day of the dark part of the month Aswina. Some of the other names of Yama are Pitripati, or lord of the Pitri; Audhambara, from a wood from which fire is produced by attrition; and Dandadhara, he who has the rod of punishment. The name of Yama occurs frequently in the sacrificial ceremonies of the hindoos; oblations and invocations to him forming a portion of several of those ceremonies. Minos of the Greeks has been supposed the same with Menu; with whom, especially with the seventh, Satyavrata, Yama also agrees in character, as well as in name; both being called Vaivaswata, or offspring of the sun, and Srad'ha deva, or lord of the Srad'ha. Srad'ha is the ceremonial oblation in honour of deceased ancestors, which obsequies to the dii manes are attended with feasting, and various observances. Mr. Wilford believes Yama, or Pluto, to be the same with Serapis; deriving the latter name from a compound Sanskrit word implying thirst of blood. The sun, in Bhadra, had the title of Yama; but the Egyptians gave that of Pluto, says Porphyry, to the great luminary near the winter solstice. Yama, the regent of hell, according to the Puranas, has two dogs; one of them named Cerbura, or varied; the other, Syama, or black: the first is also called Trisiras, or with three heads; and has several other epithets, signifying stained, or spotted: Cerbura is indubitably the Cerberus of the Greeks. The dragon of Serapis is supposed to be the Seshnaga, which is described as in the infernal regions by the author of the Bhagavat. "A dying hindoo, when no hope [of] his surviving remain, should be laid on a [bed] of Kusa grass (Poa cynosuroides) in the o[pen] air, his head sprinkled with water drawn f[rom] the Ganges, and smeared with clay bro[ught] from the same river. A salagrama s[tone] should be placed near him, holy strains f[rom] the Veda should be chanted aloud, [and] leaves of holy basil scattered over his h[ead]. Yama, as the god of justice, presides [over] the different Naraka or hells. He is s[on of] Surya, the sun. As the judge of departed [souls] he is identified with death. His abode [is] the infernal city of Yampura, whither [the] hindus believe that a departed soul rep[airs] and receiving a just sentence from Y[ama] ascends to Swarga or descends to Narak[a or] assumes on earth the form of some a[nimal] according to its deserts. Yama rides up[on a] buffalo as his vahan and is armed w[ith a] ponderous mace.—*As. Res. vol.* iii. *p.* *Moor, pages* 309 & 310. *William's St[ory of] Nala, p.* 205. *Hind. Theat. vol.* ii. *p.* See Dharmaraja, Hindoo, Indra, Inscrip[tions], Osiris, Pandu, Sani, Saraswati, Sati, [and] Vahan.

YAMADAUSHTRA. SANSC. Literally Y[a]ma's teeth, the last 8 days of Aswin and [the] whole of Kartik, considered a period [of] general sickness.

YAMA-DULA. Yama's messengers.

YAMAGHIKHA. HIND. Taraxacum of[fi]cinalis.

YAMALAYA. SANS. From yama, a[nd] alaya, a dwelling.

YAMA-LOCUM. The distance from [the] world to the Yama-locum is 99,000 yojas, 14,85,000 miles. See Hindu or Hindoo.

YA-MANA. See Inscriptions.

YAMANA. BURM. Gmelina arborea, Ro[xb].

YA-MA-NE. BURM. A tree on the Tena[s]serim hills, which furnishes a remark[able] light, white timber, resembling moot[a] wood, of which the natives often make ca[noes]. The Karen say it bears a yellow flower, [and] a small plum, which is a favorite food [of] the barking deer.—*Dr. Mason.* See Ya[]manee.

YAMANI. BURM. A Moulmein tree, w[hich is] used in ordinary house building.—*Cal. C[at]. Ex.* 1862.

YAMA-RAJ. SANS. From yama, and r[aj].

YAMBRE, also called Kuru, silver ing[ots] used in trade in Central Asia.—*Caley.*

YAMDAL. HIND. of Kanawar, Taxus b[ac]cata. Common yew.

YAMMALU. The chief divinity of [the] Fenn, a Scythic race.—*Pinkerton's History [of] the Goths, vol.* ii. *p.* 215.

YAMMANDY. BURM., a useful and va[l]

ble wood in Amherst, used for carving imges and making drums.—*Cat. Ex.* 1851.

YAMNI or Sang-i-yamani. HIND., an agate.

YAMOOD, a Turkoman race settled beond the river Attrak, near the shores of the aspian Sea, and between this and Khiva, nsisting of 25,000 families. They are the ast ugly of the Turkoman tribes. The oklan, on the banks of the Goorghan and the ttrak, between Astrabad and the Attrak, nsist of 12,000 families.

The Tekie, who are separated from the urd by a chain of mountains which extend om the sources of the Goorghan and the Atak near Sharaks, consist of 35,000 famies. They wander between the sources of the ttrak and the town of Merv.

The Turkoman's principal occupation consts in making chapao, or raids, upon the ersians.

YAMUN is generally called "offices" of e mandarins.—*Meadow's Desultory Notes*, 101. Gaman, Kwang-tung-chi.

YAMUNA-BHRATA. SANS. From yauna, a river, and bhrata, a brother.

YAMUNA or Jamna river of Hindustan, hindu mythology, is personified as the aughter of Surya or the sun, and sister f Yama. To Yama, who is "the son of he sun," the second day following the Amaus, or ides of Cartica, is also sacred; it called the Bhratri divitya, or 'the brothers,' ecause the river goddess Yamuna on this ay entertained her brother (bhratri) Yama, nd is therefore consecrated to fraternal affecon. At the hour of curfew, gaodaluk, when e cattle return from the fields, the cow is orshipped, the herd having been previously nded. From this ceremony no rank is exmpted on the preceding day dedicated to rishna: prince and peasant, all become pasoral attendants on the cow, as the form of rithivi, or the earth. The Bhagavata relates at Krishna's mortal parents were Vasudeva neaning the giver of wealth) and Devaki, entions a miraculous escape of the infant ver the Yamuna conveyed by his father, and rotected by Sesha, or immortality, the guards laced by Kansa over his pregnant sister aving failed in their vigilance. Kansa, enged, ordered all newly-born infants to be ain; but Krishna escaped his various snares, ne of which was sending a woman, named atnia, with a poisoned nipple, to nurse him, nd he was fostered by an honest herdsman, amed Ananda, or Happy. See Brahminide, Hindu, Inscriptions, Krishna, Kala-Prinath, Triveni.

YANADI, a race who dwell in the forests of e Striharikottah muttah of the Chingleput ollectorate. They are in a low state of civilization, and hold little or no intercourse with their more civilized neighbours. Until recently, their ordinary avocations were the gathering of the wild products of the forests which the officers of Government bought from them at rates lower than the ordinary market prices, and paid them in kind, with grain, and clothes. Latterly, however, a few on the outskirts have taken to charcoal burning and wood-felling, and they are now also paid partly in money, changes which all bring them more in contact with settled people around them. An effort was made in 1855, to induce them to engage in agriculture, but neither that nor subsequent attempts to persuade them to rear cattle and sheep have succeeded. In 1857, Government established a school for their children, and forty to fifty scholars were lately in attendance, for each of whom an allowance in grain is given. The use of money has compelled them to a small extent to engage in the ways of ordinary life, but they are considered to be still insufficiently civilized, to be left without the aid and protection of Government. The sum paid to them is about Rupees 1,800 a year. The Yanadi are about 500 in number. Some who reside on the outskirts of the forests come a little more in contact with the every day world; but their ordinary locality is in the very depths of the forests, beneath the shade of pending branches, and only about ten or twelve families have huts made of branches of trees. In stature they are smaller than the hindu people around them. A few are of a dark bamboo colour, but ordinarily they are black. The men are not good looking but the women are positively ugly, though decently clad. The men wear only the langoti. They have clear skins, but are largely troubled with elephantiasis, for they suffer much from fever. They seem to use warm earth baths in fever. Their food consists of wild fruits and roots, particularly those of the Kanduri, HIND. (Bryonia grandis, *Linn.*) a few wild varieties of yams, and the leaves of Capparis horrida, rice, the wild bean, Canavalia virosa, molluscs, fish and flesh of every kind. They hunt with the bow and fish by torch light. They are polygamists, have up to four or even seven children. They bury or burn their dead, and pour libations on the grave. The men average 5 ft. 4¼ in. in height and lbs. 100 in weight. The women average 4 ft. 6 in. in height and lbs. 82 in weight. They have little intelligence, cannot reckon up to ten, converse but little with each other, and are more taciturn with strangers, whose very presence even alarms them. They are polygamists, each man having three or four wives. The language they speak is said to be Tamil,

and a similar race, it is stated, occupy the neighbouring forests on the hills at Naglawaram, and others are spread through Nellore, N. Arcot and Cuddapah. Indeed, the Yanadi in 1867, in the Nellore District, were estimated by Dr. Lloyd at 20,000, and the residents inland are more robust than those of the Strihari-cottah jungles. The Collector of Chinglepat, writing in 1835 to the Madras Board of Revenue, mentioned the miserable circumstances of the Yanadi, whose appearance alone excited the deepest sympathy, living in the jungle in small huts made of such materials as the woods afford; subsisting upon roots, fruits and any thing edible procurable in the jungle, and seldom seeking for grain; generally speaking, with no cloth to cover themselves. Their numbers then were adult men 49, boys 41; adult women 69, girls 40; total 199. Some of them had two or three wives each, and it is a rule among them that every person above 5 years of age shall procure his own subsistence. They had always been employed by the Moottadar in gathering the jungle produce, receiving one Madras measure of paddy and one pollam of tobacco for every 20 handfulls of dyeing stuff weighing about ⅝ viss: one measure of paddy and ½ pollam of tobacco for every viss of sembooram-puttay: one measure of paddy and ½ pollam of tobacco for one measure of honey, and one measure of paddy each per day for gathering tamarinds. When a woman is brought to bed an allowance of 5 pollams of oil and one fanam was given to her. Pieces of coarse cloth are distributed once a year, for each man 6 cubits for the waist and 3 cubits for the head; for each woman 8 cubits; for children 4 cubits each and occasionally small quantities of grain. The men had then neither the desire nor the ability to take care of the cloth given to them, which is soon destroyed in consequence of their continual perambulations in the thickets. The women carry and sell firewood in the villages, procuring in return pieces of old cloth with which to cover themselves. Many have only a dirty rag round their waist, which they are unable to wash, having no second cloth to put on. They are extremely ignorant and speak a mixture of Tamil and Teloogoo. The hire including cloths, &c. paid to the Yanadi amounted in 1835, to no more than 20 per cent. of the value of the articles procured through their means. This employment lasts only during six months of the year, or from December to May; at other times they get no grain and subsist upon what they can pick up in the jungle. One of them had been nominated by the Mootadar as their headman, in order to prevent their quitting the jungle or idling away their time and to collect them together whenever necessary. In consequence of that report, the Madras Government has since continuously endeavoured to improve their condition, and to this end Dr. Shortt made large exertions, between 1860 and 1870, and in the latter year, about forty of the Yanadi were employed at Vasararapad, near the snake temples, of which they are the priests. —*Proc. Madr. Govt.* 1867. *Dr. Shortt.*

YANG. In Chinese mythological history, the male creative power, from which, and the female, Yin, the universe primeval sprung.

YANG. HIND. Ferula asafœtida.

YANG-HOO, or Jih-pun-kwo. See Japan.

YANGI. TURKI. Mr. Elliot supposes that this is the origin of the word yankee. But yangiz, meaning English, seems the more probable derivation.

YANGMA. HIND. Hordeum hexastichon.

YANGMA. CHIN. the loquat, Eriobotrya Japonica, *Lindl.*

YANG-MA-DA. BURM. Abelmoschus esculentus, *W. and A.*

YANGMAI. CHIN. a scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre.

YANG-SEIH. CHIN. Tin.

YANGTASH. HIND. Fragaria vesca.

YANG-TSE-KIANG, is the largest of the Chinese rivers; the city of Nanking is about 150 or 156 miles from its mouth. The entrance is very wide, but divided into two channels by the large island of Tsung-Min on the north. On the shore of its southern entrance is the town of Wosung. The Yang-tse-Kiang river is called by the Chinese the Great River, also the Girdle of China; it traverses the whole of the centre of the empire, rolling its flood of water to the sea through the richest and most fertile part of the country. Its importance to China cannot be too highly estimated. There is no river in the world which has on its banks so numerous a population, amounting at least to one hundred millions of people, who are sustained by its waters in the pursuits of commerce and agriculture. There are more than one hundred cities of the first, second, and third classes, and two hundred towns and villages which could be approached directly from its water way. From its origin in Tibet to its outlet at the sea, its course is about 3,000 miles, the points being distant in a direct line 1,850 miles, and the basin drained by its channel nearly 800,000 sq. miles. The commerce of many of the places situate on the borders of the river is very important. Persons engaged in every variety of trade resort to Han-KHow for

the exchange of their respective commodities; men from the north and west, from Mongolia to Tibet and Sze-chuen, bring their wheat, rice, dried and salted vegetables of every kind, bamboo-sprouts, horses, sheep, furs, skins, coal, lead, jade or nephrite, gold in large quantities, rhubarb, musk, wax, and various drugs of northern growth, and exchange them for tea, silk, camphor, opium, various southern drugs, and above all, for very large quantities of Manchester and Leeds goods. The quantity of long cloth and cotton goods that pass through Han-Kow is probably more than half of the whole brought to China, and access to this spot is of great importance. It has long been much desired by merchants that they should be able to inspect personally the trade of this place and take part in it, as from the accounts brought by native traders it would appear to be one of the most important marts in all Asia. Of all the problems now undergoing solution, that of the source of the Nile is the most curious, because of the mystery in which it has been so long enveloped. But in value to humanity generally, in importance to the millions who swarm on its banks, and to the British who have in two expeditions explored its waters, the opening of the Yang-tze-Kiang to the commerce of the world cannot be over-estimated. It is twice the length and breadth of the Ganges, and is the second largest river in the world. The Ganges with all its windings is only 1570 miles from its source to its mouth; the Yang-tse-Kiang is not under 3,000 miles, and is navigable to a point 1,100 miles from Shanghai by large steamers; for some hundred miles above that there is deep water, to which the removal of an obstacle much less than that in the Godavery, would allow steamers to penetrate. Unlike the Ganges, the whole volume of water does not lose itself in tidal creeks, but pours out into the Pacific in one vast stream sixty miles wide. By a ship which has once made the trip pilots are not required. Rising in the snows of the Kuen Lun, it enters China proper not 300 miles from Saddya in the province of Assam; up to this point it is believed to be navigable by boats, for vast rafts of timber laden with hill produce pass down. Captain Blakiston's expedition left the river at a point 1,200 miles from Shanghai, to proceed overland to Chingtoo, the capital of Sze-chuen, the most westerly province, and thence to Lassa. Down the 1,100 miles from I-Chang to Shanghai, the river rolls through provinces of virgin fertility, whence proceed teas and silks which find their way to Canton and Shanghai, and which on the other hand the cottons and woollens of Europe slowly reach, both imports and exports being subjected in transit to the "squeezing" of the mandarins. Till the anarchy caused by the invasion of the rebels and the folly of the imperialists ensued, the plain of the Yang-tse-kiang was the garden of China. From it there runs north to Tien-tsin the Grand Canal up which used to float the whole supplies of Northern China. At a point higher up, the great trunk road from Pekin to Canton crosses the river. Where the Yang-tse-Kiang flows past the Poyang Lake it receives several navigable streams which run through the Black Tea districts to the west, while those from the eastward open up the Green Tea districts. The Shanghai merchants who accompanied Admiral Hope's expedition, describe the Poyang Lake and Kiu-kiang, the chief town, as the centre of a most extensive network of river and canal communication. What Kiu-kiang is at this point, Hankow is still more 200 miles farther up. It stands on high banks at the junction of the Han and Yang-tse rivers, a little below the Tungting Lake. The me[illegible]ts were eager to trade at Kiu-kiang and at Chin-kiang, between Shanghai and Nankin, the British established consuls and trade became brisk. At Hankow the British "Yamun" stands at the eastern end with a large river frontage. Vessels of the largest draught can lie alongside in eight fathoms of water. The description of the Reach, stretching for six miles in length and about a mile and a half across, shews that it far surpasses Calcutta Garden Reach. The ease and speed of a voyage up the Yang-tse may be gathered from the fact that H. M. S. Atalante left Shanghai on the morning of the 9th April, arrived at Chinkiang on the 11th, at Nanking next day, at Kiu-kiang after resting two days on the morning of the 19th, and at Hankow, after delaying a day and a half, on the 22nd. She was 145 hours under steam. All past commerce with China has been confined to the produce of three seacoast provinces inhabited by sixty millions of people, or only a sixth of the whole population on the most moderate calculation. Yet under all difficulties a trade of 60 millions sterling was created in less than twenty years. In 1857 the trade of Shanghai alone was about 27 millions, in other twenty, when it becomes to the Yang-tse what Calcutta is to the Ganges, it will be the wealthiest city in Asia, the emporium of a river traffic unprecedented. Already its merchants are bringing out their river steamers.

The opening of Yang-tse, and of the new ports of New chang, Tangtchow, Tai-wan in Formosa, Chau-chow (Swatow) and Kiung-chow in Hainan, are facts almost as important to India as to China. In 1859 the legitimate

exports of Shanghai were twelve millions against an import of less than seven millions. If we were to deduct opium, there would be a balance of ten millions from the tea and silk sent to Europe, for which England must pay in silver. While the Shanghai merchants found that the prices of British goods at Hankow were not excessive, Wingrove Cooke showed that the piece of cloth which, after being carried 17,000 miles, sold at 12 shillings at Shanghai, easily brought 18*s.* 4*d.* 600 miles in the interior. Merchants say that for woollens strong competitors will be met in the Russo-American and Amoor Companies, who have a monopoly of the Russian trade with China. China offers a vast market for the sugar and rice of India. The sugar trade of Shanghai was upwards of a million sterling in 1859, and had then doubled itself in three years. The amount of rice annually required in Pekin alone is 430,000 tons. At present almost all this sugar and not a little of this rice is shipped from Batavia, Singapore and Cochin China. Some of it is sent indirectly from India. The rise and fall in the Yang-tse-Kiang averages about ten feet, and vessels are obliged to find their way haphazard into the channel, or perchance run upon one of the silted sands. The Tibetan district, the great plateau of mid-Asia, is centrical ethnically as well as geographically to all S. E. Asia and to Asianesia, abuts on the west on the eastern extremity of the primitive Iranian region, and is connected with China and all the sea basins on the east of Asia by means of the Yang-tse-Kiang and Hoang-ho.—*American Expedition to Japan, p.* 166. *Local Newspapers.*

YANTRA. See Tantra.

YARKAND is the chief trading depot or commercial emporium for all Central Asia on the north of the great Himalayan range; caravans of merchants meet there from all the surrounding cities and countries, as well as from the more distant places of Badakhshan, Bokhara, the Russian provinces and China. Nearly the whole of the trade for the Punjab passes through Yarkand, and trading caravans from Bokhara, Kokan and the Russian possessions, Kashgar, Turfan, Aksu and all the cities to the north east, Khotan, and until 1865 from China, all meet at Yarkand, where the merchants barter their goods. Yarkand comprises 30,000 square miles, and contains about twelve large and important towns. The Yarkand pony is a hardy little animal, and fetches a high price, being in request for the hill-stations in the north-western provinces of India. The variety called the Tangun piebald is common. They are shy and timid at first, and evince a strange dislike to Europeans, but soon get accustomed to their new masters, and for their strength, endurance, and sure-footedness are well adapted for alpine travelling. While crossing the Karakoram mountains whole caravans are sometimes overwhelmed by snow storms, and Billah Shah, the chief merchant of Leh, mentioned that in many places the route to Yarkand is only traced by the bones of horses. Yarkand, also called Yarkiang, is one of the largest towns of Turkestan. Since the conquest of the countries, the inhabitants pay an annual tribute of 35,370 ounces of silver, 30,3[illegible] sacks of corn, 30 ounces of gold, 800 lbs of olive oil, and taxes to the amount of 1,5[illegible] ounces of silver. Yarkiang is properly pronounced as Yarkand. It was formerly the capital of Eastern Turkestan, and is situated on the great river Yarkand-daria. The river which flows through the town of Khotan bears the same name as that near Yarkand. According to the testimony of well-informed persons, gold of the finest quality is found in it, and is collected by the inhabitants in the environs. In a neighbouring river of Yarkand is found the yu, or oriental jade, the largest pieces are about a foot, and the smallest about two inches in diameter, and sometimes weigh about twelve pood. They are of various colours, some of the jade are as white as snow, some dark green like the most beautiful emerald, others yellow, vermillion, and jet black. The rarest and most esteemed varieties of the stone are the white speckled with red, and green veined with gold. An inspector stationed at some distance from the river and upon the bank is an officer of the garrison with from twenty to thirty Turkestani, who are expert divers, who range themselves across the river, and walking in the water endeavour to discover the stones with their feet; when they have found one, they instantly dive, pick it up, and throw it upon the bank, upon which a soldier gives one stroke on a drum, and the officers make a red mark upon a piece of paper. The divers, on having finished their work, are obliged to deliver the number of stones marked on the paper. Three hundred and thirty li from Yarkiang is mount Mirdjai, which is entirely composed of jade of different colours, but the stone is found of the best quality and in greatest quantities only on the highest and most inaccessible points of the mountain. A Turkestani furnished with the necessary tools ascends the rocks, loosens the stones, and lets them roll down; this kind is called mountain jade. The town of Yarkiang annually sends to the court of Peking from seven to ten thousand kin of this stone. All the jade found in Yarkiang and Khotan, in the rivers Yur[illegible]

ash and Khara kash, is sent to the court; it conveyed in carriages under an escort from ation to station. Private individuals are ot allowed to send any, and the guards on e road are enjoined strictly to enforce the ecution of this measure. The Turkestani, owever,find means to carry on a trade in jade, d the merchants convey it for them where-er they please. A great fair is held for the sbek merchants of Bokhara. The language a dialect of Turki, intelligible to the people Bokhara. The Kalmuk Tartar women of la and Yarkand appear unveiled and are lax morals.

The Yarkand district occupies a vast de-ession of between 3,000 and 4,000 feet, parating the Kuen-lun on the northern fron-r of the Himalaya-Tibetan system of moun-ns,—from the Syan Chan, or the mountains Central Asia, on the southern border of ssia. According to Moorcroft, the town ntained from fifty to sixty thousand inhabi-its. The people speak Turki. Chinese rkestan includes the provinces of Yarkand, shgar and Khoten. Yarkand is the entrepot trade between China and Bokhara. Khotan, m the time of Cesias, has been celebrated its mineral products, its jade and eme-ds, its shawl-wool and flax; it was at one ie the entrepot of a vast trade with Hin-stan, and now imports largely furs, broad th, leather, and sugar. Perhaps the term stern Turkestan alone should be retained. e inhabitants of the country call them-ves Turks, speak the Turkish language, l profess the mahomedan religion. Chi-e Tartary, also known as Bucharia, Little kharia, also Eastern Turkestan, is a at depressed valley shut in by mountains great height on three sides; on the east are ren sands which merge imperceptibly into great desert of Gobi. The Tian-shan ge separates it from Dzungaria, the Bolor ge from Trans-Oxiana,and the Kara-Koram l Kuen Lun from India and Thibet on the th. The land is clayey near the front of mountain's base, but sandy in the central ts. Rain is rare, and the air is of exceed-dryness, but the climate is temperate and lthy. It is well watered from the moun-s, the waters converging towards the Ergol Tarym. The country has gold, copper, , sulphur and the jade stone. The southern of the caravan route passes through it i Khamil to Aksu and Kashgar. From u to Kokand is 800 miles. It was subject China from the beginning of the christian to the time of Changiz Khan, and after the dle of the 18th century, the Chinese re-ed possession of it. Alti-shahr, or the six s, forms the western district, comprising Yarkand, Kashgar, Khotan, Aksu, Yanghisar and Oosh Turfan, with territories subordinate to each. Eastern Turkestan is eminently mahomedan. Elchi, Yarkand, and Kashgar, are the three principal towns in Turkestan. Elchi in L. 36° 50′ N. and L. 78° 20′ E. 5,500 feet. Yarkand, in L. 38° 10′ N. and L. 74° E. 4,200 feet. Kashgar, in L. 39° 15′ N. and L. 71° 50′ E. 3,500 feet. Elchi is represented to have the coldest, as Kashgar the hottest temperature of the three towns throughout the year. Snow falls at Kashgar, but never re-mains longer than a few hours, but it is seen lying in Yarkand for three or four days to-gether. The Tungani are a race of military settlers who came originally with military conquerors from the west of Asia, and settled down in the country of Yarkand.

Bokhara is an isolated kingdom in Turkes-tan, of small extent, surrounded by a desert. It lies between the parallel of 36° and 45° N. and 61° 67′ E. lon. It is an open champagne country of unequal fertility, and intersected by the Oxus on its south-ern border. Its rivers are the Amu or Oxus, the Sir, Syr or Jaxartes, the Kohik or Zarafshan, and the river of Kurshi and Balkh. It is ruled over by an amir whose sway may be comprised between the 37° and 43° north lat., and between the 60° and 68° of east long. The Uzbek are undoubtedly the pre-ponderating race in Bokhara, not so much from their number, as by the ties which bind them together. They are divided into stems and sections, like the Kirghiz, and have their elders, styled bey, who enjoy a certain consider-ation among them. The Uzbek branches, with some of their subdivisions, are enume-rated in the work called "Nassed Mameti Uzbekia." Turkistan is eminently mahomedan, and the rulers of Eastern Turkestan had always been mahomedan from the time of Taghalak Timur, who was, we are told, the first mahomedan sovereign of Kashgar of the lineage of Chinghez. Buddhism indeed was found still prevalent in the cities of Turfan and Kamil at the time of the embassy of Shah Rukh in 1419, and probably did not become extinct much before the end of the century. But, in the western states, mahomedanism seems to have been universal from an earlier date and maintained with fanatical zeal. Saint-ly teachers and workers of miracles, claiming descent from Mahomed, and known as Khwaja or Hojah, acquired great influence, and the sectaries attached to the chiefs of these divid-ed the people into rival factions, whose mutual hostility eventually led to the subjugation of the whole country. For late in the seven-teenth century Khojah Appak, the leader of one of those parties called the White Moun-

tain, (having been expelled from Kashgar by Ismail Khan the chief of that state, who was a zealous supporter of the opposite party or Black Mountain) sought the aid of Galdan Khan, sovereign of the Eleuth or Kalmuk race of Dzungaria. Taking the occasion so afforded, that chief, in 1678, invaded the states south of the Thian Shan, carried off the khan of Kashgar and his family, and established the Khojah of the White Mountain over the country in authority subordinate to his own. Great discords for many years succeeded, sometimes one sometimes another being uppermost, but some supremacy always continuing to be exercised by the khans of Dzungaria. In 1757, however, the latter country was conquered by the Chinese, who in the following year making a tool of the White party, which was then in opposition, succeeded in bringing the states of Turkestan also under their rule.—*Yule Cathay* ii. *p.* 547. *Timkowski's Journey to Peking vol.* i. *pp.* 393-396. See Arians, Kalmuck, Kara-koram, Kirghis, Ladak, Tartar, Yak.

YANGY. TAM. A Tinnevelly timber of a light brown colour, used in wheel-wrights' work.—*Colonel Frith.*

YAM-SAN. CHIN. Ginseng.

YAO. All the ancient traditions of the Chinese refer to their emigrations from the west, and they undoubtedly are a race from the original home of man. Like the Egyptians they seem to have migrated from the original seat prior to the flood of Noah, of which neither race have any tradition. The first settlement of the Chinese people was in the northern portion of Chih le, the province in which the present capital, Peking, is situated. How the first Chinese, the founders of the nation, came to be in that locality, is one of those questions connected with the origin and spread of the human race generally which can only receive a conjectural solution. All we do or can know positively is, that the first portion of authentic Chinese history tells us that Yao or Yaou, who reigned about B. C 2330, had his capital at the new district city of Tsinchow, situated about 100 miles only to the south of the present capital Peking. From this most ancient location the people spread gradually westward and southward, thus steadily increasing its territory. The usual course of the process was, first, colonization of the new regions and displacement from them of whatever aboriginal inhabitants were found; and afterwards political incorporation with the older territory. At times, however, the process was reversed, and military conquest of the aboriginals preceded their displacement by an industrial occupation of their lands. The territorial distinction marked by the terms China Proper and the Chinese empire has existed in fact from the earliest periods of Chinese history. Chi[na] Proper means at all periods that portion [of] the east of the Asiatic continent which h[as] been possessed and permanently occupied b[y] the Chinese people. The Chinese empire mea[ns] at all periods besides China Proper, the large portions of the whole Asiatic continent occupied by Tartar-nomades, or other no[n-]Chinese peoples, but which have from time t[o] time been under the sway of the empire [of] China, and more or less directly ruled b[y] Chinese officers and armies. China Prop[er] has at all periods been characterized by Chinese civilization; that is to say, its population generally, besides being physically of the same race, has always been governed in i[ts] domestic, its social, and (with the exception of some very short periods) its political, li[fe] by the principles and rules laid down in the Chinese old reverenced books. The non-Chinese peoples of the Chinese empire have, on the other hand, at all periods, either been destitute of anything that could be called civilization or have been slightly tinged with Chinese civilization, or have been marked by some di[f]ferent civilization, as, for instance, at present in the inhabitants of Turkestan by a mahomedan civilization, and the inhabitants of Tibet by one strictly budhistic. The Chinese empi[re] as thus defined has in the course of ages vari[ed] greatly in extent. It has been more than o[nce] larger than it is even now. It was so for examp[le] B. C. 200 years, under the fifth empe[ror] of the Han dynasty, when it embraced t[he] greater portion of inhabited Asia west of t[he] Caspian sea, and inclusive of Siam, Pe[gu] Cambogia and Bengal. In the intervals [be]tween these great extensions it has shrunk to the size of China Proper, and even t[he] latter has been occasionally subdivided [for] considerable periods under two or more ri[val] families or dynasties, each acknowledging [no] superior. But the Chinese people has con[ti]nued the same, even when under several r[ul]ers, and has been steadily increasing its ter[ri]torial possessions by the processes above [de]scribed.—*T. T. Meadows, Chinese and th[eir] Rebellions. An Essay on Civilization, p.* [5]35-36.

YAP, or Unawb, 63 miles from the M[ac]lota islands, in lat. 9° 35½' N. and 138° [E.]

YAR. KASHM. a side of a lake or a ri[ver] Yari-kul, a common expression, signifies strand or bank of a lake.—*Vigne.*

YAR. PER. a friend; a female compa[nion].

YARA. HIND. Mentha incana, Ga[g]yurmi. HIND. is Rhododendron campanulatum.

YARAB. See Joktan.

YARALA, also Putrajivi. TEL. Putranji[va] Roxburghii, *Roxb.*

YARI. HIND. KASHMIR. Pinus excelsa.
fty pine.

YARI-KUL. See Yar.

YAR MAHOMED, a chief of Herat, who
d A. D. 1852.

YARN.

ren,	DUT.	Banang,	MALAY.
	FR.	Fio,	PORT.
n,	GER.	Prasha,	RUS.
a,	GUZ. HIND.	Hilo,	SP.
ito,	IT.		

Thread spun from wool, cotton or flax; India imported yarns have displaced the ntry yarns.

YARPA. HIND. Populus balsamifera, P. ni-

YARVINEY. TAM. Crawn, in Portuguese l Dutch. A Ceylon tree, grows tall and aight, from twenty to forty-five feet high, l from twelve to thirty inches in diameter. may be obtained in great quantities, and wers many purposes in ship and house rk.—*Edye, on the Timber of Ceylon.*

YASA, ordinances which Chinghiz laid vn for the guidance of his successors; these given more or less in Petis de la Croix, Ohsson, Deguignes, in Von Hammer's Gol- Horde, and in Univers Pittoresque Tar- ie, p. 313. The word is said to mean any d of ordinance or regulation.—*Yule Ca- y* ii. *p.* 507.

YASAN, a district with an area of 4,200 iare miles, on the upper course of the Gil- river.

YASAWUL. PERS. HIND. In India, a foot dier. See Yassawul.

YASEEN. See Punjab.

YASHM. HIND. Jade, also plasma, or en silica; this is the stone the knife handles Shahpur are made of; it comes from Kabul. e Messrs. Schlagentweit found quarries of true jade at Gulbagashen in the valley Karakash, in their journey from Ladak to otam.—*Mag. Survey* 1857.

YASHMI. HIND., a color like that of jade ne; to dye this colour a little turmeric first, n asbarg and alum are used.

YASHOVARMA. See Inscriptions.

YASHTI MADHUKAM, also Guruginja. .. Abrus precatorius, *L.*

YASO. See Inscriptions.

YASODHA. See Jain.

YASODHARA, wife of Gotama.—*Hyder's stern Monachism, p.* 443.

YASO PALA. See Inscriptions.

YASOVARMA. See Inscriptions.

YASOVIGRAHA. See Inscriptions.

YASSAWUL, is an officer of the house- d, who acts in the capacity of usher in the ilies of chiefs.—*Fraser's Journey into orasan, p.* 25.

YASUDA. See Krishna.

YASUS-KARMA-DEVA. See Inscriptions.

YAT. BURM. a forest term.

YATAGHAN. TURK. is a long dagger, intended for thrusting rather than cutting, and has a curve, which has been copied in the bayonet of the Chasseurs de Vincennes.—*Burton's Pilgrimage to Meccah, v.* ii. *p.* 264.

YA-THA-NAT. BURM. A tree of Moulmein. An inferior wood for boats, which lasts but two or three years. The fruit is an article of food.—*Cal. Cat. Ex.* 1862.

YA-THA-PYA. BURM. A tree of Moulmein. The fruit is edible. Used for house building purposes.—*Cal. Cat. Ex.* 1862.

YA-THIT. In Pegu, Dr. McClelland says, the cutting of Yathit should be, so far as practicable, prohibited. He adds that however desirable it may be to forbid or enforce such a rule, he is at a loss to know how such impediment can be attempted or laid without stopping the trade of mast-pieces. He is of opinion that a large consignment of timber might be realized, and duty received on them, and it will facilitate the growth of the under sized trees.—*Selection Records of Government of India, Foreign Department, No.* ix. *p.* 47.

YATI. Priest of the Jains; an ascetic; a Jain religious teacher.

YAU. A tribe who inhabit the skirts of the Arracan mountains westward of Pagan, and who speak a peculiar dialect of Burmese. The Yau country is the tract between the Arracan mountains and the Kyendwen river, at its junction with the Irawaddi between L. 21° and 22° N. and L. 94° and 95° E.

YAUR, Yau, Yo, Jo, or Quoi, a small Burmese tribe dwelling in the valley of the Yau river, great traders and the chief carriers and pedlars of northern Burmah.—*Latham.*

YALUM.—? Elettaria cardamomum.

YAUDHEYA, a Rajput tribe in western Rajputana, the modern Johiya.

YUE-TCHI. The Getæ are referred to as the same with the ancient Chinese Yuechi, and the modern Jut or Jat, but their identity is as yet perhaps rather a reasonable conclusion than a logical or critical deduction. See Vicramaditiya.

YAVA; Yava biyama; Paccha yava; Yavalu. TEL. Hordeum hexastichon, *Linn. Roxb.*

YAVALU, or Java biyyamu. TEL. Hordeum hexastichon, *L.*

YAVAN, or Javan, the seventh son of Japheth. Colonel Tod says the Hericula also claim from Yavan or Javan, the thirteenth in descent from Yagat, the third son of the primeval patriarch.

YAVANA. Bunsen supposes the meaning of the word Yavana to be doubtful, that it may be traceable to times after Alexander,

or that it may be an ancient inaccurate name of a people who pushed on towards the Mediterranean. According to Dr. Caldwell, it was a term first applied to the Greeks, and subsequently to any race approaching India from the west of Asia. The name was derived from Javan, whose descendants the Ionians, were the first Greeks with whom the Indians became acquainted, but it came afterwards to signify the Arabs. The Bactrian Greeks are usually termed Yavana in Sanscrit literature, but Colonel Tod warns us not to mistake them for the Yavana descended from Yavana, fifth son of Yayat, third son of the patriarchal Nahus, though the Ionians may be of this race. According to Col. Tod, the Yavan or Greek princes, who apparently continued to rule within the Indus after the christian era, were either the remains of the Bactrian dynasty or the independent kingdom of Demetrius or Apollodotus, who ruled in the Punjab, having as their capital Sagala, changed by Demetrius to Euthymedia. The term Yavana is in modern times applied by hindoos of Northern India to mahomedans of every description, but in works prior to the mahomedan era, some other people must be intended. The interpretation of the word by Sir W. Jones is, Ionians or Asiatic Greeks, and there are some considerations in favour of this, although the chief argument in its behalf is the difficulty of attaching it to any other people. Doubtless, however, Yavana is certainly a term not exclusively applied to the Greeks. According to Professor Lassen it was used to designate only the Semitic nations.—*Bunsen, Egypt's Place in Universal History* iii. 555. *Prin. Ind. Ant.* See Arians, Hindu, Greeks.

YAVANI. A female attendant in the women's apartments. Mahomedan princes had guards of African women in their harems, and female attendants also served in those of the hindu sovereigns. The term Yavana has been applied by the later hindus to the mohamedans, and Yavani seems to have been a term used as distinction of a female servant; it is not likely that either Persian or Arabian women ever found their way into the inner apartments of hindu princes, as personal attendants or guards. Perhaps Tartarian or Bactrian women may have been so designated, as in Madras such women are, in 1872, all styled Mughulani.

YAVANALA. SANS. Zea mays.

YAVANASVA. See Rahtor.

YAVAYLU. TAM. See Yavy.

YAVIOO. See Hot Springs.

YAVY.

Yavayloo,	TAM.	Yeva	SANS. TEL.

This grain grows in some of the more northern provinces, and has an appearance something like that of blighted wheat; it is not very valuable.—*Ainslie, p.* 220.

YAYAKSHRA. SANS. Saltpetre.

YAYATI. See Orissa, India.

YAYAT, 3rd son of Nahus. See Bactria, Yavana.

YAYL-ARISI. TAM. Cardamom.

YAYLAKULU. TEL. Cardamom.

YAY NAN GHOUNG, or the Earth oil village. The neighbouring heights are covered with pagodas, zayat and streamer posts.

YAZD. See Kara-kul.

YEAMS-KELUNG. ANGLO-TAM. Dioscorea alata. See Yam.

YEANUGA TOKA VENTRUKALU. TEL. hair of elephant's tail.

YEAR.

San,	AR. HIND. PERS.	Annus,	LAT.
An : Annee,	FR.	Ano,	SP.
Jahr,	GER.	Varsha,	TAM.
Baras,	HIND.	Samutsarum,	TEL.
Anno,	IT.		

A year, as reckoned by Europeans and their descendants, means the solar year. As reckoned by mahomedans it means the lunar year. Christians reckon the years of the christian era from the birth of Jesus Christ, and call the Annus Domini, or year of the Lord, the year of Christ. Mahomedans reckon their Hijrah year from the date of the hijra or flight of Mahomed from Meccah. The hindoos of India use the lunar year, with an intercalary month: they have various eras.

The year of Christ 1867 corresponded to the year

6580 of the Julian Period.

2642-3 of the Olympiads, or the 3rd year of the 661st commenced July 1867.

2614 from the Era of Nabonassar which dates from Wednesday 26th February 3967 Julian Period, or 747 B.C.

2620 from the foundation of Rome, according to Varro.

From the Creation,

5871 according to the Hebrew text.
6172 „ „ Samaritan.
7501 „ „ Septuagint.

From the Deluge,

4215 according to the Hebrew text.
4865 „ „ Samaritan.
5113 „ „ Septuagint.

4968 of the Kaliyug,
1789 of the Saka, and
1274 of the Bengali San; } In the Sidereal account, these three commenced Friday, 12th April.

1042-43 of the Cycle of Parasa-Rama, which begins 15th September.

1923-24 of the (Luni solar) Era of Vikramaditya, called Samvat, whereof the 1924th Maru year commenced on Friday 5th April, and the Gujerat, Dakhan and Koncan 1924th year on 24th August.

788-89 of the Saka Era of Salivahana, of which the 1789th year commenced on the 5th April.

236-37 of the Parsee Era of Yezdijird, of which the 1237th year of the Kadimi commenced 24th August, and of the Rasami on the 23rd September.

283-84 of the Hijra or Mahomedan era, the year 1284 commencing on May 6th.

276-77 of the Fasli era, beginning 6th June.

267-68 of the Shahur San, or *Sanna Sitain-Miatin-o-alf*, commencing on 6th June.

627-28 of the modern Jewish Era, of which the year 5628 will commence on September 30th, 1867.

he year 1867 was the 1st year of the 22nd le of Grahaparivritthi; the 1st of the 84th le of Vrihaspati according to the Tamil unt, and 13th of the 85th cycle according he Bengal account;

t was the year 2410 of the Buddhist era of ia, Ceylon, Siam, &c., and 1228 of the Bure Vulgar era;

nd the 4th year of the Chinese 77th cycle 0 years which begins about 14th Febru-

amadhan (the month of abstinence observby the muhammadans) commenced 8th uary 1867.

EAST.

a,	CHIN.	Yest,	FR. SP.
-kiau,	"	Hefen,	GERM.
-mu,	"	Tari; Sendi; Nareli,	HIND.
-kiuh,	"	Spuma di cervogia,	IT.
n,	ENG.	Kallu,	TAM. TEL.

product of the fermentation by which is made, upon the surface of which it as, from involving bubbles of carbonic gas. It may be obtained in the form of a paste. Mixed with moistened flour, it tes the panary fermentation, and is thus l for baking bread. Yeast is a plant being to the Fungi, in the state of sporules hallus: or the true aerial tufts or heads of ules, of a multitude of minute oval or lating bodies or sporules, endowed, under in favourable circumstances, with extranary powers of growth and multiplication. Britain, three kinds, viz. brewer's yeast, nan yeast, and patent yeast, are employed e manufacture of bread; in the E. Indies, yeast employed is the fermented juice of palms, known as toddy. The vitality of yeast is destroyed by falls, blows, bruises or h mechanical injuries, as also—heat, cold, chemical re-agents. The presence of yeast substance containing sugar, or starch conble into sugar and nitrogenised matter, ins certain chemical changes comprehended r the term vinous or alcoholic fermenta. These changes in the making of bread consist in the conversion of sugar of flour into alcohol and carbonic acid gas; the latter, in its efforts to escape from the dough with which it is mixed, distends it, forming vesicular spaces in its interior, and so causing it to become porous and light. Yeast is capable of producing fermentation in other liquids susceptible of this action. On placing yeast under the microscope, it presents a number of cells immersed in a mass of amorphous matter. The cells are sometimes single, and at other times several are united together in a kind of chain. These cells are supposed to partake of a fungoid character, and they have been called the Yeast-Fungus, or Ferment-Cells. A genus and species have been constituted for the reception of this organism, under the name of Saccharomyces cerevisæ. This plant has been supposed to be the active cause of fermenation, and the carbonic acid given off during that process has been regarded as the result of the growth of the plant. The plant may probably be the result of the carbonic acid given off during the process of fermentation rather than its cause. Schleiden supposes that these ferment-cells originate in liquids, independently of other cells, and are truly instances of the formation of cells, in a free fluid. He observes, however, that they have no power of reproducing other cells. The whole subject of the nature of these cells, their mode of production, and the history of their development, as well as the phenomena of fermentation in general, require further elucidation. In China, yeast is used medicinally. —*Waterston, Schleiden, Principles of Scientific Botany; Micrographic Dictionary, articles* 'Fermentation,' 'Torula,' 'Yeast.' *Smith's Mat. Med. Poole. St. of Commerce.*

YE-BAIN or Ye-Baing. See Karen, Pegu.

YEBRUJ. BENG. PERS. Atropa acuminata, *Royle.* Mandrake.

YEBRUKH. PERS. Atropa mandragora, *Linn.*

YED. CAN. Hystrix leucura, *Sykes.*

YE-DAING, a tribe surrounded by Burmans and Karens inhabiting the Pegu Yoma in L. 96° N. and in L. 18° to 19° E.

YEDDU PANDI. TEL. Hystrix leucura, *Sykes.*

YEDO, a town in Japan.

YEGAH. BENG. Pterocarpus marsupium.

YEGHANI. See Kaffir.

YEGASI, also Yegassi Karra, also Peah Salu. TEL. Pterocarpus marsupium, *Roxb.*

YEGASI, a goddess of the non-Aryan races in the peninsula of India.

YEGATAL. See Hindoo.

YEHELA. MAR. Terminalia belarica.

YEHL. See Kandeh Rao.

YEHL-KHUT. See Kandeh Rao.

YEJUR. One of the Vedas. See Vedas.

YEKERICHAVA KARRA. Tel. Dalbergia sissoo.

YELA-KULU. Tel. Elettaria cardamomum, *Maton*. Cardamoms.

YELARISI. Tam. Amomum cardamomum, *Linn.*

YELICHAVI KIRAI. Tam. Evolvulus emarginatus.

YELIM BURIKA. Tel. Schleichera trijuga.

YELEK. Arab, a woman's boddice or vest, in Syria, it is open at the front.

YELLA. Duk. Terminalia nitida.

YELLA-KURA. Tel. Salsola Indica, *Willd.*

YELLA MALAKAI MARAM. Tam. Hymenodyction obovatum.

YELLAM ARISI. Tam. Cardamom.

YELLAMMA, a goddess of the non-Aryan races in the south of India. See Hindu.

YELLANDE. The Malayala name of a tree, the wood of which the natives use for general purposes. It produces a fruit from which they extract a sweet-scented oil, which is used medicinally, and also for the hair of the women on days of ceremony.—*Edye. M.C.*

YELLANDE MARAM. Tam. Rhamnus jujuba.

YELLAINIR. Tam. Yellaniru, Tel. the fluid albumen or milk of the Cocoa-nut palm. Cocos nucifera, *L.*

YELLANJUJ. Ar. Aquilaria agallocha, *Roxb.* Aloe-wood tree.

YELLAREE. Tel. A useful wood of the Nalla-Mallai used in small quantities: it is of a light brown colour with a good grain.—*Mr. Latham.*

YELLIKACHAVI KURA. Tel. Evolvulus emarginatus.

YELLI KUDA-PASHANAM. Tam. Arsenic.

YELLONDAY—— ? Zizyphus jujuba.

YELLOW.

Asfar,	Ar.	Zard,	Pers.
Jaune,	Fr.	Amarillo,	Sp.
Gelb,	Ger.	Manja,	Tam.
Pila,	Hind.	Passapa-warnam,	Tel.
Giallo,	Lat. It.	Sari,	Turk.

A colour largely obtained by dyers for dyeing cloth. The astringent rind of the fruit of Ægle marmelos, the bel fruit of the hindus, is used in dyeing yellow, while the glutinous and tenacious matter which surrounds the seeds is considered an excellent addition to mortar, especially in well building.—*Royle Ill. Him. Bot. p.* 130. See Dyes.

YELLOW BAUHINIA. Eng. Bauhinia tomentosa, *Linn.*

YELLOW DYE WOODS. See Dyes.

YELLOW-EARED BULBUL. See Birds, Ornithology.

YELLOW-FLOWERED COTTON TREE. Cochlospermum gossypium, *D. C.*; *W. & A.*

YELLOW GUM. See Lagerstroemia.

YELLOW-HAMMER, the common name for the Emberiza citrinella, *Linn.*

YELLOW MILK WEED. Asclepias curassavica, *Linn.*

YELLOW MOUNTAIN. See Khuzistan.

YELLOW OCHRE, an ochreous clay.

YELLOW-THISTLE, or Mexican-poppy. Argemone Mexicana, *Linn.*

YELLOW WOOD. A fine East India wood is thus called; it appears to be larger and straighter than boxwood, but not so close grained.—*Holt.*

YELLOW WOOD SORREL. Oxalis corniculata, *Linn.*

YELLOW ZEDOARY. Zingiber cassumunai.

YELLU. Tam. Gingelly seed.

YELLUPAI, also Ennai-karra maram. Tam. Bassia longifolia.

YELLURA, a name of Ellora.

YELLUMBU. Tam. Bone.

YEL-NIR-KA PANI. Duk. Cocoanut-water, the fluid albumen of the nut of Cocos nucifera, *L.*

YELS KAI. Can. Caryota urens, *Linn.*

YEL POTE. Lepcha. Bassia butyracea.

YELTUR. Tel. Dichrostachys cinerea, *W. and A.*

YELU CHEDI. Tel. Sesamum Indicum, *Linn.*

YEMAMA. See Masailma El Aswad.

YEMANA. See Yama or Dharmarajah.

YEMANEH. Burm. Gmelina arborea, *Roxb. Cor. Pl.*

YEMAYU. Can. See Oil, Vegetable or Animal.

YEMEN. The province of Yemen, in Arabia, lies in the southern part of that peninsula and is washed on the west by the Red Sea, and on the south by the Indian Ocean. It comprises Aden, but is of great extent, comprising nearly 70,000 square miles, and consists of two natural divisions, the upper or mountain district, and the lower country called Tehameh. The lower country comprises many desert and sandy tracts; still, notwithstanding the scarcity of water, there are several towns and hamlets on and near the sea coast. Along the shore are numerous small islands, interspersed with coral reefs. Amongst these little islands is that of Tarsen, celebrated for its grotto of pearls. In this district the Beni-Halal bedwin race are the principal tribe. They are very poor, and live principally by plunder.

Tehameh proper occupies the level country lying between north Yemen and Aden. In the north of Tehameh is Lohaya, an Arab settlement consisting of a few stone houses and

a number of mud huts. The harbour is good, and the trade in coffee considerable. The island of Kamran, lying about eighteen miles south of Lohaya, has a better harbour than the latter place, and is much frequented by vessels going from India to Jeddah, as here they can be supplied with wood, water, and provisions. Farther south along the coast is the town of Hodeida, having an excellent port, fortified by a small citadel. The town is under the rule of a dola or pasha, and yields a considerable revenue by the tax imposed on coffee. The principal coffee-mart in Arabia is Bait-el-Fakih, situated at a moderate distance from Mokha, and near the mountain regions where the berry grows. The town is of some extent, lying round the citadel, which is built in the centre. Though many of the dwellings were originally constructed of stone, they have become untenantable owing to the depredations of a small white ant. Passing along the coast, we meet many cities and villages until we reach the capital of Tehameh. Zebid town lies near one of the most beautiful and well irrigated valleys in the country. Though still possessing many mosques and other public buildings, with a handsome aqueduct, much of its ancient regal splendour has departed. Zebid still, however, possesses an academy where the youth of Yemen and Tehameh receive a liberal education, according to modern Arabian ideas, and is besides one of the chief meeting-places where the merchants of Egypt, Arabia, and Persia assemble. Farther south lies the celebrated town of Mokha, four centuries old, and second in importance only to Zebid. This portion of Yemen is the least fruitful of the province, but the remainder merits the appellation of "felix" or happy, by which this portion of the great peninsula was distinguished amongst the ancients, as Yemen means peaceful. The whole tract is divided into separate portions by mountains intersecting fertile valleys, and the inhabitants, thus parted, naturally formed themselves into little independent states. Of tracts thus separated by natural divisions, there are seventy-four, of which we shall only mention a few. Azia, celebrated for the bravery of its people, and the valley of Nejran, renowned for the beauty of its site. This fertile region, lying between inaccessible mountains, is watered by numerous streams, and is celebrated for the culture of dates and raisins, that obtain a ready sale all through Yemen. The aspect of this region is beautiful, the mountain to the very top being covered with luxuriant vegetation, and the valleys between offering the picture of a continuous garden. The principal town is Hamdan, about thirty days' journey from Meccah. Of these subdivisions of Yemen, that of Sana is the most southerly, stretching even to the Arabian Sea, where it touches Aden. Yemen, many centuries before the time of Moses, was for a long period the paradise of Arabia, and laid the foundation of that mighty and civilized empire which like the glory of the Fayoom, disappeared from off the face of the earth when the dams were broken through. The Pharaohs had established Egyptian colonies in the country for many centuries, but the reports of travellers during the past 70 years, show that a few thousand years of neglect and devastation have brought the country into its present state of desolation. There is no want of either brooks or springs or cultivable soil, but the former are wasted in morasses or lost in the sand, and the soil is washed away by the violence of the torrents. Southern Oman is but thinly peopled, for the whole number, including women and children, does not exceed fifty thousand; but the northern districts are far more populous and prosperous. Yemen was invaded by the Persians in A. D. 600.

The tract of country called Balad Aden commences at Bab-el-Mandeb, and runs easterly along the coast a distance of 132 miles. This district is for the most part level, and inhabited by native Arab tribes. At about 90 miles from the western extremity, on a rocky promontory, stands the town of Aden. On the same or nearly the same site, there stood in ancient times a city, well known to the Greeks as the depot of the trade carried on between India and Egypt. This city was destroyed by the Romans in the first century of the christian era, a deed of destruction said to have been prompted by the desire of keeping the Indian trade exclusively in Roman hands. As to ruin is easier than to re-edify, we hear little again of Aden until the eleventh century, when we find it again enjoying all the advantages which its position affords. Its commodious harbours were frequented by ships, and the stream of commerce again flowed through the land. During a period of several hundred years Aden enjoyed the supremacy amongst the ports of the coast, but the discovery of the passage to India by the Cape of Good Hope, operated so injuriously on the Arabic city, that in a few years all traces of commercial prosperity departed, and the Turks became masters of Aden. Those were the palmy days of Ottoman power, and the military genius of the new conquerors of Aden showed itself in the erection of fortifications which resisted in the time of their strength, the attacks of some of the ablest European forces, and whose ruins long after excited the admiration of travellers. In 1839, Aden became a British possession,

and so rapid were the advances in prosperity that the population, which in 1839 amounted only to 1,000, had, in 1842, risen to nearly twenty thousand, indicative of the readiness with which many of the Oriental races can settle down to peaceful avocations, so soon as they can find for their protection a stable government, though, even yet, the necessity is obvious of placing the residents there out of the power of hostile or mercenary predatory tribes, who, under the influence of malice or avarice, may at any time cut off the necessary supplies. Aden is the principal coal station for steamers navigating the Red Sea, and has a good harbour. The little island of Sirah lying on the east side of the town, forms a bay opposite Aden, and from this point, the peninsula extends three miles westward, forming a commodious and safe harbour. Many persons have found a resemblance between Aden and Gibraltar, a likeness dependent in a great measure on the rocky peninsula which, rising to a height of 1,700 feet, terminates in two points. The similarity is fully established in the scarcity of good water that prevails in both places. The great monarch, Suliman the Magnificent, constructed an aqueduct at Aden, which commenced at a distance of eight miles from the town. The restoration of this aqueduct would, it is thought, supply the want so often felt at Aden.

There are two caravan routes leading from Aden into the interior. Each pursues a different course for some distance, but both diverge considerably to arrive at the town of Lahaj, the capital of the Abdali Arabs. It is a dirty town, containing about 5,000 inhabitants, amongst whom are many Jews. In the south-west, the straits of Bab-el-Mandeb separate Arabia from Africa. These straits are between twenty and thirty miles in breadth, and are celebrated amongst ancient writers for the dangers encountered by navigators who ventured within these gates of tears.

Perim island lies about three miles distant from the Asiatic coast, thus dividing the waters of the strait into two channels, that on the Asiatic side being narrower but deeper, and also free from the impediments offered by small islands, which are rather numerous on the African side. The entrance of a sea, traversed only by English ships, can be of importance to none but the nation to which these ships belong; any interference with the position the British have taken, under such circumstances, must be regarded by them with a jealous eye.

Hadramaut, like Yemen, exhibits great diversities of soil and surface. Some parts of it are dry and desert; but the hills are extremely fertile and are intersected by well-watered vales.

Yemen means safety, felicity; the term [illegible] Yemen, the district of safety, is therefore [illegible]rectly translated in the words Arabia Fe[lix]. The inhabitants of this province are di[vi]ded like those of Yemen, into Arabs settled in towns, wandering Bedouins, and Kab[ail] or Highlanders.—*Wellsted's Travels, Playfair's Aden, Niebuhr's Travels*, v. ii. p. 16[illegible] *Colburn's United Service Magazine and Naval and Military Journal No.* CCCLIV. M[ay] 1858. See Himyarite, Jezan, Joktan, Khal[illegible] Kishr, Lohaia, Lokman, Niebuhr, Saba, Samarcand, Sanaa, Yaffa.

YEENGA. BURM. A very abundant [illegible] small timber tree found at Moulmein [illegible] scattered over the Tenasserim provinces. [illegible] maximum girth is 2 cubits and maxim[um] length 15 feet, and it sinks in water w[hen] seasoned. It is a very pretty white wood [for] furniture, and is used by the Burmese [for] helves and for mamoties, and though [not as] strong as chisel-handle-tree, it possesses si[mi]lar properties, though in an inferior deg[ree]. It sells at Rs. 45 per 50 feet by 1 foot sq[uare].

YEM-MA-NI BURM. This tree is [illegible] abundant. The Karens say it bears a ye[llow] flower and a small plum which is a favo[urite] food with the barking deer. It is found [on] the hills of Tenasserim, inland near the [illegible] of the Gyne and Attaran rivers, and at [the] back of the mountains near Moulmein. [Its] maximum girth is 4 cubits and maxi[mum] length 20 to 30 feet. It furnishes a rema[rka]bly light white timber resembling [illegible] wood, which, when seasoned, floats in w[ater]. It is a slightly scented wood, free from [illegible] and the lightest of Captain Dance's collec[tion] who mentions that it is quite free from [illegible] or from a tendency to rot. It is very du[rable]. The Burmese often make canoes of it and [use] it for boats, and it is employed by the ki[ng of] Ava for his carved furniture. Captain [illegible] says it is excellent for fuzes.—*Dr. M[ason's] Tenasserim, Captain Dance.*

YEMMUKALLU. TEL. Bones.

YEN, or Yein, a tolerably civilized [illegible] mixed with the Shan, east of Ava.

YE-NAN-GYOUNG. See Petroleum.

YENDIKE. BURM. Dalbergia latif[olia] *and A., Roxb.* Three species of Dal[bergia] nearly allied to sissoo, so valuable for g[un-car]riages, are very common in the south[ern pro]vinces of Pegu, namely, Dalbergia rob[usta] frondosa, and a third undescribed spec[ies com]mon at Yendike, the name of the place [being] derived from that of the tree. These attain a girth of four feet and upwards, [and] are taller and straighter than the s[issoo].—*Dr. McClelland, p.* 10.

YENAI. TAM. See Oil.

YENEDI. See India, Yezidi.

YENEISY, and Selenga, names of rivers of Siberia.

YENESEAN. See India.

YENGAN KHYEN, also Yengan Khyo. BURM. Zalacca edulis.

YENGAR. See Afghan, Kabul.

YENG-BYWOM. BURM. A useful wood, employed in Amherst for house posts, equal to jarool.—*Cat. Ex.* 1861.

YENGHIJEB. See Khalis.

YENG-TAIR, BURM. In Amherst, a strong wood useful for posts and common carpentry.—*Cat. Ex.* 1861.

YENI. TEL. Elephant.

YEN-KAO CHING. See Kabul.

YEN KHAT. BURM. Gardenia coronaria, *Buch.*

YENG-LAING. See Karen.

YENNA. MALEAL. Oil, either vegetable or animal.

YENNAI. TAM. Oil.

YENAPA NALIKA. TEL. Hart's ear.

YENNAPUTA NALIKEH JEMMUDU. TEL. Hart's ear.

YENNA-PUTU-NALIKEL. TEL. Cacalia kleinia, *Wight.*

YEN SEIK, a civilized race who inhabit the Shan states east of Ava.

YENUGA. TEL. Elephant.

YENUGA KALAMANDA. TEL. Agave Americana, *Linn.*

YENUGA TOKA VENTRUKALU. TEL. hair of elephant's tail.

YENUGU PALLERU. TAM. Pedalium murex, *Roxb.*

YEN-WANG. The Chinese Pluto.

YEN-YAI MYOUK-MYEE. BURM. Ehretia, sp.

YEN-YANG, a Chinese emperor who began to reign B. C. 781. Confucius lived under successors of his dynasty, and recorded the observations of the solar eclipses from B. C. 720 to 481.

YEPA CHETTU. TEL. Azadirachta Indica, *Ad. Juss.*; *W. and A.*

YEPI, also Vriksha. CAN. See Venga maram.

YEPI. TEL. This name is applied in the Madras territories to two species of Bauhinia, B. diphylla and B. Vahlii. B. diphylla and B. Vahlii have a coarse brown bark, of which the natives form a temporary rope for securing thatch, matting or fences. The barks of several of the Bauhinia are used for similar purposes; the Ara nar is the bark of the B. parviflora, of which the matches for guns are made, the B. racemosa "malfhum," "maljum," or "maloo" grow in the hot valleys of the Himalaya, in the forests of the Sewalik Hills, from the doons of the North West to Assam. It is a magnificent climber, and its product is known as "Patosa" or "bawal" fibre. B. scandens grows not uncommon about Gowhatti and common in Silhet: its fibre is equal in strength to that of sunn hemp, and is made into cordage and cloth.—*Royle.*

YERA GOGU. TEL. Hibiscus sabdariffa.

YERAVER, predial slaves of the present proprietors of Coorg: tempted by the wages offered by the coffee-planters, they have refused to work for their masters. The peasant masters on one occasion came down in force upon one of the coffee estates where a party of Yeraver were working, and carried them off. The same state of things existed in Sonthalistan, where the bondsmen—the nexi or addicti of the Romans—were called "Kumea." The railroad offered them work and wages, and Mr. Yule, the Commissioner, at once refused to give decrees on the debt-bonds which their masters filed in court. He went further and abolished all imprisonment for debt. The origin of this predial slavery is probably the same. If the Yeraver are bond-debtors, the Coorg will produce the bonds and the judge may decide as to their legality. Otherwise they are free men. Yerawar are also a migratory race in Coorg, of middle size, with coarse features, black and straight hair; they are labourers and are believed to have come from Malabar. Their language is said to resemble Malayalam; they worship demons and have no priests.—*Friend of India, December* 9.

YERCAUD, a settlement on the southern part of the Shevaroy hills, in Mootoonaad.

YERCUM. TAM. Yerika, MALEAL. Calotropis gigantea, *Brown.*

YEREEM. See Neibuhr.

YERIKA. MALEAL. Calotropis gigantea, *Brown.*

YERKAL VADU. TAM.

Basket makers,	ENG.	Yerakedi,	TEL.
Yerkulle var,	TEL.	Yerukelloo,	,,
Eri Kuvadu,	,,	Kurshi wanloo,	,,

In communities they style themselves 'Yerkal,' and they give the same appellation to the language in which they hold communication with each other. Some of them seem to have been converted to the brahminical faith, and are now of the vaishnava sect. With the exception of the cow, almost all animals are used by them as food. Their dead are burned. The Eruku, also called Yerkal, Yerkalvadu, Kurshi-wanlu, Yera-kedi, Yera-kellu, and Erukulu vadu, in the Canarese part of the peninsula of India, occupy themselves ostensibly as basket-makers, and in fortune telling. But they are notoriously predatory, and steal girls whom they devote to prostitution. They are found in mat huts on the outskirts of most towns. The Yerkala of the Nellore District are migratory mat and basket-makers, using the

midrib and leaflets of the date palm. They also make wooden combs, work as labourers, and a few have settled and engaged in cultivation. They rear pigs, poultry, donkeys and dogs, and eat the flesh of most animals. They are usually of a dark brown colour, the men are of spare and light make, but hardy, with low fore-heads and eyes, short nose. They wear only a strip of cloth, and they tie their hair in a knot above their brow. They admit polygamy, do not remarry their widows.

Amongst the Yerkala of Southern India, a custom prevails by which the first two daughters of a family may be claimed by the maternal uncle as wives for his sons. The value of a wife is fixed at twenty pagodas. The maternal uncle's right to the first two daughters is valued at eight out of twenty pagodas, and is carried out thus, if he urge his preferential claim, and marries his own sons to his nieces, he pays for each only twelve pagodas, and similarly, if he from not having sons, or any other cause, forego his claim, he receives eight pagodas of the twenty paid to the girl's parents by anybody else who may marry them.

Dr. French says there is a rude uncivilized race in the Kistnah district who are bird catchers. They have no feast or music at their marriages, but the bridegrooms pay a fine or price of Rs. 202 to the bride's parents. The men have only a loin cloth. They are said to eat the cat, mungoose, squirrel, rat, parrot and minah. They snare birds, rear pigs and donkeys, and live by making baskets and mats from the palm leaves. The women are soothsayers. They seem to be the Korava race. Professor Wilson mentions the Koracharu as a hill and forest tribe in the Carnatic, who make bamboo mats and baskets, and carry betel nut from market to market. A Korawa race also inhabit the Hakhal hills and near the Godavery.—*Shortt, Trans. Ethn. Soc. MS. vol,* vii. *p.* 187. *Balfour in Madras Jour. Lit. & Science, vol.* 18 *p.* 4. *Lubbock, Orig. of Civil. p.* 103.

YERO. HIND. Pinus excelsa.

YERRA. TEL. red.

YERRA AVESI. TAM. Red var. of Coronilla grandiflora.

YERRA CHIKUDI KAIA. TEL. Lablab vulgaris.

YERRA CHITTRA-MULUM. TEL. Plumbago rosea.

YERRA GADA, also Yerra-chava-karra. TEL. lit. Red root wood, Rose wood. Diospyros montana, *Roxb.* also Conocarpus acuminata.

YERRA GOGU. TEL. Roselle. Hibiscus sabdariffa, *Linn.*

YERRA GOLLA. See India.

YERRA JONNALU. TEL. Sorghum v... gare.

YERRA KALABANDA. TEL. var. of Al... Indica, *Royle.*

YERRA KALUWA. TEL. Nymphæa ... bra, *Roxb.*

YERRA KONDALU, or Yerra-kandi... TEL. Cajanus Indicus, *Spreng.*

YERRA, or Tela Tumbatan. TEL. Ca... valia gladiata, *D.C.*

YERRA POLIKI. TEL. A hardish ... of the Nalla-mallai, of a red colour and ... useful.—*Mr. Latham.* See Polki.

YERRA-PURU-GUDU. TEL. Phy... thus vitis idæa.

YERRA PALLERU. TAM. Tribulus ... nuginosus, *Linn.*

YERRA SENAGALU. TEL. var. of C... nus Indicus, *Spreng.*

YERRA SINDURAM. TEL. Red l...

YERRA SISSOO. TEL. Dalbergia s... *Roxb.*

YERRA TAMARA. TEL. Nelum... speciosum, *Willd*, the red lotus.

YERRA TOTA-KAMA KURA. ... Amarantus atropurpureus, *Roxb.* The ... rubra ?

YERRA TOTA KURA. TEL. Amarant... oleraceus, *Linn.*

YERRA USARIKA. TEL. Phyllant... urinaria.

YERRA WANROO. (red-men) pr... slaves in Coorg.

YERRELAR. A forest race inhabiting ... slopes of the Neilgherry Hills. See En... India, Irular, Korumbar.

YERRIMAI NAKU. TAM. Hart's ea...

YERUL. CAN. Inga xylocarpa.

YESAPUGUL VERI. TAM. Spogel s... Plantago ispagula.

YESDEJIRD. See Saurashtra, Yezd...

YESHAB. HIND. See Yashab.

YESHAM. HIND. Jade. See Sang... ham.

YESTIMADHUKA. SANS. Glycyr... glabra, *Linn.*

YET BAING. See India.

YE-THA-BYAY. This Amherst w... used for house posts and boat building; a strong wood, suited for door-frames ... common carpentry.

YETTI. Strychnos nux-vomica.

YETTI KOTTE MARAM, or Yetti m... TAM. the tree of Strychnos nux v... Yetti Kottai. TAM. its seed.

YEUTCHI, Yuchi, or White H... considered by Professor Lassen to be the ... as the Tochari or Turk, but Professor W... considers the Yeutchi to be identical wi... Getæ. See Getæ, Sacæ, Yu-ti.

YEUTLAND, or Jutland, the name ...

› the whole Cimbric Chersonese.—*Pinkerton on the Goths.* See Goatæs Yntu.

YEVA. Sans. Tel. Yavy.

YEVU and Baikuri. Can. are fish traps dapted to falls. The yevu is a platform made of bamboo, somewhat bellied, so as to ad ladderwise from the top to the bottom f a waterfall at an angle of 45.° The kunjal, nother trap, is a rude sort of kuri.

YEW. At Choongtam, in Sikkim, the ew appears at 7000 feet, whilst, on the ter ranges, as on Tonglo, it is only und at 9,500 to 10,000 feet; and whereas Tonglo it forms an immense tall tree with ng sparse branches and slender drooping igs, growing amongst gigantic magnolias d oaks, at Choongtam it is small and rigid, d much resembling in appearance the Engh churchyard yew. At 8,000 feet, the bies Brunoniana is found, a tree quite unnown further south. But neither the larch r the Abies Smithiana (Khutrow) accomnied it. The yew, it is said, spreads east m Kashmir to the Assam Himalaya and e Khasia mountains; and the Japan, Philipne Islands, Mexican, and other N and S. American yews belong to the same widely diffused nus. In the Khasia (its most southern dist) it is found as low as 5,000 feet above e sea level. Taxus baccata, *Linn.*, grows the Mehra forest, near Abbottabad, Hazara. e Japan.

YEYLAKULU. Tel. Cardamom.

YEZAIEMAN. The most abundant supply d the best coal comes from Kiusiu. It is t known how much there is in Nippow, t there is none in Sikofk.—*American pedition to Japan, p.* 397.

YEZD, is on an oasis in the great Pern desert, mentioned by Barbaro as a most lustrious place, flourishing by its silk and ton manufactures, and supplying with these large part of Asia. These manufactures ll continue. Many important caravan routes verge at Yezd, whilst the desert has given security, and thus it has become a conerable mart. Yezd is regarded as holy by mahomedans, a sanctity perhaps borrowed m the fire-worshippers, who still linger e in degradation and scanty numbers. e district of Yezd, if included within the its of Khorasan, occupies the south-west ner of that province, being encompassed all sides by salt desert, which separates it m Kerman and Fars upon the south, and m Ispahan of Irak upon the west. The n of Yezd is built on a large sandy plain, ompassed on most sides by hills. It is y large and populous, situated on the e of a sandy desert, produces little itself, but with infinite labour, a tract of gardens and orchards has been cultivated near the base of the hills, where very fine apricots and melons are grown.—*Fraser's Journey into Khorasan. p.* 21. *Pottinger's Travels, Beloochistan & Sind p.* 421. *Ramusio*, ii. 106; *Ritter*, viii. 265, 270; *J. R. A. S.*, viii. 349 *in Yule Cathay I. p.* 52.

YEZDEJIRD III., the last of the Persian kings, who was defeated by Abdullah, son of the khalif Oman. Yezdejird was returning from Khorasan, and for the last time put himself at the head of his subjects. Yezdejird was the forty-fifth king in descent of the race of Kaiomr, with whom ended that Persian monarchy. The khalif Omar invaded Persia, and in a fierce and well contested battle at the village of Nahavand, about fifty miles from the ancient city of Ecbatana, the fate of the empire was decided, the Persian army numbering 15,000 men, being defeated with great slaughter. Yezdejird abandoned his kingdom as lost, and after wandering in disguise for a period of ten years, was treacherously slain in A. D. 651 by a miller to whom his secret had been confided. This event terminated the Sassanian dynasty, and the monarchy founded by Kai Khusru, the Cyrus the Great of the Greeks. The era of Yezdejird III., or the Persian era, began on the 16th June A. D. 632. The year consisted of 365 days only, and therefore its commencement, like that of the old Egyptian and Armenian year, anticipated the Julian year by one day in every four years. This difference amounted to nearly 112 days in the year 1075, when it was reformed by Jelal-ud-din, who ordered that in future the Persian year should receive an additional day, whenever it should appear necessary to postpone the commencement of the following year, that it might occur on the day of the sun's passing the same degree of the ecliptic.

In 638 Yezdejird III, when hard pressed in the uttermost corners of his dominions by the Saracens, had sent an envoy to seek help from the great and powerful Taitsung, emperor of China. The Persian prince, obliged to retire into Turkestan, met in Sogdiana his messenger returning with Taitsung's refusal of assistance. This embassy is mentioned both by Chinese and Arabian historians; by the former the unfortunate king is styled Yissesse.—*Prinsep's Antiquities by Thomas. Yule Cathay I. p.* lxxxv. See Sassanian, Isakhr, Pappati, Persian Kings, Istakhr.

YEZID, son of Moawiah, who opposed Ali.

YEZIDI. A mahomedan sect of Kurds, who are said to worship the devil. Burton styles the Yezidi, Shaitan purust, or devil worshippers, and states that they term Satan Malak Taos, the Peacock king. The Yezidi nearest represent the old creed of this part of

Asia as it stood before the diffusion of either christianity or mahomedanism. It is apparently older than both. Kinneir says there are a great number of the Yezid in the neighbourhood of Mosul, who worship or rather deprecate the devil; for they have an idea that the power which he possesses over mankind is unlimited. They even dislike to hear the name of the evil spirit mentioned in their presence. They are the descendants of those Arabs who followed the banners of Yezid, son of Moawiah, and fought against Hussein in the battle of Karbela; and Sheikh Adi, the founder of the sect, is interred near Mosul. They adore one Supreme Being as the creator and benefactor of the human race, drink wine and other strong liquors, and circumcise like the mahomedans. The Turks have an astonishing aversion for these people, and the hatred is mutual. Latham describing them says the Yezid is a Kurd, with a Kurd physiognomy, spare frame, dark skin, prominent nose, projecting brow, retreating forehead, black hair; except that some of them are shorter and more squarely-built than others, and some square, rather oval in face. The Sinjar mountains are their chief occupancy. The Yezidi tomb is a fluted cone on square base, and it is sufficiently general and characteristic to denote a Yezid village.

The Yezidi have a tradition that they originally came from Busrah, and from the country watered by the lower part of the Euphrates; and that, after their emigration, they first settled in Syria, and subsequently took possession of the Sinjar hill, and the districts they now inhabit in Kurdistan. There is in them a strange mixture of Sabæanism, Christianity, and Mohamedanism, with a tincture of the doctrines of the Gnostics and Manichæans. Sabæanuism, however, appears to be the prevailing feature; and it is not improbable that the sect may be a relic of the ancient Chaldees; a no less remarkable sect the Sabeans, or Mendai (the Christians of St. John as they are commonly called) still inhabit the banks of the Euphrates and the districts of ancient Susiana. The Yezidi are known amongst themselves by the name of the district, or tribe, to which they respectively belong. Those who inhabit the country near the foot of the Kurdish hills, are called Dasni or Dasesi, most probably from the ancient name of a province. Tribes of Yezidi are found in the north of Syria, in Northern Kurdistan, in Bohtan, Sheikhan, and Miessouri. In the plains, their principal settlements are in the villages of Baazani, Baasheikha, and Semil. The Yezidi were some years ago a very powerful tribe. Their principal strongholds were the district visited by Mr. Layard, and the Jabal Sinjar, a solitary moun- tain rising in the centre of the Mesopotami- desert to the north of Mosul. Below t- cluster of buildings assigned to the people- Semil is a small white spire, springing from low edifice, neatly constructed, and like all t- sacred edifices of the Yezidi, kept as pure- repeated coats of whitewash can make it. It i- called the sanctuary of Sheikh Shams, or th- Sun, and is so built that the first rays of th- luminary should as frequently as possible f- upon it. Near the door is carved on a sl- an invocation to Sheikh Shams; and ent- two votive tablets raised by the father- Hussein Bey, and other chiefs of the Yezi- are built in the walls. The interior, which- a very holy place, is lighted up by a few sm- lamps. At sunset, as Mr. Layard sat in the- cove in front of the entrance, a herdsman - into a pen, attached to the building, a drov- white oxen. He asked a Cawal, who was n- to whom the beasts belonged. "They - dedicated," he said, "to Sheikh Shams, - are never slain except on great festivals, - their flesh is distributed amongst the p- The dedication of the bull to the sun, so gene- ly recognised in the religious systems of - ancients, probably originated in Ass- and the Yesidi may have unconsciously p- served a myth of their ancestors. So far - Sheik Adi being the scene of the orgies att- buted to the Yezidi, the whole valley is h- sacred, and no acts, such as the Jewish l- has declared to be impure, are permitted w- in the sacred precincts. No other than - high priest and the chiefs of the sect are b- ed near the tomb. Many pilgrims take - their shoes on approaching it, and go barefo- ed as long as they remain in its vicinity. - Yezidi recognise one Supreme Being, but - far as Layard could learn, they do not offer- any direct prayer or sacrifice to him. When th- speak of the devil, they do so with revere- as Malik Taos, King Peacock, or Mal- Kout, the mighty angel. Sheikh Nas- - tinctly admitted that they possess a bra- or copper figure of a bird, which, however, - was careful in explaining was only lo- upon as a symbol, and not as an idol. Th- believe Satan to be the chief of the ang- host, now suffering punishment for his re- lion against the divine will; but still all po- ful. They frequently pass their hands thro- the flame, kiss them, and rub them over t- right eyebrow, or sometimes over the wh- face.—*Layard, Nineveh vol.* i. *p.* 275, 2- 293, 297, 300, 305, 306. *Richard F. Bu- Sinde, p.* 403. *Colonel Macdonald Kin- Geographical Memoir p.* 262-63. *La- Nationalities of Europe vol.* ii. *p.* 37-13-

YEZO. The Aino are the aborigi-

of Yezo, but their severe treatment by the Japanese has led them to other countries. They occupy the southern part of the island of Seghalien, which is in possession of the Japanese. The Aino are of short stature with broad faces of the Mongol type. They are a timid race; their limbs are hairy, they have bushy beards and long tangled hair, large heads and clumsy figures, the expression of their face is that of good nature combined with stupidity. According to M. Rosney their language is dissimilar to Japanese, and that spoken in the Kuriles and in the island of Yesso, are also different from Japanese.—*Adams p.* 240.

YI-DAISE. See India.

YIH-CHAN. See Jews.

YIH-KING. An ancient Chinese book. The annotation of Confucius to the ancient work Yih-King, states that Fuh-he got the idea of his diagrams from a figure on the back of a "dragon horse" that issued from a river. The same annotation states that, before Fuh-he invented the Eight Diagrams, he observed the configurations and appearances in the heavens and the earth, and the marks on birds and beasts; also that he derived information from his own person and from things around him. These terse passages of an ancient author are, when taken literally, apt to give a ridiculous air to the "Eight Diagrams." But a little examination shows the meaning to be that Fuh-he constructed the Eight Diagrams only after a careful and extensive survey of nature and its varied phenomena, as exhibited in the departments which we call astronomy, meteorology, physical geography, and natural history, and after reflection on his own nature, physical and mental, and on the nature of men generally as manifested in the events of the social life around him. The Eight Diagrams formed in fact, an illustrative figure intended to elucidate Fuh-he's theory of the universe, a theory adopted after careful reflection on all animate and inanimate nature within his ken. They are in so far undoubtedly the foundation of Chinese philosophy, but it must not be assumed that learned Chinese conceive any occult power to lie in them. Much in the same way we might say that the Literary Prince, having been imprisoned (while he was still a vassal of the dynasty he overthrew) by his jealous suzerain, during the years B. C. 1144, 1143, 1142, made in the seclusion a different arrangement of the Eight Diagrams; and he, with one of his sons, Chow kung, who labored after the establishment of the family in the sovereignty, gave permanency to their joint development of the national philosophy by attaching a few words of explication to each of the sixty-four doubled diagrams. Fuh-he's diagrams, as re-arranged, together with the short explications of the first monarch of the Chow dynasty and his son, form the basis or text of the first of the Chinese Sacred Books, the Yih-king. After an interval of six centuries Confucius seems to have used the Yih-king in framing his own philosophical views.

YIMMA. BURM. Chickrassia tabularis, *Ad.*

YIN. CHIN. Silver. See Yang.

YING-BAU, a tribe supposed to belong to the Red-Karen, whose dress and language they use: they dwell about 100 miles north of Toungboo, north of the Red Karen.

YIN-BYA. BURM. Ancistrolobus mollis.

YINDIKE. BURM. ? Dalbergia species.

YIN-GAT. BURM. Gardenia coronaria, *Buch.*

YING SUH. CHIN. Poppy seed.

YIN-YO. A tree of Moulmein. A strong wood, good for building purposes.—*Cal. Cat. Ex.* 1862.

YIR. HIND. Salix, *Sp.*

YIRA. HIND. Typha angustifolia.

YIRU. HIND. Quercus ilex.

YLIMA POHURA. See Ruby mines.

YOA OF KANGRA. Hordeum hexastichon, *Linn. Roxb.*

YOGA, in hindu astronomy, the leading or principal star of a lunar mansion, the position of which is given in the hindu astronomical tables. There are 28 yoga stars (including Abhijit) in the lunar zodiac: but with the exception of 16 or 17 of these (on the identity of which there can be little doubt), it is very uncertain to which of the stars in the European catalogues the remainder correspond. Harshana (which no doubt is the same as our Spica Virginis) seems to be the yoga, which drew most the attention of the ancient hindu astronomers; probably on account of its convenient magnitude, and declination; which at the beginning of the 9th century was 9° 38′ 13″ S. To this star they referred the beginning of the 7th month of their solar sidereal year, from which they concluded its beginning; and there is every reason to suppose that it was on the result of observations of Harshana that they established their Cranti-Pata-Gati, or precessional variation; a surmise which, if correct, offers a singular concurrence of circumstances, for it was by observations of the same star that Hipparchus first discovered (in the 2nd century before Christ) the motion of the fixed stars from west to east.

YOGA, hindus in their cosmogony divide the age of the world into four yoga, the Satya

yoga extending to 1,728,000 years, the Treta yoga, to 1,296,000 years; the Dwapur yoga, to 8,64,000; and the Kali yoga, in which we now live, and which they consider will last 432,000 years. According to Bunsen the four ages of Manu were four states with successive interregna, which the Aryan hindu race really passed through. The first age contains only general mythical representations of divine progenitors: the second period commences B. C. 2400 (2300) prior to the old settlement in the Panjab, on the Saraswati, ending B.C. 1900 (1800). The commencement of the third period was B.C. 1606 (1486) corresponding to the first year of the Kuru and may have lasted 500 years, or down to B. C. 1107 (987). And he estimates the beginning of the Aryan settlement in the Saraswati district as not later than B. C. 2600 or 2500.

YOGA. Abstract devotion. One of the schools of hindoo philosophy teaching the eternity of matter and spirit as well as of god, and the obtaining of final liberation from life by ascetic practices. The Yoga is the third degree in the Saiva systems, and is the practice of abstraction of mind.—*Bunsen.* iii. 562. *Hind. Th. vol.* ii. *p.* 13. *Warren, Kala Sankalita.* See Bhakti, Hindoo, Tantra.

YOGA-BHOGA-VADI. Sans. From yoga, abstraction, Choga, enjoyment, and vadu, to utter.

YOGACHARA. Sans. from Yoga, and achara, practice.

YOGA-NIDRA. Sans. from Yoga abstraction, and nidra, sleep.

YOGASASTRA. See Yug-byasa.

YOGA-THEET. Burm. A timber tree of Amherst: wood used for carved images, and the bark used as soap.—*Cat. Ex.* 1861.

YOGESHWARA. Sans. From Yoga, and ishwara, a god.

YOGHOURT. Kurd. A preparation of sour clotted cream or milk.—*Rich's Residence in Koord. vol.* i. *p.* 117, 235.

YOGI, a follower of the Yoga philosophy: a practiser of ascetic devotions; one who, by the practice of the Yoga, has acquired supernatural powers.—*Wilson, Hind. Theat. vol.* ii. *p.* 107.

YOGINI. Sans. A female Yogi.

YOGINI TANTRA. One of the books of the hindu Tantra.

YOGU, a term so pronounced by the Telugu astronomers, but yoga, as spelt by the Carnatic sastri, is an astrological element, containing the same number of accidents as there are yoga in the 27 regular mansions of the lunar zodiac; bearing the same names, and arranged in the same order, but having no sort of astronomical reference to them. A yoga is the time during which the sum of the motions of the sun and moon, amounts to one nakshatra, or 13° 20'. Its mean duration is 59g. 21p. 75 Indian time (23h. 47' 44·24" European time); 17 of which are nearly equal to 16 days: which occasions an equation somewhat similar to that of the Cshaya tithi.—*Captain Edward Warren, Kala Sankalita.*

YOHTAN. See Arabs, Joqtan; Yoqtan.

YOIDYU, the professed, though not the exclusive, medical men amongst the Bengali people. They study the Nidana, Rakshita, Drivya-goona, and other medical shastras.—*Ward on the Hindoos, vol.* iii. *p.* 95.

YOJANA. Sans. An astronomical and geographical measure, deduced from the ratio of the diameter of the earth to the circumference of its equatorial circle. The dimensions of the yojana, like those of any other measure, originate in an arbitrary divisional extent, for which the hindus have chosen a finger or angula, as a standard to be found in nature. By that common measure they estimate not only distances, and the dimensions of the earth, but even the distance of the planets, their parallaxes, and (when referred to particular points on the surface of the earth) the effects of their longitude and latitude at a time. The hindu mathematicians divide the diameter of the earth into 1,600 parts, whence they have this expression $\sqrt{10 \times 1600} = 5059$ yojana for the value of the equatorial circle. An angle of one minute of a degree is supposed to be subtended by 15 yojana, at the mean distance of the moon; so that dividing the earth's semi-diameter (800 yojana) by 15 we have 53' 20" for the moon's mean horizontal parallax. It follows from this result that 53' 20" of the moon's orbit will measure 800 yojana, and that her whole orbit (360°) will measure 324,000 yojana. Hence 5059 (the circumference of a great circle of the terrestrial globe in yojana) is to 800 yojana (its semi-diameter) as 324000 (the circumference of the moon's orbit in yojana) is to 51235 yojana her mean distance from the earth: from which it follows that this distance (according to the estimate of hindu astronomers) is about 64 semi-diameters of the earth. As the moon is supposed to complete 57753336000 sidereal revolutions in a calpa, this number divided into 324000, gives 18712080864000 yojana for her absolute motion during that time. It is a principle in hindu astronomy that the absolute motion of each planet in a day, or any other given time, is equal to the absolute motion of the moon in the same time. Hence, if the absolute motion of the moon during a calpa be divided by the number of revolutions completed by any planet, during that period, it will give the circuit

ircumference of the planet's orbit in yojana. 'o convert degrees of latitude and longitude nto yojana, they use the following propor-on. "As 360° to the proposed number of egrees; so 5059 yojana, (the "circumference f the equatorial circle), to the number of ojana sought." The hindus subdivide the ojana into a great number of parts, in the ollowing manner. The yojana ÷ 4 crosa ÷ ,000 dhanush or danda ÷ 4 resta or cubits - 2 vitisti or spans ÷ 2 pada or foot readths ÷ 6 angula or finger breadths ÷ 4 ıra. Some make the crosa = 2,000 danda : half a yojana, which agrees better with that which the distances are usually computed. he yojana is regarded in Ceylon as being qual to 16 English miles.—*Hardy's Eastern 'onachism p.* 443. *Warren Kala Sankalita.*

YOKADA. Can. Calotropis gigantea, *R.Br.*

YOKH. See Kunawer.

YOKSUN, in Sikkim, occupies a very arm sheltered flat and about it many tropi-l genera occur, such as tall bamboos of two nds, grasses allied to the sugar-cane, scarlet rythrina, and various Araliaceæ, amongst hich was one species whose pith was of so rious a structure, that Dr. Hooker had no sitation in considering the then unknown hinese substance called rice-paper to belong a closely allied plant. The Chinese rice-per had long been known to be cut from linders of pith which had always a central llow chamber, divided into compartments by pta or excessively in plates. The supposi-n was soon after confirmed, by Sir William ooker receiving from China specimens of e rice-paper plant itself, which very closely sembles, in botanical characters as well as in tward appearance of size and habit, the ove Sikkim plant. The natives of Sikkim llect the leaves of many Aralias as fodder r cattle, for which purpose they are of the eatest service in a country where grass for sture is so scarce: this is the more remark-le since they belong to the natural family ivy, which is usually poisonous. The use this food however gives a peculiar taste to butter. In other parts of Sikkim, fig ves are used for the same purpose, and anches of bird-cherry, a plant also of a isonous family, abounding in prussic acid; d in the N. W. Himalaya, the leaves of the llow, though containing much salicine, are gely gathered as fodder for cattle.

YINARAJAB, See Bactria.

YOM. Arab. A day.

YOMA, a range of mountains in Burmah pposed to be the Mæandrus of Ptolemy. Yo-means great ridge or backbone. The Yo-h mountains are the central chain of Bur-h proper, are extended into Pegu and form the spine, as it were, of the province with the valley of the Irawaddy on the west, and that of the Sitang on the east; and the several minor valleys lying between the off-shoots by which the chain is terminated on the south, are the valley of the Zamayee or Pegu river, the valley of Hlaine or Line river, together with the in-termediate valley of the Phoungee river or Paizoondoun creek, lying between the Hlaine and Pegu rivers. One of the most southern points of the Yomah lies between the Hlaine and Paizoondoun, of which the Pagoda hill at Rangoon may be considered the last elevation, marking the direction of the chain or line of local disturbance. The most elevated portion of the Yoma chain appears to be that from whence these southern branches radiate, where the Oakkan and Thounzai Choungs derive their source, falling into the Hlaine river on the west, and the Zamayee and Phoungyee rivers on the east and south. Dr. McClel-land estimates this part of the chain at about 2,000 feet above the sea, presenting steep and inaccessible declivities.—*Dr. McClelland, Se-lection Records of Government of India, Fo-reign Department, No. IX, p.* 6, 7.

YONI. Sans. The place or elements of birth, from Sanscrit root yu, to mix. In the physiolo-gical religion or philosophy of the hindoos, the lingam and the yoni represent organs of the human body, and the symbols are to be seen in almost every street of every town of Bri-tish India. It may seem strange that a ques-tion of mere physiology should have occasion-ed, not only a vehement religious contest, but even a bloody war; yet the fact appears to be historically true, though the hindu writers have dressed it up, as usual, in a veil of extra-vagant allegories and mysteries which they con-sider as lawfully sacred. They represent Na-rayana, moving (as his name implies) on the waters, in the character of the first male, and the principle of all nature, which was wholly surrounded in the beginning by tamas, or darkness, the chaos, or primordial night of the Greek mythologists, and perhaps, the thaumaz, or thamas, of the ancient Egyp-tians. The chaos is also called prakriti, or crude nature; and the male deity has the name of Purusha, from whom proceeded sacti or power, which, when it is ascribed to the earth, in contradistinction to the water, is called shara sacti, or the power of containing, or concerning; but that power, in its first state, was rather a tendency or aptitude, and lay dormant, or inert, until it was excited by the bija, or vivifying principle, of the plastic Iswara. This power, or aptitude of nature, is represented under the symbol of the yoni, or bhaga, while the animating principle is ex-pressed by the linga. Both are united by

the creative power of Brahma. The yoni has been called the navel of Vishnu—not identically, but nearly; for though it is held in the Vedanta, that the divine spirit penetrates or pervades all nature, and though the sacti be considered as an emanation from that spirit, yet the emanation is never wholly detached from its source; and the penetration is never so perfect as to become a total union or identity. In one point of view, Brahma corresponds with the Chronos, or time, of the Greek mythologists: for through him generations pass on successively; ages and periods are by him put in motion, terminated, and renewed; while he dies and springs to birth alternately; his existence or energy, continuing a hundred of his years, during which he produces and devours all things of less longevity. Vishnu represents water, or the humid principle; and Siva or Iswara, fire, which recreates or destroys, as it is differently applied. Prit'hivi, or earth, and Ravi, or the sun, are severally trimurti, or forms of the three great powers, acting jointly and separately, but with different natures and energies; and by their mutual action, excite and expand the rudiments of material substances. The word murti, or form, is exactly synonymous with eidola, and, in a secondary sense, means an image, but in its primary acceptation, it denotes any shape or appearance assumed by a celestial being. Our vital souls are, according to the Vedanta, no more than images, or "eidola" of the Supreme Spirit; and Homer places the idol of Hercules in Elysium, with other deceased heroes, though the god himself was at the same time enjoying bliss in the heavenly mansions. Such a murti, say the hindus, can by no means affect with any sensation, either pleasing or painful, the being from whom it emanated, though it may give pleasure or pain from collateral emanations from the same source. Hence they offer no sacrifices to the Supreme Essence, of which are our souls or images, but adore him with silent meditation; while they make frequent homa, or oblations, to fire, and perform acts of worship to the sun, the stars, the earth, and powers of nature, which they consider as murti, or images, the same in kind as ourselves, but transcendently higher in degree. The moon is also a great object of their adoration, for though they consider the sun and the earth as the two grand agents in the system of the universe, yet they know their reciprocal action to be greatly affected by the influence of the lunar orb, according to their several aspects, and seem to have an idea of attraction through the whole extent of nature. This system was known to the ancient Egyptians; for, according to Diodorus (Book i.) their Vulcan, or elemental fire, w the great and powerful deity whose influ contributed chiefly towards the generation perfection of natural bodies; while the oce by which they meant water in a collecti sense, afforded the nutriment that was nece sary, and the earth was the capacious recep cle in which this grand operation was perfor ed. Hence Orpheus described the earth as th universal mother; and this is the true mea ing of the Sanskrit "anda-amba." Such i the system of those hindus who admit a equal concurrence of the two principles; b the declared followers of Vishnu profess w different opinions from those adopted by th votaries of Siva or Iswara. Each sect is d subdivided according to the degree of influe which some of them allow to be possessed that principle, which, on the whole, they d preciate; but the pure Vaishnava are, in tr the same with the Yonija. This diversity opinion seems to have occasioned the gre war which is often mentioned in the Puran and was celebrated by the poets of the West the basis of the Grecian mythology: ha meant that it was a war between the gods by Jupiter, and the giants, or sons of t earth, or in other words, between the follo of Iswara and the Yonija, or men produ as they asserted, by Prit'hivi, a power or form Vishnu. In the mythical war above-mentio between the Lingacita and Yonija: the fo stood their ground pretty well at first, were in the end defeated, and shamef routed in the battle through the potency the sacred yoni. Mahadeva, enraged, was ab to destroy them by the fire of his eye, Parvati interposed, and, to appease him, m use of the same artifice that Babo did to Ceres into good humour; and showed h the prototype of the lotus. Mahadeva sm and relented, on condition that the Yo should instantly leave the country. Whe this legend allude to a real war between worshippers of the linga and yoni, or mere physiological allegory, Mr. Wil could not determine. Nonnus (Dionys. B xxx. iv. v. 241) expressly declares t the war in question arose between partisans of Jupiter and those who knowledge no other deities than water earth. According to both Nonnus the hindu mythologists, it began in In whence it was spread over the whole gl and all mankind appear to have borne a in it. These religious and physiological co were disguised in Egypt and India und veil of the wildest allegories and emblems the banks of the Nile, Osiris was torn in pie and on those of the Ganges, the limbs of consort, Isi, or Isati, were scattered over

world, giving names to the places where they fell, and where they are still superstitiously worshipped. In the Sanskrit book entitled MahaKala Sanhita, we found the Grecian story concerning the wanderings of Bacchus; for Iswara, having been mutilated through the imprecations of some offended muni, rambled over the whole earth bewailing his misfortune; while Isi wandered also through the world, singing mournful ditties in a state of distraction. There is a legend in the Servarasa, of which the figurative meaning is more obvious. When Sati, after the close of her existence as the daughter of Dacsha, sprang again to life in the character of Parvati, or mountain-born, she was reunited in marriage to Mahadeva. This divine pair had once a dispute on the comparative influence of sexes in producing animated beings; and each resolved, by mutual agreement, to create apart a new race of men. The race produced by Mahadeva was very numerous, and devoted themselves exclusively to the worship of the male deity; but their intellects were dull, their bodies feeble, their limbs distorted, and their complexions of different hues. Parvati had at the same time created a multitude of human beings, who adored the female power only, and were all well shaped, with sweet aspect and fine complexions. A furious contest ensued between the two races, and the Lingaja were defeated in battle. But Mahadeva, enraged against the Yonija, would have destroyed them with the fire from his eye, if Parvati had not interposed, and appeased him: but he would spare them only on condition that they should instantly quit the country, to return no more. And from the yoni which they adored as the sole cause of their existence, they were named Yavana. "It is evident that the strange tale from the Servarasa was invented to establish the opinion of the Yoniancita or votaries of Devi, that the good shape, strength, and courage of animals, depend on the superior influence of the female parent, whose powers are only fructified or put into action by the male aura. But the Lingancita maintain an opposite doctrine. There is also a sect of hindus, by far the most numerous of any, who, attempting to reconcile the two systems, tell us, in their allegorical style, that Parvati and Mahadeva found their concurrence essential to the perfection of their offspring; and that Vishnu, at the request of the goddess, effected a reconciliation between them; hence the navel of Vishnu, by which they mean the os tincæ, is worshipped as one and the same with the sacred yoni." Mr. Wilford proceeds to show the identity of this with the umbilical mystery symbolized in the temple of Jupiter Ammon, combined with the fossa navicularis, or mystical boat, of Iris. "The mystical boat," he continues, "is called also by Greek mythologists, the cup of the sun; in which Hercules, they say, traversed the ocean: and this Hercules, according to them, was the son of Jupiter. But the Greeks, by whom the notion of an avatara, or descent of a god in a human form, had been generally adopted, considered those as the suns whom the hindus consider as incarnate rays, or portions, of their several deities. Now Jupiter was the Iswara of the hindus, and Osiris of the Egyptians; and Hercules was an avatara of the same divinity, who is figured among the ruins of Luxore, in a boat, which eighteen men bear on their shoulders. The hindus commonly represent this mystery of their physiological religion by the emblem of the nymphæa, or lotus, floating like a boat on the boundless ocean; where the whole plant signifies both the earth and the two principles of fecundation. The germ is both Meru and the linga; the petals and filaments are the mountains which encircle Meru, and are also a type of the yoni. Another of their emblems is called argha, which means a cup, or dish, or any other vessel in which fruit and flowers are offered to the deities, and which ought always to be shaped like a boat; though the argha are of many different forms—oval, circular, or square: and hence it is, that Iswara has the title of Arghanatha, or lord of the boat-shaped vessel. A rim round the argha represents the mysterious yoni, and the navel of Vishnu is commonly denoted by a convexity in the centre, while the contents of the vessel are symbols of the linga. This argha, as a type of the adhara sacti, or power of conception, excited and vivified by the linga, priapus or phallus, is supposed to be one and the same with the ship Argo, which was built, according to Orpheus (Argon. verse 66) by Juno and Pallas, and, according to Apollonus (Book II) by Pallas and Argus, and at the instance of Juno. The word yoni, as it is usually pronounced, nearly resembles the name of the principal Hetruscan goddess; and the Sanskrit phrase Arghanatha Iswara, seems accurately rendered by Plutarch (on Iris and Osiris), when he asserts that Osiris was commander of the Argo. Though it cannot be affirmed that the words p'hala or fruit, and p'hulla, a flower, had ever the sense of phallus, yet fruits and flowers are the chief oblations in the argha: and trip'halli or trip'hadi is a name sometimes given, especially in the west of India, to the trisula or trident of Mahadeva. Jupiter triphylleus, of the Panchan islands, was no other than Siva holding a triphala, or triphadi, who is represented also with three eyes, to denote a triple energy; as Vishnu and Prit'hivi are

severally typified by an equilateral triangle, (which likewise gives an idea of capacity,) and conjointly, when their powers are supposed to be combined by two such equal triangles intersecting each other." (*As. Res. vol.* iii. *p.* 365.) One of the legends connected with the subject of linga, yoni, arga, &c., is that one day, as Mahadeva was rambling over the earth, naked, he chanced to pass near the spot where several muni were performing their devotions; Mahadeva laughed at them, and insulted them in very provoking and indecent terms, enforcing his abuse by significant signs and gestures. The offended muni cursed him; and the linga, priapus or phallus, fell to the ground. Mahadeva, in this state of multilation, travelled over the world, bewailing his misfortune: his consort too gave herself up to grief, and followed him in a state of distraction, repeating mournful songs. This, Mr. Wilford says (*As. Res. vol.* iv. *p.* 366) is what the Greek mythologists call the wanderings of Dematur, and the lamentations of Bacchus. The world being thus deprived of its vivifying principle, generation and vegetation were at a stand; gods and men were alarmed; and having discovered the cause of it, searched for and found the sacred linga, grown to an immense size, and endowed with life and motion. Having worshipped the sacred pledge, they cut it into thirty-one pieces; which, polypus-like, each became a perfect linga. The devata left one and twenty of them on earth, carried nine to heaven, and one to the inferior regions, for the benefit of the inhabitants of the three worlds. To satisfy Devi, and restore all things to their former situation, Mahadeva was born again, in the character of Bal-Iswara, the infant lord; but suddenly became a man, under the title of Lileswara, or Iswara who gives delight: and after various adventures met his consort then in the character of Sami Rama, who, by the sweetness of her voice in chaunting her own metamorphosis and that of Lileswara, attracted the notice of her former and future spouse in his present character—till now entirely indifferent to the female sex. The goddess soon become Lileswari, and was happily re-united to her lord. In reference to what is stated by Mr. Wilford in the As. Res. vol. viii. p. 256, the goddess in this character ought rather, perhaps, be called Sami Devi.

Hindus insist that the black stone in the wall of the Kaaba (or sacred temple of Mecca). is no other than the linga, or priapus or phallus of Mahadeva; and that it was placed there by Mahomed out of contempt: but the newly-converted pilgrims would not give up the worship of the black stone, and sinistrous portents forced the ministers of the new religion to connive at it.

Mr. Wilford, in the eighth volume of the Asiatic Researches, continues his essay on the Sacred Isles in the west, from which is taken the following description of Meru, the fabulous mountain so often referred to by eastern mythologists:—" Meru is the sacred and primeval linga, and the earth beneath is the mysterious yoni, expanded, and open like the padma, or lotus. The convexity in the centre is the os tincæ, or navel, of Vishnu; and they often represent the physiological mysteries of their religion by the emblem of the lotus, where the whole flower signifies both the earth and the two principles of its fecundation: the germ is both Meru and the linga: the petal and filaments are the mountains which encircle Meru, and are also the type of the yoni: the four leaves of the calyx are the four vast regions towards the cardinal points: the leaves of the plant are the different islands in the ocean round Jambu: and the whole floats upon the water like a boat. At the end of the essay are curious plates, representing Meru under the fanciful semblance of a lotus, and other geographical extravagances of the hindu puranica, or poetical fabulists. The hindus do not say, like the Chaldeans, that the earth has the shape of a boat, which is only a type of it. It is their opinion that at the time of the flood, the two principles of generation assumed the shape of a boat with its mast, in order to preserve mankind. Enthusiasts among the hindus see these two principles everywhere; in the clefts of rocks, commissures of branches, passes among mountains, &c. The earth is typified by a boat; the argha of the hindus, and the cymbium of the Egyptians, are also emblems of the earth, and of the mysterious yoni. The argha, or cymbium, signifies a vessel, cup or dish, in which fruits and flowers are offered to the deities, and ought to be in the shape of a boat; though there are to be seen many that are oval, circular, or square. Iswara is called Argha nat'ha (or the lord of the boat-shaped vessel): and Osiris, according to Plutarch, was commander of the Argo, and was represented by the Egyptians in a boat carried by men who might, with propriety, be called Argonauts. The ship worshipped by the Suevi, according to Tacitus, was the argha, or argo, and the type of the mysterious yoni. The Argha with the linga of stone, is found all over India as an object of worship; it is strewed with flowers and water is poured on the linga. The rim represents the yoni, and the fossa navicularis and instead of the linga, Iswara might be represented standing in the middle, as they used to do in Egypt." The ling, linga or lingam is always a conical stone.

According to another hindu legend, descri-

the general deluge, Brahma, or the creating power, was asleep at the bottom of the abyss: the generative powers of nature, both male and female, reduced to their simplest elements, the linga and the yoni, assumed the shape of the hull of a ship, since typified by the argha, whilst the linga became the mast. In this manner they were wafted over the deep under the care and protection of Vishnu. Mr.Wilford adds in a note, that "Mahadeva is sometimes represented standing erect in the middle of the argha in the room of the mast." The Greeks seem to have brought with them an acquaintance with the physiological worship of the East-Aryans since styled hindus. The most ancient oracle and place of worship at Delphos was that of the earth in a cave, which was called Delphi, an obsolete Greek word, synonymous with yoni in Sanskrit: for it is the opinion of devout hindus that caves are the symbols of the sacred yoni. This opinion prevailed also in the west; for perforations and clefts in stones and rocks were called cunni diaboli by the first christians, who always bestowed the apellation of devils on the deities of the heathen. Perforated stones are not uncommon in India; and devout people pass through them, when the opening will admit of it, in order to be regenerated: if too small, they put the foot or hand through it, and, with a sufficient degree of faith, it answers nearly the same purpose.

In the Ins. of Menu, c. 1. v. 10, the waters are called Nara, because they were the first production of Nara, or the Spirit of God; and since they were his first ayana, or place of motion, he is thence named Narayana, or moving on the waters. Narayana in his watery cradle, is deemed a most mystical and profound subject: his boat-shaped argha, its rim, its termination; the endless figure he assumes by the puerile conceit of putting his toe in his mouth, is supposed symbolical of eternity. The cradle is also styled vat patra, meaning the leaf of the sacred pipala; and paupater, or leafy vessel; as well as argha patra, also known by each of the words forming the last. In marriage, and in funeral ceremonies, as well as in that copious sacrifice of srad'ha, an argha is an indispensable utensil. The fanciful imageries of the hindus are of endless number. At the very extremity called Malabar Point, is a cleft rock, to which numerous pilgrims and persons resort for the purpose of regeneration by the efficacy of a passage through this sacred type. This aperture is of considerable elevation, situated among rocks, of no easy access, and, in the stormy season, incessantly buffetted by the surf of the ocean. The hindus however, are prone to fancying a type of some thing mysterious in almost every subject that can come under their contemplation: any thing hollowed out, conveying an idea of capacity, they deem typical of the yoni, or argha, itself a type of female nature, or the sacti, or power of Siva: the sea, a pond, a well, a cave, the palm of the hand, or any thing similarly hollowed, convey to their enthusiastic minds an idea of the argha; and their periphery, real or imaginary, an idea of the yoni. In like manner, a mountain, a hill, a tree deprived of its boughs, a mast, a pole, an obelisk, a pyramid, or anything conical or erect, excites an idea of the linga; and such objects they can fancy its symbol: a conical stone is particularly so esteemed, or fire, whose natural and necessary form is conical. Hence a triangle, with its apex upwards, is the immediate type of Mahadeva, who in some relations is fire personified. Vishnu is, in like manner, a personification of the principle of humidity; and water is symbolized by a cone, or triangle, with its apex downwards: these types correctly denoting the ascending and descending properties of their respective prototypes, elemental fire and water. The two conjoined, like the masonic symbol, express the junction or union of the two elements, or deities: this mark, or character, is said to represent also Vishnu and Prit'hivi, of whom an equilaterial triangle is severally the type. The larger the object, the more vernerable: the pyramids and obelisks of Egypt have been supposed of this origin. The sea itself, or rather its containing concave, is regarded the argha of the world.—*Major Moor's Hindu Pantheon, p.* 399. *Coleman's Hindu Mythology. As. Res. vol.* ii. *p.* 471. *Mr.Colebrooke in vol.* vii. 8 *&* 9, *p.* 256. *Mr. Wilford in do.* iii. 365; iv, 366; vii, 256, viii, 274, ix. See Argha, Bhavani, Burabur, Caves, Hindoo, Linga, Ceremonies, Narayana, Sacti, Sati, Sects.

YONIJA. See Yavana, Yoni, Yonicita.

YOONG. Burm. Conocarpus acuminatus, *Roxb. Royle.*

YOORAB. See Saba.

YOOSHOOUNG. See Kunawer.

YOOSOO See Kunawer.

YOOZ. See Kokan.

YOQTAN. Father of thirteen races of South Arabia.

YORA-BANGALA, from yora a pair, and bangala, a one-storied house; an idol-temple, made like two thatched houses or bangala, placed side to side; and has what is called in England a double-pitched roof, generally covered with tiles or bricks. The front is open without doors. These temples are dedicated to different gods, but are not now frequently built in Bengal.

YOUART. Pers. curds and whey, the principal delicacy to be found amongst the

wandering tribes near Syria.—*Eothen's Travel from the East p.* 50.

YOUMA-DOUNG, the Arracan range of mountains, length about 600 miles from Munnepoor, lat. 22° 20′, to Cape Negrais, lat. 16°. The average height is 3,000 to 5,000 feet. Blue Mountain in lat. 22° 37′, and long. 93° 11′, is 8,000 feet. Pyramid Hill is 3,000 feet. The crest of Aeng Pass is 4,517 feet. The pass from Podaungmew to Ramree is 4,000 feet. From Blue Mountain there is a gradual slope to C. Negrais, which is about 300 feet high. The Youmadoung is a continuation of the great mountain chain commencing at the S. of Assam, in 26° 30′, and extends S. running parallel with the river Irawaddy, and forms a natural barrier between Arracan and Ava.

YOUNG. CAPTAIN JAMES, I. N. Author of Memoir of the Maldive Islands. Bom. Geo. Trans. 1836—1838; Bombay reprint, vol. i. 54—Account of famine in the Laccadives in 1841, in Bombay Times, August 13, 1851; Madras Spectator and Bombay Times, October 1, 1847.

YOUNG, CAPTAIN JOHN, younger brother of Captain James Young. Author of Currents in the Arabian Sea. See Orlebar's account of in Athenæum, 1847; Rep. Brit. Ass. 1848.

YOUNG-MA. CHIN. Eriobotrya Japonica. Loquat.

YOUNG-THA. BURM. This tree is found in moderate quantities along the sea coast near Tavoy and Mergui. Its maximum girth is 3 cubits and maximum length 30 feet. The seasoned timber sinks in water. It is a heavy durable wood, used for posts and planks of houses, and not bad for planes or handles, though surpassed for these by other woods of Amherst, Tavoy and Mergui.—*Capt. Dance.*

YOWL ISLAND, a name of Aion island.

YOW-MA-LAY. BURM. In Tavoy, a strong, heavy, rough, white wood; used for house-posts.—*Mr. Blundell.*

YSERHOUT. DUT. Iron wood.

YU the Great, is the first Chinese monarch of whose reality there is no doubt, and his accession occurred about 2000 years before the Christian era. Systematic Chinese history hardly goes back so far as B.C. 2000, i.e., to the reign of Yu. Yu was the founder of the dominion of the kings or princes of Shen-si in S. China, as far as the great river. He diverted the course of the Yellow River to fertilize the lands between the two rivers.

YUCCA, a genus of plants belonging to the section Aloe, of the natural order Liliaceæ. The corolla is inferior, bell-shaped, its segments without nectaries; stamens club-shaped; style none; berry hexagonal, of six cells; seeds numerous, flat. The species of Yucca are natives of the southern provinces of t[he] United States, and being there expos[ed to] extremes, are capable of living in the open [air] both in Europe and India. They are conspi[-] cuous for their noble show of lily-like w[hite] flowers, as well as for their long sword-sha[ped] leaves terminated by a thorny point. The[y], no doubt, all abound in fibre, and some of [a] fine quality and strong in nature, has been [sent] from Madras, separated from the leaves of the Yucca angustifolia. Other species flouri[sh] as far north as in the botanic garden at Sah[a]-runpore. The fibres also take colour, and specimens were sent from Madras, dyed red, orange, purple, and green. Fibre has als[o] been separated from other species of Yucca, Y. aloifolia and Y. filamentosa. The Yu[cca] fibres are amongst those which have receiv[ed] the name of silk-grass. Those sent from Ind[ia] are from two to four feet in length, and rather wiry, or resembling those of the Ag[ave] more than they do the fibres of Brom[elia]. Y. gloriosa, *L.*, common Adam's-needle, is caulescent plant with lanceolate straight fu[r]-rowed leaves, their edges smooth and entir[e]; it is a handsome plant, a native of Peru and North America. It grows on the shores [of] Carolina, where it blossoms in July and Au[-] gust, its panicle of elegant flowers attaining [a] height of 10 or 12 feet. In British gard[ens] the stem of this plant does not attain a heig[ht] of more than 2 or 3 feet. Y. aloifolia, *L.*, al[oe-]leaved Adam's-needle, has linear, lanceol[ate] even straight leaves, with the edges borde[red] by fine callous notches, it is a nativ[e of] North and South America. Y. draconis, [the] drooping-leaved Adam's-needle, and Y. fi[la-] mentosa, *L.*, thready Adam's-needle, are cul[ti-] vated in England for ornament. The latter gr[ows] in the open air, and blossoms in the autu[mn]. Its flowers are panicled and pendulous, and a cream colour. The leaves have their ed[ges] beset with long recurved threads. The sev[eral] species are quite hardy.—*Roxburgh. Vo[igt]. Hort. Calcuttensis Suburbanus, p.* 661–6[62]. *Mad. Exhib. Jur. Rep.* See Evergreens.

YUCCA ALOIFOLIA, *L*, produces a wh[ite] pliant and strong fibre, resembling that of t[he] Agave in all respects, but is apt to be discolo[ured] by steeping, which the Agave is not.—*En[sign] Riddell. M. E. Juries' Report.*

YUCCA GLORIOSA. Adam's-needle, sometimes called an Aloe, has a strong, fi[ne] but rather stiff fibre, suited for the manu[-] facture of cordage; it very soon becomes di[s-] colored by steeping, but is not so liable [to] rot as some of the other fibres of this kind; the plant is not abundant in Southern In[dia], but grows easily and might be propaga[ted] to a great extent.—*M. E. J. R.*

YUCHI, or Tochari, a Scythian tribe, wh[o]

dispossessed the Sakæ Scythians of their conquests in Afghanistan. They retained their power in Northern India until the third century of our era. Ambakapi or Amakatis, are two mounds, ruins of ancient cities where three brothers, Sir Kass, Sir Suk, and Amba, ruled about 1800 or 1900 years ago. This date would make the three brothers contemporary with Hushka, Jushka, and Kanishka, the three great kings of the Yuchi or Kushan race of Indo-Scythians, with whom General Cunningham on other grounds, is inclined to identify them. The Yuchi people are believed to have been of a Tibetan race, who became known in the west as Indo-Scythians, and at a later date as White Hun. They were driven from their seats somewhere between China and Khotan, by the great Turkish race of Hiong-nu. After some intermediate halts they arrived first in Tawan, or Farghana, and afterwards in Tahia, or Bactriana, where they destroyed the Greek dynasty and settled themselves. The Chinese emperor was desirous of opening communication with them in order to excite a diversion against the Hiong-nu, the constant disturbers of the Chinese frontier, and about B. C. 135 he sent for this purpose a party under an officer called Chang kian. On their way they were caught by the Hiong-nu and kept prisoners for ten years. Chang-kian then escaped with some of his comrades, but adhering to his mission succeeded in reaching Tawan, where he was well received by the people who were acquainted by fame with the powers and riches of China, though they had never had any direct communication with that country. Finding that the Yuchi had gone south to Bactriana, he followed them thither, but failed to induce them to quit their new seats upon the Oxus to return to their eastern deserts and battle with the Hiong-nu.

During the first century, the power of China had decayed and the Hiong-nu recovered their ascendancy. In A. D. 83, however. Panchao, one of the most illustrious commanders in the Chinese annals, appeared in the field, and in a few years recovered the Uigur country and all western Tartary to the empire.—*Yule Cathay I. p.* liv. lv. *Cunningham Ancient Geography of India.* See Greeks, Kabul, Kandahar, Afghan, Jat, White Hun.

YUDHISHT'HIRA. A prince of great celebrity in hindu history, who, according to Indian authors, reigned about the beginning of the Kali yug; some, however, fix the epoch of his reign 653 years later, or in the year 2448 before Christ. He is said to have been contemporary with the astronomers Parasara and Garga.

The commencement of the Kali yuga 3101 B. C. The true date seems to have been about B. C. 1400.

Yudhisht'hira and Baldeva, after the Mahabharata, returned to Saurashtra, and after the death of Krishna, they went northwards and are supposed to have reached Greece. Yudishtra, commonly called Dharma rajah, was the eldest of the five Pandava.

Yudhisht'hira is a Sanscrit term from yuddah, war, and st'hira, firm. See Inscriptions, Magadha, Mahabharata, Krishna, Polyandry, Pandu.

YUE. See Kwang-tung-chi.

YUEN. The Yuen dynasty of China, which succeeded the Sungh in A. D. 1271, were Mongols, immediate descendants of Chenghis Khan, who adopted Chinese civilization only in a very slight degree, and were consequently soon expelled again. The first emperor of the native dynasty, the Ming, which succeeded them in A. D. 1368, though a promoter of literature, was himself illiterate, having been a servant in a monastery. But the third sovereign of the line who began to reign A. D. 1403, had a splendid library formed and several encyclopædic works compiled. He published an edition of the Sacred Books, which is known by the affix to their title of "Tatreuen," in full completeness.

YUG, Yuga, or Yoga, signifies properly the conjunction, and sometimes the opposition of the planets. It is, however, more generally used for signifying a long period of years, at the expiration of which certain phenomena, or circumstances, recur. The principal series of the yug made use of in present times in astronomical computations, are the Maha yug, Satya, Treta, Dwapara, and Kali yuga. It is generally admitted that ancient hindu astronomers invented their yug with reference to some of Jupiter and the Sun's conjunctions, in the beginning of the zodiac; and that more recent ones with a view to lengthen their periods, have referred them to those of Saturn and the Sun. Modern European commentators have made great alterations in the epochs and durations of these yug, without changing their names. Yuga dina (sometimes written yugadia) means the anniversary of the day on which the current mahayug, and any one of the four lesser yug began; which anniversary is always noticed in the calendar. Telugu astronomers use sometimes the term yugadia for ahargana. Kala, or Cala, Time, in its natural acceptation, is a term applied to a great variety of mathematical and astronomical subjects. —*Captain Edward Warren, Kala Sankalita.*

YUH. CHIN.

Jade,	ENG.	Sutash,	TURK.
Yashm,	PERS.		

This mineral is supposed by most to be jade, but Mr. Crawfurd calls it noble serpentine. James Prinsep considers that this mineral is prase rather than jade. Both Crawfurd and Pemberton call this green, translucent and very hard mineral, noble serpentine. It is found in the long narrow valley of the Ooroo or Oru, a tributary of the Ningthe or Kyendwen, some fifty or sixty miles west of Mogoung. The mineral is dug up by the Shan and Kakhyen races; it is found in the form of boulders embedded in yellow clay, and the larger blocks are transported by means of bamboo frames, borne by four or five men. It is largely purchased by the Chinese in Burmah for exportation to China, where it fetches an extravagant price, and is manufactured into cups, bracelets, &c. It is of the Yuh stone that the Chinese form their waved emblem of longevity, specimens of which sometimes bring 100 dollars. Respectable Chinese at Amarapoora represent this trade as amounting to from six to ten lacs of tikals per annum. This is probably exaggerated ; but the mineral is said to sell in China for twice its weight in silver. Dr. Bayfield was informed that the duty on the stone sometimes reached 40,000 rupees a year. Captain Hannay, however, was told at Mogoung that, including this duty, the revenue of the town and neighbouring villages did not exceed 30,000 rupees a year. The persons who come to make the purchases are Chinese mahomedans.

It is met with, also, in Fung-t'ien-fu (Shing-king), Lien-chau-fu (Canton), in Shan-tung, near Khoten, Karakash, Yarkand, and other places in Turkestan and Mongolia, in the rivers amongst the Siansk mountains, to the S. W. of Lake Baikal, in E. Siberia, and other places in Central Asia ; also in N. Zealand, Polynesia, and the United States. It is of various colours, white, blue, yellow and green, and the milk white and light green varieties are the most valued. It is the Yula or gem par excellence of the Chinese, and its hardness, weight, sonoriety and peculiar sombre tint are the points in this precious stone on which the Chinese found their estimate of its value. It consists chemically of the silicates of magnesia and alumina, with varying quantities of chromium, and perhaps other metals, according to the tint of the stone. Philosophers and physicians have ascribed all sorts of properties to this mineral, which however, as a medicinal substance for any purposes of pharmacy, can have no other effect than so much stealite or soapstone. The Chinese suppose it to possess humane, just, intelligent, brave and pure qualities, presumed to be conveyed to the wearer. Those who wear it are said to be relieved from the claims of gravitation. Chinese jade articles have been dug up in Europ[e] in connection with very ancient remains.—*Sm[ith] Frederic Porter, M. B., London, Medical [Mis]sionary in Central China, Contribution[s] [to]wards the Materia Medica and Natural [His]tory of China, Shanghai, London,* 1871. *Cap[t.] Yule's Embassy to the Court of Ava,* p. 1[?]

YUGA, an age ; of these the hindoos [rec]kon four, viz :—

Krita or Satya yuga,	1,728,000	years.
Dwapara yuga, ...	1,294,000	years.
Treta yuga,... ...	864,000	years.
Kali yuga, ...	432,000	years.

YUGADYA. SANS. From yuga, and ad[y], the first. See Yug.

YUGA PUTRU. SANS. Bauhinia can[di]da, var. of B. variegata.

YUG-SADDAN, or Yug-brasht, or Yu[g] byasa, in the hindu religion, a class of pe[rsons] who, by extraordinary pious pains, ob[tain] miraculous longevity, prolonging their li[fe] to some hundreds of years. As far as ca[n be] gathered, it is regarded by them as the fa[culty] of drawing, by degrees, all the breath (perhaps, the principle of life, or the soul,) i[nto] the upper part of the head, and thus conti[nuing] for any number of years the aspirant m[ay] have previously determined on, or, as oth[ers] say, in proportion to his piety, in a stat[e of] insensible absorption, exempt from the destruc[]tive operations of earth or water, but not fire. The sect called Byragi or Viragi, are ap[]parently the most frequent and success[ful] pretenders to this extraordinary power. P[er]haps the following tale in Wilford's Eg[ypt] and the Nile, may allude to the practic[e.] On the banks of the Kali dwelt a brahman, wh[ose] name was Lechayanasa, a sage rigorously de[]vout, skilled in the learning of the Vedas, a[nd] firmly attached to the worship of Hari; b[ut] having no male issue, he was long discon[so]late, and made certain oblations to the g[ods,] which proved acceptable, so that his wi[fe] Sankriti, became pregnant, after she had ta[st]ed part of the Charu, or cake of rice, wh[ich] had been offered. In due time, she was de[]livered of a beautiful boy, whom the br[ah]mans, convened at the jatakarma, or cere[mo]ny on his birth, unanimously agreed to na[me] Haridata, or given by the divinity. Wh[en] the sanskara, or institution as a brahm[an] was completed by his investiture with the [sa]cerdotal string, and the term of his stud[ent]ship in the Veda was past, his parents u[rged] him to enter into the second order, or th[at of] a married man ; but he ran into the wo[ods] and passed immediately into the fourth o[rder,] disclaiming all worldly connections, and [whol]ly devoting himself to Vishnu, he contin[ually] practised the samadhiyoga, or union wit[h the] deity by contemplation, fixing his mind so

nsely on God, that his vital soul seemed concentrated in the Brahma-randhra, or pineal land; while his animal faculties were susended, but his body still uncorrupted, till he reflux of the spirits put them again in otion; hindus assert that some Yogi have mained in this state for years, and the ncifnl gradations are minutely described in e Yoga-sastra; and even delineated in the gures called Shat-chakra, under the emblems lotus-flowers with different numbers of tals, according to the supposed stations of e soul in her mystical ascent.—*Coleman, ythology of the Hindoos, p.* 426. *As. Res. vol. p.* 456. See Changa Deva.

YUKAGEER. See India.

YULATT. HIND. Populus nigra.

YUL CHUNG. See Ladak.

YULE, Colonel, an officer of the Bengal igineers, author of Embassy to Ava: Cathay the way thither; he was in charge of the servatory at Aden in 1840. Author of an acnt of the Kassia hills. Bl. As. Trans. 1854, l. xiii. 153.—On native tree bridges, Seanavian antiquities.—Tremendous falls of n at Cherrapoonji. Ibid.—Translation of the hal Grant of the Emperor Acbar, with es on the western Jumna canal. Ibid, 1839, . x. 113.—*Dr. Buist's Catal.*

YUL-SUNG. See Tibet.

YUMA. See India, Khyen, Yoma.

YUMBOKH. HIND. Ulmus erosa.

YU-MUH. The nomade Yu-muh, wandering ds, one of many small scattered tribes. y and the Tosang, slayers of bird, beast, ish, who give the skin or flesh as tribute, variously interspersed throughout the itary jurisdictions of extra-provincial China, are administered more or less by military etionaries. The Tosang are to be found in in, and Tsitsihar of the Manchurian provinand Urianghai; the Yu-muh are at Changkau, and in Ili; Jeh-ho of the map, Tartai, Urianghai, Kobdo, and Tibet; there also Yu-muh between Tibet and the Kanfrontier, under the minister residing at ing-fu, and on the borders of Shansi in Kwei-hwa command.

YUNAM, also called Nam-tso, a glacier in Lahul at an elevation of 15,570 feet e the sea. Glacier lakes are accumulations ater formed by one glacier obstructing the t of a higher one, and are of frequent rrence. At times the wall of ice breaks before the pressure of the swollen rs, when the lower lands become suddenly lated, and the torrent rushes on with terrupted violence for miles, exercising rked influence even down to the lower of the rivers. Two of the most elevated er lakes are the Deo-Tal, in Garhwal (17,745 feet), and the Nam-tso, or Yunam, in Lahul (15,570 feet.)

YUNAN. HIND. PERS. Greece.

YUNANI. HIND., a Greek: also in India a system of medicine. See Greeks, India, Kabul, Yavana.

YUNG-MA-DÆ. BURM. Abelmoschus esculentus, *W. & A.*

YUNG-MAI. CHIN. Eriobotrya japonica. *Lindl.* Loquat.

YUN-LIANG. See Teen-tsing-foo.

YUNNAN is bounded on the north by Sze-tuen, on the south by Laos and Tonquin, on the east by Kwan-se, and Ho-nan, and on the west by the Burman empire; a small portion of the north-west is bounded by Thibet. The surface of this province is estimated at 57,000 square miles, and its population at seven millions. Yunnan is the most south westerly of the provinces of China proper, and contains a large number of mahomedans. Marco Polo, whose book was written in 1295, describes the inhabitants of the principal city as a mixed assemblage of idolators, Nestorian christians, and mahomedans. The mahomedans are said to be descendants of a body of 10,000 soldiers who were subsidized in A. D. 757 from Bagdad, and then sent to colonise Yunnan. The mahomedans of Yunnan are styled Pan-thay by the Burmese and Quay by the Chinese. Pa-thi in Burmese means any mahomedan. Yunnan has silver mines at Loesoonphoo worked by mahomedans, there, also, called Pan-thay. Yunnan became independent of China about 1856 on a revolt of the mahomedans. In 1854 the trade with Burmah was valued at half a million sterling. The western provinces of China have a population of upwards of a hundred and twenty millions, with whom, at present, India maintains no intercourse. The question of a direct route into these countries is, then, one of the deepest interest, and there are political as well as commercial advantages to be gained by driving a great highway into Western China from the Bay of Bengal: the importance of a western route into China is generally conceded. The question remains, however, whether it is practicable or not. The extremity of British territory in Pegu is within two hundred and fifty miles of Esmok, a town on the Chinese frontier. A railway, or high road, along the bank of the Salween to the neighbourhood of Monoi, would there join an existing caravan track to Esmok, and from Esmok to the Yang-tse-Kiang. Yunnan is a rich mineral country rising towards the north into a wild mountain region, but sloping to the south into a country of rich pastures and open plains. A great traffic exists over this tract between

China and the Laos States, the Siamese, the Burman Shan States of Limmai Moni and conducted by great caravans of ponies, mules, and donkeys.—*Sirr's China.*

YUNSALEN. See Karen.

YUNX INDICA appears to be met with in Afghanistan and Tibet. Mr. Gould describes a kind of nuthatch to inhabit the Himalayan mountains towards Kashmir, but the bird in question is unknown in Central India properly so designated.

YUNX TORQUILLA, the Wryneck of Europe, Asia, N. Africa, China, Japan, Kamschatka; is common in India, as in Britain; migratory.

YUPO. Hind. Avena fatua.

YUR. Hind. Salix alba.

YURISH. Pers. Assault, storm, invasion, commonly supposed to give the English or Irish cry "hooroosh."

YURO, in Mindoro, is the heart or pith of the trunk of a palm, known by the name of Cabo negro.

YUSSER, a species of kerotophyte, which abounds in the harbour of Jedda, and has a most singular effect under water, from its gently waving motion when agitated by the tide. It is of a deep black colour. On being taken up it is flexible, but when dry it becomes very brittle. One species, says Lord Valentia, my divers were very anxious I should touch with my tongue; suspecting a trick, I made them do it, and soon found by their grimaces, that it stung severely.—*Valentia's Voyage and Travels, vol.* iii. *p.* 320.

YUTE. See Krishna. Gete; Jat.

YUTHIA, or Juthia, in lat. 14° 18′ N., about 72 miles up the Menam river, was formerly the chief city of Siam, but the Siamese were driven from it in 1767 by the Burmese.

YU-THIAN. Tib. Khotan.

YUTHICA. Hind. Sans. leaves of Citrus limonum.

YUTHIKA. Sansc. great flowered jasmine, J. grandiflorum. It is also a name of a creeping kind of jasmine, J. auriculatum.—*Hind. Theat. vol.* ii. *p.* 100.

YUTI. See Bactria.

YUVA RAJAH, in ancient Vedic times, an heir apparent to the throne.

YUVA RAJA DEVA. See Inscriptions.

YUWA. Burm., a village.

YU-WAH. See India.

YUZUFZYE, a numerous tribe of Afghans, who quitted their ancient habitations between Ghizni and Kandahar, and after various unsuccessful attemps to obtain a settlement in Kabul (at the time when Mirza Ulug, surnamed Kabuli, ruled that kingdom,) finally established themselves in Swad and Bijor, which, at the period, were governed by a dynasty of princes styled Sultani, who derived their lineage from Alexander the Great. Bijor is certainly the Bazira of Alexander, and the celebrated rock of Aornos ought to be situated either in Bijor or Swad or the adjoining country of Kuttor. The Yusufzye possess, in addition to Swad and Bijor, the tract situated between those provinces, and the rivers of Kabul and Indus; the greatest part of which is described as a desert in the Ayin Akbari, but by Beruoulli as a forest.

The Yuzufzye tribes now hold all the districts to the north of the Lauddaey Sind, or eastern half of the Kabul river, though they were in Baber's time, new comers. Saint Martin, in his Memoire Analytique sur la Carte de l' Asie, in endeavouring to identify Hwuen Thsang's Ou-to-kia-han-tcha, not with Atok, but with Hund, mistaking the pronounciation of the latter name, complains in reference to Yusufzye and the region about Peshawur, that malheureusement nous sommes ici sur un terrain dont l'exploration archeologique est a peine entamee. Few even of the scores of mounds which cover the plains of Yuzufzye, have yet been in any way investigated, much less opened; and still fewer have been the attempts to search the hills which abut on this plain, although every attempt in this direction has been abundantly rewarded. From independent Chilas and the Looloosur Lake away through the Yuzufzye to Swat, there is an unknown land often entered here and there by the expeditions of the British, which it would be well for scientific as well as political reasons that we should know better. The few art remains spared by the mahomedans, with their traces of Greek origin, such as the nude figure in chain armour with the Macedonian chlamys, and the Greek head of Buddha the chin of which only is Indian, found at Jamalgarhi, make us long for an archæological survey of the land which Alexander subdued, but which the British have not even explored.—*Rennell's Memoir, p.* 161,2,3.

Y-WAI-GYEE. Burm. Adenanthera pavonina.

YZER. Dut. Iron.

YZERKRAMERI. Dut. Hardware.

Z, the twenty-sixth and last letter of the English language, is also found in most of the modern languages of Europe. It is a sibilant consonant, and is merely a sonant or vocal s. It is quite a characteristic distinction between the Sanscritic and Semitic dialects of India that the former are quite destitute of the symbol and the sound of z, whilst in the latter there are no fewer than five modifications. In the Arabic, three letters have individual powers, but with the exception of zh, which has the sound of the French j in jour, no difference of pronunciation is made in India. The hindoo races who do not use z, are not able to distinguish between z and j, so that zor, strength, becomes jor, union ; roz day is pronounced roj, for there is not any letter corresponding to z in the Sanskrit, Hindi, Marathi, Guzerati, Bengali, Urya, Telugu, Karnata, Tamil, or Malayalam.

ZAABUT. Ar. a large bag-sleeved, black or brown colored robe, made of home-spun woollen, the garb of the Arab peasant, the hedge-priest, and the dervish.—*Burton's Pilgrimage to Meccah, vol. I. p.* 24.

ZAB. A river which divides the province of Fars from Khuzistan ; it is navigable for boats as far as the town of Endian, a distance of sixteen miles from the sea. Athur, the ruined city near the mouth of the upper Zab, now usually known by the name of Nimrud, is called Ashur by the Arabic geographers, and in Athur we recognise the old name of Assyria, which Dio Cassius writes Atyria, remarking that the barbarians changed the Sigma into Tau.—*Muller's Lectures, p.* 233. *Malcolm's History of Persia, vol. I. p.* 2.

ZABAB. Heb. Gold.

ZABABI. Hind. a kind of emerald.

ZABAD. Arab. Civet.

ZA-BAING, a tribe in Burmah. No trace of the Mon is left along the Yuma range,—tribes of the Karen family being the exclusive holders of its inner valleys. Some of the very imperfectly described tribes on the eastern side of the Irawadi, to the north of the Ka-ren-ni, viz, the Za-baing, Khyen, &c. may belong to the older immigrants.

ZABARJAD. Malay. Topaz ?

ZABAYER, a group of volcanic islands in the Red Sea ; also written Zebayer. See Zebayer, Volcano.

ZABEID. See Chaldea.

ZABIB. Ar. Vitis vinifera, *Linn.* raisins.

ZABIT. Arab. Pers. a chief magistrate of a town ; in Egypt, the police magistrate.

ZABLESTAN. See Kandahar.

ZABRJAD, or Zamarrad. Hind. Emerald.

ZABTI. Arabo-Hind. resumed property or under arrest ; also, in the Punjab, crops of the more valuable kind, poppy, sugar-cane, &c. on which a special acreage is charged. In the Panjab, opium is not made a Government monopoly as it is in Bengal ; the people are free to cultivate if they choose, only it ranks as a "Zabti" crop, and has certain higher charges made upon it.

ZABUL, also Zabulistan, or Zawulistan, a large province south of Balkh and Kabul, including Sistan, and having Ghazni for its capital. Rustam Zabuli, the hero of the Shahnama, is said to have been a native of this country.

ZABULON. In a two hours walk from Nazareth, Seppown is reached ; it is a small town upon a height near the entrance to the vale of Zabulon. From its situation, it has gained an unhappy distinction in the wars of the Holy Land. Six-hundred christian knights were massacred in front of it by Jappadin. The valley of Zabulon is narrow and well wooded. It is cultivated ; but, although the soil appears good, tillage is not very general—*Skinner's Overland Journey, vol. I. p.* 140-1.

ZAC. See Caprese.

ZADIANUJ. Ar. Fennel ; Nigella sativa.

ZADWAR. Ar. Curcuma zedoaria, *Roxb.*

ZAFARAN. Hind. Crocus sativus.

ZAFAR-NAMAH, the Persian name of a work, purporting to contain a conversation between Aristotle and Burzurjmiher.

ZAFFER or Zafre, an impure oxide of cobalt, prepared by calcining its ores, and mixing the product with about twice its weight of finely powdered flint. It is used for communicating a blue colour to glass, porcelain, and earthenware ; and when roasted with potash, washed, and pulverized, forms smalts. —*Waterston* quoted by *Faulkner*.

ZAFFERANO. It. Saffron. Crocus sativus.

ZAFFRAN. Arab. Pers. Hind. Crocus sativus.

ZAFFRON. Hind. Crocus sativus, *Linn.*

ZAFFRONE. It. Safflower.

ZAFIRO. It. Sapphire.

ZAFRAN-I-HADID. Pers. a sesqui-chloride of iron, made by burying for ten days in the ground a composition of iron filings and sal ammoniac, the damp of the earth causes

the sal ammoniac to act on the iron.—*Dr. Honigberger.*

ZAGATAY. The reason why the Tartars took the name of Zagatay, is said to have been that a long time ago there was an emperor of Tartary, who was native of a city called Dorgancho, meaning the treasure of the world. He ruled over a vast territory which he had conquered, and when he died, he left four sons, named Gabuy, Zagatay, Esbeque, and Chercas, all sons of one mother. When the father was dying, he divided the land amongst his sons, and Zagatay received the land of Samarcand, with other territory. The father told his four sons to be as one, for that, on the day in which discord arose amongst them, they would be lost. This Zagatay was a man of great bravery and generosity, but there rose up envy amongst the brothers, and they made war upon each other. When the people of Samarcand saw this, they rose against Zagatay, killed him, with many of his followers, and made one of their own countrymen emperor. Many followers of Zagatay remained in the land in possession of property on which to live, and, when their master was killed, all the people of the country called them the Zagatay. Timur Beg and the other Zagatay who follow him, are descended from these Zagatay Tartar, and many people of the land of Samarcand have now taken this name of Zagatay, that they may share in the great name which the Zagatay have now attained.—*Markham's Embassy* p. 128, 129.

ZAGHRITAH, a shrill cry with which Arab women welcome their wanderers home; the sound so gladdening to the returner, sends a chill to the stranger's heart. The Egyptian word is generally pronounced Zaghrutah, the plural is Zagharit, corrupted to Ziraleet. The classical Arabic term is Tahlil, the Persians call the cry Ki. It is used by women, and is formed by raising the voice to its highest pitch, vibrating it at the same time by rolling the tongue, whose undulations express now joy, now grief.—*Burton's Pilgrimage to Meccah. vol.* iii. *p.* 197.

ZAGHUN. HIND. Cucumis melo.

ZAGROS, a plain on the east, bounding with Khuzistan, the pashalik of Baghdad. See Kasr-i-shirin, Khuzistan, Kurdistan, Mamaseni.

ZAGUKEL. HIND. Rumex acutus.

ZAHAL. AR. Saturn.

ZAHARA. See Burr.

ZAHARI GUGAL. KASH. Cicuta virosa.

ZAHAR MOHRA. HIND. Bezoar. There are several of these substances, all of them reputed amongst natives of India to be capable of extracting poison from a poisoned wound, from a snake bite or arrow wound; one of these, a mineral, is a hydrate of magnesia, and that from Khatai is more opaque and pale yellow colored than that from Ladak. Zahr-mohra of Ladak and of Suket, is serpentine, a hydrate of magnesia, whether as a bezoar or as common serpentine, or as calcined bones. The Zahr mohra, applied to a snake bite, will absorb a small quantity of the poison; but common earth, always at hand, will do better. A remark of Mr. Baden Powell seems to imply that, in the Panjab, serpentine is made into cups or bowls, which are supposed to crack and split if poison is put in them. In Europe a similar superstition prevailed as to Venetian glasses, and in the middle ages, opal was believed to lose its color at the sight of poison. The kind of Zahr-mohra called "khatai," is a hydrate of magnesia, and most esteemed by the natives as a medicine. Zahr-mohra scientifically, is hydro-magnesite. A compound of magnesia is dug near Scardo in Baltistan, and there cut and turned into cups, plates, &c.; it is supposed to have a wholesome effect on any fluid put into it, and to break should poison touch it. The kind of Zahr-mohra called Khatai, or "Chinese," is much valued by natives as a medicine: they grind the stone into a fine powder with water and swallow it.—*Powell.*

ZAHAR-TOR. HIND. Identical with Zahar Mohra; its meaning is poison antidote, from zahar, poison, torna, to break.

ZAHN, also Wartzel. GER. Pellitory.

ZAHR. HIND. Poison, mitha zahr is a species of Aconitum, khar zahra is the Nerium odorum.

ZAIBAK is surrounded by very high hills, and has four gates. See Badakhshan.

ZAIDAN. See Khauazad.

ZAILA, and Tajowra. In 1839, after the capture of Aden, it was deemed necessary to secure command of the harbours of Zaila and Tajowra on the Donkali coast, ports in Africa, nearly opposite to Aden, and the principal outlets of the trade of Southern Abyssinia. Tajowra is a dependency of Zaila, and both places were subject to the imams of Senna, but during the revolutions at Senna, the chiefs of Zaila and Tajowra had assumed independence. Treaties were made, but Zaila and Tajowra subsequently fell under the government of the Turks.—*Treaties, Engagements, p.* 315.

ZAIN SHAH, a mahomedan saint; oblations offered at his shrine.

ZAIN-UL-ABIDIN. AR. A mahomedan name. See Khajah.

ZAISI. HIND. Glycirrhiza triphylla.

ZAITUN. HIND. Olea Europea, the olive tree, also, Olea ferruginea.

ZAITUN. The monastery visited by the Friar Odoric at Zaitun, or Tsciuanchau, was probably that called the Water-Lily, founded in the eighth century and still magnificent, boasting two great seven-storied towers.—*Yule Cathay I. p.* 109. *Chine Moderne, p.* 117.

ZAJ-BELUR. PERS. Alum.

ZAJ-I-SHAM, a name signifying "Syrian vitriol." It is brought from the westward, and seems to be common and by no means expensive ; a large mass of it was bought for a kerone. It is of bright yellow colour, like sulphur, and looks like the ore of some metal. It appears to be full of a very astringent acid.

ZAKAT. AR. a tenth or tithe, a legal alms amongst the mahomedans.

ZAKAT. GUZ. Customs. Duties levied on commodities of importance.—*Faulkner.*

ZAKHM-I-HAIYATAH. PERS. Sphœranthus mollis; also S. hirtus, Glinus lotoides, Cissampelos Pareira, and Tinospora cordifolia.

ZALACCA. A genus of palms with an edible fruit occurring in Malacca, Penang, Assam, and the Tenasserim Provinces. One species is known as "Salac koombar" in Penang, and "Salac Batool," also "Rungun," in Malacca, Assam Koombar and Assam Paiah. The leaves are employed as thatch and for baskets, &c.—*Seeman.*

ZALACCA ASSAMICA. WALL. MSS. A plant of Assam, one of the Cocoaceæ.—*Voigt.*

ZALACCA EDULIS. REINW. AND BL.

Edible zalacca | Calamus zalacca, *Gartn.*

Grows in Burmah, the Malay and Eastern Archipelagos. A red scaly fruit is produced by this, but it is eaten by the natives only. The light Selung boat in which the maritime Selung race of the Mergui Archipelago shoot over their waters, owe their buoyancy to the stems of the edible zalacca, which form their sides. These stems are as light as, and of the consistency of cork, for which they are often substituted ; and the Selung are skilful in uniting them together to serve instead of planks, so as to make an unequalled sea boat, that floats on the waves like a swan.—*Dr. Mason's Tenasserim.*

ZALEYA DECANDRA. BURM. syn. of Trianthema decandrum, *Linn.*

ZALZALAH. HIND. PERS. an earthquake.

ZAMAI. HIND. Suæda fruticosa.

ZAMARRUD. ARAB. PERS. Emerald, also Beryl.

ZAMBA. HIND. Prunus padus.

ZAMBAK AR. Polyanthes tuberosa.

ZAMBAK. PERS. Jasminum sambac.

ZAMBURUK, wall pieces, or small cannon, mounted on camels and worked from off their backs.

ZAM-GYOUK. BURM. Garuga, sp.

ZAMIA, a genus of plants belonging to the natural order Cycadaceæ. Several species of Zamia are known, but most of them belong to the West Indies, of which two species, Z. horrida and Z. longifolia have been introduced into British India.

ZAMIA HORRIDA. JACQ. A small palm tree, one of the natural order Cycadaceæ. This family of plants have a simple cylindrical trunk increasing by the development of a single terminal bud, and covered by the scaly bases of the leaves ; another species is Z. longifolia, *Jacq.*

ZAMIN. HIND. PERS. earth, also written zemin.

ZAMINDAR. HIND PERS. a holder or occupant of a landed estate ; also written zemindar; the term is used in the Punjab only in the sense of a mere proprietor, and not as in Bengal to mean a wealthy landholder of a large estate. The zamindars or cultivators of the soil, at Jell, as throughout Kachi, are the Jet race, who there seldom move abroad but on bullocks, and never unless armed. A Jet may generally be seen half naked—seated on a lean bullock, and formidably armed with matchlock and sword, and to the north and west of Kach Gandhava, as also in Herat, Kandahar, and Kabul, the Jet are seen as itinerant artizans, like gypsies.

ZAMINDARI. The estate of a zamindar, pertaining or relating to a zamindar. Zamindarni, also zamindarni, a female of zamindar.

ZAMINKAND. HIND. Arum campanulatum, also Dioscorea bulbifera. Yam.

ZAMIN-KI-MATCHI. HIND. The fact of the imbedding of fish in the earth is stated by trustworthy writers. Mr. Bonynge says (*America*, p. 165.) I have seen the natives in the north east of India, both to my surprise and amusement, dig fish out of the earth. The fish is called "earth fish," "Zamin-ki mutchi," is of about five to seven inches in length, flat, and black in color, flesh hard, and in flavor somewhat like an eel.

ZAMORIN, a titular chief of Calicut ; it is the European term for the Samari, the descendant of a royal family who ruled there over territories now comprised in the greater part of the collectorate of Malabar. By a treaty of 18th August 1792, the zamorin agreed to act on the civil rules which the E. I. Company might introduce ; further changes were made by a treaty of June 1793, in September 1794 and 15th November 1806, the last of which gave a consolidated allowance to the zamorin, to whom is allowed the honorary

title of highness. Calicut town is on the Malabar coast in lat. 11° 15½′ N., long. 75° 47½′ E. Thick groves of cocoanut trees line the shore, and are divided from the sea by a belt of sand, while undulating green hills rise up behind, and a back ground of mountains is often hidden by banks of clouds. Its name is from Colicodu, a cock crowing, as Cheruman Permal gave his sword and all the land within cock crow of a small temple to the zamorin, or rajah of Calicut, who attained considerable power in the 15th century, but in the early wars of the Portuguese, the British and the mahomedans of Mysore, that high place was lost; Tippoo Sultan destroyed the flourishing trade, expelled from the country the merchants and factors of the foreign commercial houses; caused all the cocoanut and sandal trees to be cut down, and ordered the pepper plants in the whole surrounding district to be torn up and hacked to pieces because these plants, as he said, brought riches to the Europeans, and enabled them to carry on war against the Indians. Besides cocoanut products, coffee, pepper, cardamoms, ginger, Cocculus Indicus, gingelly seed, turmeric, arrowroot, Croton seeds, and Terra Japonica form articles of export. There are many of the Tiar and Moplah race here. Calicut was the first port at which Vasco de Gama arrived; it was visited in 1494 by Pedro da Covilham.—*Horsburgh. Bartolomeo's Voyage to the East Indies.* See Tiar, Moplah, Nicolo-di-Conti.

ZAMRUDI RANG. Hind. deep green, Zamrudi-mail-siahi rang, is very deep green, an invisible green; in silk, a deep dark green color, nearly black.

ZAMURRUD. Ar. Emerald.

ZAM-ZAM. A well near Mecca, which tradition traces to the time of Hagar and her son Ishmael as the spring that gushed forth to relieve their thirst. Its water is exported in little tins.

ZAN. Pers. A woman; hence Zanana, women's apartments.

ZANDA. Hind. Dracocephalum heterophyllum.

ZANDIAN. Tel. The zonar or sacred cord of the hindoos; zannar, zennar, zonar. See Upunainam.

ZANGAR. Verdigris, sub-acetate of copper; when pounded it yields a green or blue green of great beauty.

ZANGARI-KACHA-RANG. Hind. Verditer, a green color, not permanent; it is made by dipping cloth into a solution of verdigris.

ZANGARI-PUKHTA-RANG. Hind. Verditer, permanent blue.

ZANGARI RANG, a pale blue green color; applied also to emeralds of good color, a verditer blue or turquoise color.

ZANGBAR. Ar. Sulphate of copper; blue stone; blue vitriol.

ZANGCHA. Hind. of Basahir, brick tea.

ZANGYEEOAT-DOUP. Burm. Oak leaved Pollypod. (?) A tree of Moulmein, used for all ordinary purposes of building. Fruit used medicinally.—*Cal. Cat. Ex.* 1862.

ZANGZABIL. Hind. Ginger. Zingiber officinale; dried ginger root.

ZANJAR. Arab. Acetate of copper.

ZANNAR, Zennar, or Junnar, the brahminical and hindoo thread.

ZANONIA CLAVAGERA. Wall. This trailing plant is a native of the Khassya mountains.—*Voigt.*

ZANONIA INDICA. Linn.

Kyee-aa Burm. | Climbing cucumber Eng.

The fruit is obscurely triangular, and having the flavour of the cucumber. It climbs to the top of the loftiest trees at Alwaye, 14 miles from Cochin. Its leaves are used medicinally.—*Useful Plants. Dr. Mason's Tenasserim.*

ZANONIA ZEHNERIA. Endl.

Kyee-aa, Burm.

A plant of Tenasserim.

ZANSKAR, tributary to Indus, rises on the N. declivity of Bara-Lacha Pass, lat. 32° 47′, lon. 77° 38′, runs N. W., W., N. W., N. E., N. W., N. E., into the Indus, a few miles below Le. Length, 150 miles, receives the Tsarap, 42; Zingchan Tokpo, 22 miles. The Zanskar district of Ladak lies along the two great branches of the river of the same name. Zanskar town, near the Indus river, occupies the north slope of the main Himalayan chain parallel with Kishtwar on the south. Padum, the capital, is 11,592 feet above the sea; the territory is in L. 33-34° N. and L. 77-78° E.—*H. f. et T.* 224. See India, Indus, Ladak, Maryul, Shawl goat.

ZANTEDSCHIA AROMATICA, Spreng. syn. of Homilonema aromaticum, *Schott.*

ZANZIBAR, an island on the east coast of Africa in lat. 6°9′ S. and long. 39° 14′10″ It and the greater part of the eastern coast of Africa were conquered by the Portuguese in the beginning of the sixteenth century. Driven to despair by the tyranny of their rulers, the inhabitants of Mombassa, in 1698, invited the assistance of the imam of Muscat, who expelled the Portuguese and put many of them to the sword. It was not till 1784, however, in the time of Ahmed bin Saeed, that the Muscat Arabs established a permanent footing in the island of Zanzibar, and even for many years afterwards till the accession of Syud Saeed in 1807, the subjection of Zanzibar was little more than ar-

inal. In 1746 the people of Mombassa irew off allegiance to Muscat, elected sheikh hmed as their sultan, and maintained their idependence till 1823, when, fearing the gression of the imam, Soleiman bin Ali, e sultan of Mombassa, with the consent of e people, put himself under British protecon. A Treaty in 1824 to that effect howver was not ratified. The Zanzibar domiions extend from Cape Delgado about 1,100 iles northward along the coast. In 1844 yud Saeed of Muscat appointed his son yud Khalid as his deputy and successor Zanzibar, and his son Saeed Thowaynee in luscat. On their father's death, after arnging for a payment for Zanzibar, a dispute ion arose regarding the nature of this payent, and whether it implied the dependence Zanzibar on Muscat. The matter was ferred to Lord Canning, who awarded the yment of 1000 crowns in perpetuity but eclared the independence of Zanzibar.

This place was surveyed by Captain Owen 1824 and 25; his survey is incorrect, and orsburg is indistinct. There are many ioals in the south part of the channel not laid own in the charts. It is a lovely island, of abounded fertility; the mango and other ees grow to an enormous size, oranges grow i profusion everywhere, and pine-apples of rge size and good flavour grow wild all ver the island. The Arabs grow cloves to ie neglect of other produce. The soil is rich vegetable mould, formed by decayed lants on a bed of coral; many rare and vaiable plants grow here wild: the Sarsaparil-, the Copal tree, spices of all sorts, sugarme of immense size, and rice. The climate much cooler than it ever is at Bombay, and healthy if people are moderately careful. ; is dangerous for Europeans to sleep in the iterior, or in any of the garden houses, beiuse the vegetation is so exceedingly rich; at the town is healthy; and Europeans and mericans who have lived here for years, say iey never had a day's sickness; the thermoeter never rises above 87°; the nights are alays quite cool. English and French ships-ofar are constantly coming here for supplies, id Zanzibar is rapidly becoming the emporim of all the trade of Eastern Africa. One of ie prettiest features in a morning's walk irough the woods is, to see the heavy dewrops on every branch. Zanzibar is called ungbar by Arabs, it has a considerable trade ith Muscat. French, Americans, and Gerians monopolize the trade. The following ere the arrivals of ships here:—

852	74	1855	66
853	76	1856	89
854	81		

The French carry on the engage trade all along the east coast of Africa. The French settlements are Mayotta and Nosse Bay; slaves are taken there in native boats from all parts of the Mozambique, then shipped to Bourbon as engaged labourers. Opposite Zanzibar, is the river Nangani, there are nine tribes, the Wasegna, Wadoi, Waseramu, Wakatoa, Watumbi, Waguindo, Wamuera, Makondo and Makua, all subject to Zanzibar.—*Treaties, Engagements and Sunnuds, vol. VII. p.* 324.

ZANZIBAR SHUKUL. See Somal, Beerul-soroal.

ZAPANIA NODIFLORA. LINN; *W. Icon.*

Lippia repens,	*Spreng.*	Verbena cuneata,	*Willde.*
„ sarmentosa,	„	„ nodiflora,	*Linn.*
„ nodiflora,	*Rich.*	Wukkun,	SIND.
Chhoto okra,	BENG	Podu talli,	TAM.
Bhukokra, BENG.	HIND.	Bokkena,	TEL.
Baleiaithikani,	MALEAL.	Nela pippali,	„
Chota okra,	HIND.		

An annual plant, one of the Verbenaceæ, native of the E. and W. Indies, N. America, Australia, and Polynesia grows on streams and banks of rivers in South India. Its leaves and young shoots are used in medicine.—*Voigt.*

ZAPATOS. SP. Shoes; this Spanish word seems to have been derived from the same source as the Chappal, Hindi, the Sapate, Tam.

ZAR. HIND. Gold. P. zarin, golden.

ZARAL. HIND. Gymnosporia spinosa.

ZARANJ. The chief town of Sijistan, from which the lake formed by the Helmand and the Farra is often called the Lake of Zaranj; it is the Zarrah of the maps.

ZARATHUSTRA SPITAMA, the Zoroaster of Europe, one of the mightiest intellects and greatest men of all time. According to Chevalier Bunsen he appeared in the reign of Vistaspa, a Bactrian king, towards the year 3000 B. C. Taking as the starting point of history the separation of the Aryan tribes—say about 2000 B. C., when Abraham was born, even then the sun-worship prevailed as the religion of the Aryans, in the plains of Mesopotamia, the table-lands of Persia, and the hills of the Caucasus. In the course of time beside this comparatively pure because monotheistic belief called *Ahura* or good, there sprang up the polytheistic faith, known as *Deva* and the origin of hindooism. Before the appearance of Spitama on the scene, the Aryans were in the first stage of progress—nomadic, wandering as the descendants of Abraham did and the Sheiks of the desert now. We can hardly fix the date of Spitama later than 1000 B. C.,—one author would make him a contemporary of Moses. The work of the sage zoroaster was twofold—to win the people back to the worship of one God through

ZARATHUSTRA SPITAMA.

fire, and to develop them into the higher phase of agriculturists. He was a reformer, a protester against polytheism and nomadism, and his era must have been contemporaneous with the emigration of the southern branch of the Aryan race into India.

Spitama was a shoshyanto or fire priest, the son of Purushapa, and was born in Bactria, which he calls in his writings "Berekdha Armaiti." Ragha, now Rai, near Teheran, has been fixed on as his birth place, for no other reason than that it was a city governed by the priests alone. The only one of his children mentioned in his writings is his daughter Purudusta. He was a Zarathustra or high-priest, and hence is known to the Greeks as Zarastrades and Zoroastres, whence the Latin and English Zoroaster. The modern Parsees call him Zerodusht. He declared that he had a divine mission to expel all idolaters and promote the practice of agriculture, and he founded what is known as the Masda-yasna or Parsee religion, which is simply the old faith of the primitive Aryan, reformed by his hymns and writings. He laid the foundation of that Zend literature which, Dr. Haug clearly shews, required centuries for its growth, and was complete 400 B. C. He is expressly called "the celebrated in Airyana Vaejo," or the Aryan home. To the supreme deity whom his predecessors, the shoshyanto sect, had worshipped as the Ahura or the living ones, who were opposed to the Deva of the idolaters, he applies the term Ahuro-Mazdao, "that Ahura who is called Mazdao or almighty." This name denotes a conception of the deity almost identical with, because derived from the antediluvian Elohim or Jehovah. The word appears in the cuneiform inscriptions as Ahuramazada, in the times of the Sassanian kings as Ahurmazd, and in modern Persian as Ormuzd. It is worthy of prominent notice that this one god not only rewards the righteous but punishes the wicked. A separate evil spirit of equal power with Ahuramazda, and always opposed to him, is entirely strange to Zarathustra's theology, though the existence of such an opinion among the ancient Zoroastrians can be gathered from some later books, such as the Vendidad. The dualistic notion seems to have arisen from Spitama's attempts to account for the origin of evil philosophically. While "God (Ahuramazda) is, in the rock records of King Darius, only one, as Jehovah in the Old Testament having no adversary whomsoever," there are two uniform spirits, like our angels and devils. "Spentomainyus has created the light of the day, and Angromainyus the darkness of the night; the former awakens men to their duties, the latter lulls them into sleep. Life is produced by Spentomainyus, but extinguished by Angromainyus, whose hands, by releasing the soul from the fetters of the body, enable her to go up to immortality and everlasting life." But in course of time "Spentomainyus was taken as a name of Ahuramazda himself; then of course, Angromainyus, by becoming entirely separated from Ahuramazda, was regarded as the constant adversary of Ahuramazda, and thus the dualism, God and Devil, was called forth."

The writings of this really great sage show in every line, the reformer, a man who was what Abraham, Moses and Job would have been had they been left to themselves. All the sacred books of the Parsees are called Zendavesta, or Avesta Zend, the former word Zend meaning the original text, the latter its commentary. The further explanation of the Avesta is called Pazend. They were originally divided into 21 sections, called Nosk, of which only one, the Vendidad, is completely preserved. They "represent the whole religious and scientific literature current throughout the ancient Persian empire; for they treated not only of religious topics, but of medicine, astronomy, agriculture, botany, philosophy, etc. That the contents of those Zoroastrian books which were known to the Greeks and Romans, were of such a various character, undoubtedly follows from the reports which have reached our time. Indices of them, like those catalogues of the ancient literature known to Parsee priests now-a-days, were extant at the time of Alexander the Great; because Hermippos is said to have read such a catalogue." These 21 Nosk, however, as the collections of a critical age, do not include the Yasna and Visparad, which occupy towards them the same rank as the Vedas in the Brahmanic literature in reference to the Shastras and Puranas. The old Yasna is written in a peculiar dialect supposed by Dr. Haug to be that of Spitama's own district, and called Gatha. It may be described as the ancient Bactrian, which died out in the third century before Christ. It is probably the nearest approach that we have to the language spoken by the Aryans in their original seat, before separation. Yasna is the same as the Sanscrit Yajna, which means sacrifice; and Gatha, in both the Bactrian and Sanscrit, means a song. The Gathas, five in number, are in all respects the counterparts of the Vedic hymns, and are written in the same metre. On evidence similar to that which Max. Muller adduces for the earliest Vedic hymns, Dr. Haug establishes the higher antiquity of the Gatha, and the following are extracts from two important

ant passages of the Gatha. The one a metrical speech, delivered by Zarathustra Spitama himself, when standing before the sacred fire, to a numerously attended meeting of his countrymen. The chief tendency of this speech is to induce his countrymen to leave the worship of the deva or gods, i. e. polytheism, to bow only before Ahuramazda, and to separate themselves entirely from the idolaters.

"I will now tell you, who are assembled here, the wise sayings of the most wise, the praises of the living God, and the songs of the good spirit, the sublime truth which I see arising out of these sacred flames. You shall, therefore, hearken to the soul of nature (i. e., to plough and cultivate the earth); contemplate the beams of fire with a most pious mind! Every one, both men and women, ought to-day to choose his creed (between the Deva and the Ahura religion.) Ye offspring of renowned ancestors, awake to agree with us (i. e., to approve of my lore, to be delivered to you at this moment)!"

After declaring the existence of a good and a base spirit, a god and a devil, he thus hints at immortality, in words of deepest interest, but how inferior to the revealed utterances of Job! "Thus let us be such as help the life of the future. The wise living spirits are the greatest supporters of it. The prudent man wishes only to be there where wisdom is at home."

The second extract is from a Gatha declared to be the most important piece of the whole Zendavesta, from which to learn Spitama's doctrine:—

"Blessed is he, blessed are all men, to whom the living wise god of his own command should grant those two everlasting powers (wholesomeness and immortality.) For this very good I beseech Thee (Ahuramazda). Mayest thou through thy angel of piety (Armaiti) give me happiness, the good true things, and the possession of the good mind! I believe Thee to be the best being of all, the source of light for the world. Every body shall choose Thee (believe in thee) as the source of light. Thee, Thee, holiest spirit Mazda! Thou createst all good true things by means of the power of thy good mind at any time, and promisest us (who believe in Thee) a long life. Thus I believed in Thee as the holy God, thou living Wise! Because I beheld Thee to be the primeval cause of life in the creation. For thou hast made (instituted) holy customs and words, thou hast given a bad fortune (emptiness) to the base, and a good to the good man. I will believe in Thee thou glorious God! in the last (future period of creation.")

The angel Sraosha asks him—who art thou? —whose son art thou? "I replied to him: Firstly, I am Zarathustra. I will show myself as a destroyer to the liars as well as be the comforter for the religious men. As long as I can praise and glorify Thee, thou Wise! I shall enlighten and awaken all that aspire to property (who wish to separate themselves from the nomadic tribes and become settlers in a certain country)."

The following shews the sage groping after the truth, and is not unlike some passages in Job:—

"That I will ask Thee, tell me it right, thou living God! Who was in the beginning the father and creator of truth? Who made the sun and stars the way? Who causes the moon to increase and wane if not thou? Who is holding the earth and the skies above it? Who made the waters and the trees of the field? Who is in the winds and storms that they so quickly run? Who is the creator of the good minded beings, thou Wise? Who made the lights of good effect and the darkness? Who made the sleep of good effect and the activity? Who made morning, noon and night, reminding always the priest of his duties? Who has prepared the Bactrian (berekhda) home with its properties? Who fashioned, moving up and down, like a weaver, the excellent son out of the father? To become acquainted with these things, I approach Thee, wise, holy spirit! creator of all beings! *Essays on the Sacred Language, Writings, and Religion of the Parsees, By Dr. Martin Haug, Phil. Doc. late of the University of Tubingen. Gottingen, and Bonn; Supt. of Sanscrit Studies, and Professor of Sanscrit, in the Poona College; Honorary Member of the Bombay Branch Royal Asiatic Society; &c. Bombay*: 1862. See Arian, Parsee, Zoroaster.

ZARAWAND-KALAN. Hind. or Z. daraz or Z. tawil. Aristolochia longa.

ZARAWAND MUNDARAJ, or Z. khurd. Aristolochia rotunda.

ZARAYAT. Pers. Agriculture.

ZARAZA Sp. Chintz.

ZAR BUTI. Hind. Cuscuta reflexa. Apricot.

ZARD. Pers. Yellow.

ZARDA. Hind. a quality of tobacco.

ZARDAH. See Karund.

ZARD-ALU. Hind. Pers. Prunus armeniaca Apricot, the Armeniaca vulgaris; properly Zard-aru, the yellow peach, corrupted in the hills of the N. W. Himalaya into jaldaru, jaldhari, and hari.

ZARD CHOB. Hind. Curcuma longa, turmeric.

ZARD CHOBEH. Pers. Turmeric. Curcuma longa. *Roxb.*

ZARD GOPI. HIND. Butea frondosa.

ZARD MATTI. HIND. Yellow ochre.

ZAR-DOZI. HIND. PERS. Gold embroidery.

ZARD-SOSAN. HIND. PERS. Amarantus aurea.

ZARF. ARAB. a cup without handles, plural, Zaruf, vessels.

ZARGAL. HIND. Flacourtia sepiaria.

ZARI. HIND. Zizyphus nummularia.

ZARINK. AR. White oxide of arsenic.

ZARIRA, also Kasbul Zarira. HIND. Agothotes, *sp.*

ZARISHK TALKH. HIND. Berberis lycium, B. asiatica or B. aristata.

ZARMANOCHEGUS, or Zarmanochidus, or Zarmanochagus, a native of Baroach or Cambay, who accompanied the embassy from the king of Pandya to the emperor Augustus, at Antioch. He went with Augustus to Athens, and there committed self-immolation by burning himself in the presence of the emperor. Zarmanochegus was however preceded by Calanus in the self-immolation. Until the time of Plutarch, the tomb of Zarmanochegus was to be seen, and was known as the Indian's tomb.—*Strabo*, lib. xv. *p.* 1048. *Pennant's Hindoostan vol.* i. *p.* 69. See Cambay.

ZARMBAD. HIND. PERS. See Kachur.

ZARMONA-CHAGAS. See Cambay; Zarmanochegus.

ZARNA or Zarni. PERS. Yellow sulphuret of arsenic.

ZARTHUST BEHRAM, or Zarthust-Namah. See Wilson.

ZARZAPRILLA. SP. Sarsaparilla.

ZATAR-KALANDAR. HIND. Thymus serphyllum.

ZATHOS. See Kabul.

ZATHOS KADAPHES KHORANOS. See Kabul.

ZATI. See Simiadæ.

ZATUD. HIND. Urtica hyperborea, *Jacq.*

ZAWURA. See Tor.

ZAYAT. BURMESE. A public shed or portico, for the accommodation of travellers, loungers, and worshippers, found in every Burmese village and attached to many pagodas. It corresponds to the Dharm-sala of northern, and the choultry or chattrum of Southern India.—*Yule's Embassy, p.* 23.

ZBAM or Zbang. HIND. Abelia triflora, also Lonicera quinquilocularis. Mat Zbang, HIND. is Abelia triflora.

ZBOZE. POL. Corn.

ZBUR. HIND. Artemisia sacrorum.

ZEA MAYS. LINN.; *Roxb.*

Mokka,	BENG.	Bara joar,	HIND. of PAN.
Pyoung-boo,	BURM.	Kukri, of	KANGRA.
Mukka Juari,	DUK.	Jaggon,	MALAY.
Indian corn.	ENG.	Mak, Mak-ki,	PANJAB.
Common ,,	,,	Makkei,	,,
Maize,	,,	Bajri,	PERS. ???
Yavanala,	SANS.	Makka-jonna,	
Muwa iringu,	SINGH.	,, jonnalu,	
Makka-cholum,	TAM.		

The Zea genus of plants belongs to the natural order Panicaceæ. The word is identical with the Greek Ζεια, but the Greek plant was a species of Triticum or Hordeum, the Zea is entirely American. The Zea plants are monœcious; male flowers are in distinct spikes; calyx a 2-flowered blunt glume, corolla a blunt glume, female flowers, the calyx in a 2-valved glume; also the corolla, the style is single, filiform, pendulous; the seeds solitary, immersed in an oblong receptacle. There are six or seven varieties of Z. mays. The American variety has been extensively distributed throughout the Himalaya hills and the plains of the North West Provinces in the Panjab. It is of many kinds, red and white, &c., in parts of the Himalaya it is being grown to 7,500 and even 8,000 feet on the Chenab and Ravi. It is a favourite food of the black bear. It is a common hot weather crop in India, is abundant towards Rawul Pindi. In some parts of the Panjab it forms a staple food of the people, ground and is made into bread, but in India a large proportion of it is eaten roasted in the ear. The stalks of the plant contain a considerable quantity of sugar, which has been economically manufactured in the crystaline state in several of the South American provinces.

In the preparation of the soil for maize cultivation, plough and cultivate, as for any other dry crop, the better the land is ploughed and worked, the more satisfactory will be the results. Manure the soil freely, apply ashes and cattle dung, decayed leaves, ashes, brickyard dust, tank-mud which has been thoroughly exposed, wild indigo, mudar leaves, etc. No crop pays better for a thorough manuring. The manure should be spread evenly over the land before the last ploughing takes place. To prevent crows, squirrels, etc. destroying the seed, tar it before sowing. Take 1½ pints (½ Madras measure) of hot water, and add to it 1/16 of a pint (¼ ollock) of tar, mix together, and after cooling, pour the solution through about 20 measures of seed. After dusting with sand, ashes, or sawdust, to prevent the seeds adhering together, the grain is ready for sowing. Sow 30 lbs. per acre, in rows 24 inches apart, plant the seed about 2 inches deep and about 9 inches apart, during growth keep down the weeds, cultivate between the rows with hand hoes and ploughs. For harvesting, when the outer covering of the cob begins to open, and the seed is hard and glazed, it is time to commence gathering.

the season be favourable, do not be in a hurry to peel the cobs. If stored with the skins on, they must be frequently examined, lest they should heat or mould. The straw is excellent fodder, and should be carefully stored for consumption during the dry season. It is most economical to chaff or steep the straw before giving it to farm stock. The cobs may be shelled when dry; and the grain used as food, or it may be used in feeding horses, cattle, or sheep. Direct experiments have proved that, weight for weight, it produces better results than gram.—*Jameson's Report. Eng. Cyc. Dr. J. L. Stewart, Punjab Plants, p.* 263. *Mason. O'Shaughnessy, p.* 636. *Madras Experimental Farm.*

ZEARAT. Pers. A pilgrimage.

ZEBAING, Zebeing, Zebing or Yebain, Burman Karens, a very dirty people, in the valley of the Setang, above Tounghoo. They rear the silk worm and weave silk. See Zabaing.

ZEBAYER ISLANDS, with Tadjourra and Jabbal Teer, form the Red Sea group of volcanoes. Volcanic commotions or appearances are said to be observed in Assam, in Lower Bengal; Lake Loonar, Central India; on the Nerbudda; off Porebunder, in Kattiwar, and near Kurrachee. The Zebayer or Zebeer Islands, a volcanic group in the Red Sea, were active in 1846.—*Dr. Buist on Volcanoes in Bom. Geo. Trans.* 1852, *vol.* x. *p.* 140. See Zabayer, Zebayeor, Volcanoes.

ZEBDENI, a considerable village, about half way between Baalbec and Damascus, about twenty miles distant from each.—*Robinson's Travels, vol.* ii. *p.* 110. See Tehama.

ZEBEED, formerly the principal town of the Tehama district of Yemen.

ZE-BEING. A tribe in Burmah. See Karen, Zabeing.

ZEBINA. See Greeks of Asia.

ZEBRA. See Kyang, Mammalia.

ZEBU, a mule between a yak bull and Indian cow. Their forms are intermediate between the two, having most of the peculiarities by which the yak is distinguished, though in a much less degree. Their colour varies much,—black, white, and iron-grey being all common. They have coarse long shaggy hair, much shorter than in the yak, a stout rounded body, and the tail has a small tuft at the end, quite similar in miniature to that of the yak. These mules are exceedingly common in Upper Kunawar and Hangarang, and are much preferred as beasts of burden to the yak, being more docile, and less sensitive to climatic influence.—*Dr. Thomson's Travels in Western Himalaya and Tibet, p.* 91. See Yak.

ZEBU of the Eastern Archipelago. See Negros or Buglas Islands, Papuans.

ZEDER. Ger. See Cedar.

ZEDOAIRE. Fr. Zedoaria. It. Zedoary.

ZEDOARIA LONGA. syn. of Curcuma zerumbet.

ZEDOARIA ROTUNDA. syn. of Curcuma zedoaria, *Roxb.*

ZEDOARY.

Zerukbad,	Ar.	Bengley,	Java.
Jadwar,	,,	Curcuma zedoaria,	Lat.
Shuthi,	Beng.	,, zerumbet,	,,
Capur-cachary,	Hind.	Zerumbad,	Pers.
Kakhur,	,,	Karchura,	Sansc.
Zedoaria,	It.	Hinhura-pecallieulla,	Sin.
Kutchur,	Dck.	Cedoaria,	Sp.
Zedoaire,	Fr.	Pulang-Kilungu,	Tam.
Zittwer,	Ger.	Kichili-gadda,	Tel.

The plant yielding the zedoary of commerce is still undetermined. Mr. Colebrooke applied the term to the roots of Curcuma zedoaria, on account of the Persia and Arabic synonyms being Judwar and Zudwar. Clusius gives a plate of this zedoary, the roots of which strikingly resemble those of Atees. The Persians describe five kinds of zedoary —Chinese, Nepalese, Tibetan, Dukuni, and Spanish. There can be little doubt but that the Nirbisi is the true zedoary of ancient writers. The zedoary of commerce is the root of a plant which grows in Malabar, Ceylon, Cochin China, &c., of which there are three distinct species, supposed to be the roots of Curcuma zedoaria, *Roxb.*, and C. zerumbet, *Roxb.* The best zedoary comes from Ceylon, where C. zerumbet grows, as does also Kæmpfera rotunda; the latter plant is called in Singhalese San kenda, has purple and white flowers, appearing in March or April, leaves radicle, oblong, no stem root, biennial. It is met with in pieces of various sizes, externally wrinkled, and of an ash colour, but internally of a brownish red. The odour of zedoary is fragrant, and somewhat like that of camphor; the taste biting, aromatic, and bitterish, with some degree of acrimony. It was formerly employed in medicine, but is scarcely ever used by modern practitioners. Zedoary is imported into Bombay from China and the Malabar coast.—*O'Shaughnessy, Bengal Dispensatory p.* 167-68. *Faulkner. Powell Handbook, vol.* i. *p.* 300. *Milburn's Oriental Com.*

ZEEARAT. Arab. The visiting of the graves of deceased mahomedans, on the third day after demise, which is called the "Teeja," meaning the third day, when oblations are offered; also Phoolchurna, or spreading flowers. —*Herklots.*

ZEE-BYION, a compact, close grained Amherst wood, like Lagerstrœmia, or white jarool; used for house posts, is liable to split,

but is free from the destructive influence of insects.—*Cal. Cat. Ex.* 1862.

ZEE-CALAPER. DUTCH of Ceylon. Sea cocoa-nut of Seychelles, Lodoicea Seychellarum.

ZEEHAJ, Zeehajja, Zilhaj or Zoolhaj, the 12th month of the mahomedan year.

ZEEKARTEN. DUT. Chart.

ZEEKOMPASS. DUT. Compass.

ZEEN-GA-LAY. TAVOY. Ancistrolobus carneus, *Wall.*

ZEEP. DUT. Soap.

ZEERA. HIND. Cuminum cyminum. Cumin seed is grown in beds the same as the coriander; the seeds are used for seasoning curries. Much is brought from China and the Persian Gulph.—*Riddell.* See Zira.

ZEERA SIAH. PERS. Fruits of Carum nigrum, a good substitute for Carum carui, the seed of the somraj (Conyza anthelmintica), are often sold for it in the bazar; about ⅛th of an inch long, slightly winged, flat, ovato-lanceolate, ribbed on one surface.

ZEE-YA. BURM. Cumin seed.

ZEGHAL-I-CHOBI. PERS. Charcoal.

ZEHEB, also Tibr. ARAB. Gold.

ZEHER-MORAH. DUK. Bezoar.

ZEHR-GUGAL. Conium maculatum, also Cicuta virosa.

ZEHUJ. See Vathek.

ZEILDOCK. DUT. Canvas.

ZEIT. ARAB. oil, vegetable or animal.

ZEITUN. ARAB. GUZ. HIND. PERS. Olive. Zeitun-ka-tel, HIND. Olive oil.

ZEKUM. AR. Euphorbium.

ZELAZO. PORT. Iron.

ZELU. PERS. Leeches.

ZELZODY KELADI, or Cloddy Islands, lie on the west coast of Sumatra. There is anchorage and shelter from the north-west storms.

ZEMBURAK. PERS. Swivel guns, sometimes discharged from the backs of camels.—*Ouseley's Travels, vol. II. p.* 202.

ZEMIN. PERS. HIND. earth, land, the world.

ZEMINDAR. PERS. HIND. a landholder.

ZEMMY KUND. BENG. See Lal Guranyo alu.

ZEMU. A valley, in Sikkim.

ZEND. The ancient nations of Iran proper or the Aryan stock, used the languages of Media and Persia. It includes the Zend of the cuneiform inscriptions and Zendavesta: the younger Pehlevi of the Sassanians and the Pa-zend, the mother of the present or modern Persian tongue: the Pushtu or language of the Afghans belongs to the same branch. Zend differs from Sanscrit as Greek, Latin and Lithuanian differ from one another and from Sanskrit. Zend is older than Sanscrit and newer than the language of the Veda. The term Iranian is derived from Arya, and the old Persian and old Bactrian or Zend are its oldest representations. Old Persian is the language of the Avesta; Huzvaresh or Pehlevi is the language in which the commentaries and the more recent versions of the Avesta are written. Fardusi's Shah-nameh is in Parsee or Pazend. Bunsen says the first cuneiform character on the Be-situn was Median or west Iranian, and is to be distinguished from the language of the Zend books, which is East Iranian or old Bactrian worn down. The language of the Zend books is supposed by Haug to be Bactrian, and Bactria was the original seat of Zoroastrian lore. Zend was the Persian language previous to Darius. Zend is the language in which the Parsee religious books were written by Zoroaster. According to Professor Bopp, the Zend is as old as the Vedas; is in many respects beyond, and an improvement on the Sanscrit; and he does not admit it to be a mere dialect of the Sanscrit, though some European authors contend that it is derived from the Sanscrit. The Zend seems to have been spoken in Bactria. Professor Rask considers that the Zend was the spoken language of Media, and that the Vendidad, one of the books written in this language, was produced before the time of Alexander the Great, and that it was the popular language of a great part of Iran. The author Masudi testifies that the books called Avesta Avasta and its commentary the Pazend, were in existence in his time, while Rhode has come to the conclusion that the collection styled Avasta contains either one or more of the compositions which existed before the destruction of the Persian empire by Alexander. The Zend and Pehlevi are believed by Anquetil du Perron to have been authentic languages through the medium of which Zartusht or Zoroaster, in the Zendavesta, handed down his religious system. Erskine, however, a great scholar, while he believes in the antiquity and authenticity of the Zend, holds that it was never a spoken language, but rather a composite of some peculiar dialect of Sanscrit and spoken Persian, made by the Parsee priests and used for the compilation of the Vendidad, which he believes to have been made about A. D. 229. One or other of these views have been held by Professors Rask, Rask, Wilson, Bopp, Richardson, Leyden, Vans Kennedy, and Sir William Jones, who distinctly stated that the Zend had been fabricated by the Parsee priests from many dialects, that its literature is worthless, and that the whole dates no farther back than the mahomedan conquest of Persia. The lang

f the Zend books is, however, generally regarded as the old Bactrian of the home country, worn down, that is, east Iranian. The language of the first cuneiform character is Median, or west Iranian of a later epoch than the Zend. Mr. Vigne mentions on the authority of Sir John M'Neill and Colonel Sir H. Rawlinson, that a language similar to the Zend is undoubtedly spoken in the mountain of Desmar in Karadagh on the west of the Caspian and north of Ayerjiban. The Zend is said by Burnouf, Professor Wilson, and others who have studied it most successfully, to be more nearly allied to the very ancient dialect of the vedas, which preceded the classical Sanscrit, than it is to this last more cultivated speech. How his claim is to be reconciled with the comparatively recent date of all extant compositions in the Zendish language, remains, he considers, to be explained. But, that the high castes or "twice born" classes of the Indian race, as they term themselves, the brahman, the chetriya, and the vaisya hindoo, were of the same stock as the ancient Persians, may be regarded as a fact established by the affinity of their languages.—*Bunsen* iii. *pp.* 457, 70. *Ed. Ferrier's Journ. pp.* 257, 393. *The Parsees.* See India, Languages, Mamaseni, Vendidad, Writing.

ZEND-AVESTA is the name used by Chagani and other mahomedan writers to designate the commentary on the Zend. The Parsee people use the name Avesta and Zend, taking Avesta in the sense of text, and Zend as the title of the Pehlevi commentary. Professor Muller thinks, however, that the word zend was more likely the same word as the Sanskrit "Chhandas," scandere, a name given to the vedic hymns, and avesta the Sanskrit "avasthana," a word which, though it does not occur in Sanskrit, would mean settled text. Avasthita, in Sanskrit, means laid down, settled. The Zend-avesta now consists of four books, Yasna, Vispered Yashts and Vendidad (Vendidad = vidæva data; in Pehlevi, Juddivdad.) Dr. Haug, in his interesting lecture on the "Origin of the Parsee Religion," Bombay, 1861, takes Avesta in the sense of the most ancient texts. According to the Kissah-i-Sanjan, a tract almost worthless as a record of the earlier history of the Parsi race, the fire-worshippers took refuge in Khorasan forty-nine years before the era of Yezdejerd (632 A. D.) or about 583. Here they stayed 100 years, or till A. D. 683, then departed to the city of Hormuz (Ormuz in the Persian Gulf), and after staying fifteen years, proceeded in 698 to Diu, an island on the south-west coast of Kattiawar. Here they remained nineteen years, to 717, and then proceeded to Sanjan, a town about twenty-four miles south of Damaun. After 300 years they spread to the neighbouring town of Guzerat, and established the sacred fire successively at Barsadah, Nausari, near Surat, and Bombay. The Zend-avesta contains the record of the Arian race in their occupation of successive countries to which they moved.

The oldest portions of this book are High Bactrian, and approach very near to the Veda language. The Zendavesta was translated into Greek some time after Alexander's death by Hermippus, the peripatetic philosopher, the pupil of Callimachus, who was one of the most learned scholars of Alexandria.—*Bombay Quarterly Review* 1856, No. viii. *p.* 67. *Muller's Lectures p.* 192. *Dr. Haug on the Origin of the Parsi Religion.* See Aryan, Hindoo, India, Sakya Muni, Vendidad, Zertusht, Zoroaster, Barbarian.

ZEND-RUD, a considerable river which rises among the mountains of Shamkheh in the Bakhtyari country; and at the distance of twelve farsang from those mountains, there is an exceedingly lofty bridge, the Pul-i-Kelleh with three arches.—*Ouseley's Travels vol.* iii. *p.* 16. See Iran, Ispahan, Pearls.

ZENGABAD. The tribe of Karim Khan, king of Persia, whose dynasty was overthrown by the Kajar tribe, that of the present king. When they came first into these parts, they were wandering, but they are now settled in villages. There are a great many besides established in Zengabad, and many in the Pasha of Bagdad's army.

Kerwei.........families	60	Sedeni.........families	100
of the Feili tribe.		Gouzzei........ ,,	100
Lor............. ,,	60		

None of these tribes depend on the Jaf, though the Jaf have many families from among them under their protection, which are not reckoned here. The Jaf being strong and well protected, are daily acquiring additions to their numbers from persecuted members of other tribes. None of the above tribes are entire. They are only fragments of tribes, of which parts exist also in the territory of Kermanshah, or of Luristan.

ZENGHALI-PATSE. Tel. Verdigris.

ZENGI-HAR. Beng. Myrobalan.

ZENGIS. See Chengis, Kamran.

ZENNAAR. See Zonar.

ZENO. See Vedas.

ZENZERO. It. Ginger.

ZEOCRITUM DISTICHON. *Beauv.* syn. of Hordeum distichon, *Linn.*

ZEOLITES. A family of minerals composed of silica, alumina, some alkali, and some water. They are abundant near Naldroog.

ZEPHON. Heb. Typhoon.

ZEPHYRANTHES TUBISPATHA. In Tenasserim, are one or two species of zephyran-

thes of the amaryllis tribe, which were introduced from Dr. Carey's garden at Serampore; they grow very well, and form handsome border flowers.—*Mason.*

ZEPHYRUS. See Kama.

ZERAIT. PERS. Agriculture.

ZERAMBAD. PERS. Zedoary.

ZERAMBAD, also Jadwar, AR. PERS. Curcuma zedoaria, *Roxb.*

ZERAPHIM, a former money of account of Goa, of 240 Portuguese reis.—*Simmond's Dict.*

ZERAWAND-DARAZ, Zerawand-ut-tawil. ARAB. PERS. Aristolochia longa.

ZERDAN. There is a fresh water lake in the plain of Zerdan, in the Persian province of Fars.

ZERGUL. HIND. Calendula officinalis.

ZERKA. To the southward of the river Zerka commences the country anciently inhabited by the people called Ammonites; a country in those days as remarkable for its rich productions, as for the number and strength of the cities which covered its surface. It is now one vast desert, having long since ceased to be inhabited by man in a civilized state. The ruined city of Amman is still known by its ancient name as the capital of the Ammonites; it was one of the most ancient of the cities recorded in Jewish history. It was likewise called Rabath and Osterath, and subsequently Philadelphia, having been rebuilt by Ptolemy Philadelphus. The principal ruins lie along the banks of a small river, called Moiet Amman, or water Amman, running through a valley bordered on both sides by barren hills of flint. This stream, which has its source in a pond a few hundred paces from the south-west end of the town, after passing under ground several times, empties itself into the river Zerka. A large theatre has been excavated in the side of the eastern hill and opening towards the river. It has forty-two rows of stone seats fourteen inches high, and twenty broad, divided into three portions by two open galleries. Before the theatre, and between it and the stream, are the remains of a beautiful colonnade. Eight columns, fifteen feet high, are standing with Corinthian capitals and entablature entire. There are the shafts of eight other columns. The space intervening between the river and the western hills is entirely covered with the remains of private buildings now only used for shelter for camels and sheep, there is not a single inhabitant remaining, thus realizing the prophecy concerning this devoted city, as Ezekiel writes, I will make Rabbah of the Ammonites a stable for camels, and a couching place for flocks. Behold, I will stretch out my hand upon thee and deliver thee for a spoil to the heathen; I cut thee off from the people, and cause th to perish out of the countries; I will de thee. The Ammonites shall not be rem bered among the nations. Rabbah (the di city) of the Ammonites shall be a deso heap. Ammon shall be a perpetual des tion.—*Robinson's Travels. vol.* i. *p.* 175.

ZERKUNNEE PASS. See Khyber.

ZERNEIK-ZARD. PERS. Arsenic. Y sulphuret of arsenic.

ZERRAH. AR. a spring of water; als lake, particularly, a salt lake. The Casp Sea, the picturesque Urumiyah, and Zerrah or Durrah, in Seistan, Baktegan Fars, and others, are instances of salt lakes; fresh water lakes are met with i the tracts below Babylon, and again betwe the Elburz range on the shores of the Caspi

ZERTUSHT. See Zoroaster.

ZERUKBAD. ARAB. Zedoary.

ZERUMBAD. PERS. Curcuma zedoa *Roxb.*

ZERUMBET SPECIOSUM. *Jacq.* syn. Alpinia nutans, *Roscoe.*

ZEUS. *Russel.* Carrameen, TAM. T Palaukeen boy's fish of Madras.—Ai *Mat. Med. p.* 155.

ZEUS. A deity amongst the Greeks, wi attributes similar to the Roman Jupiter, t chief of the gods; the Egyptian Zeus, signi spirit (Πνευμα). Amongst the Greeks, Ze meilichios was the friendly Zeus; in Ind amongst the Aryan hindus, adoration w offered to ether, the air, the atmosphe as Indra, (Zeus) with the sacrifice milk and the fermented juice of plants the letter z be in any tongue transmut into d, Zeus would be Deus, and in the tong of Aryan origin, deo, dev, deva, mean g while sheo, shev, sheva, shiva, sheb, is a hi deity. The z in Zeus of the Greeks se changed in the Latin to j, as the genitive Jupiter is Jovis. See Bactria.

ZEWAR, or Kali zewar. HIND. Bupleu marginatum.

ZEYLAH, in lat. 11° 22′ N., long. 4 30′ E., is a town of some importance on th east coast of Africa.

ZEZL. HIND. of Spiti, a kind of barley.

ZHAD. See Kunawer.

ZHAKHA. See Kiang.

ZHAMO. BHOT. Sciurus lokriah, Hod

ZHANGAR. HIND. Dolomiæa macroce phala.

ZHBANG. HIND. Philadelphus, sp.

ZHIKAK. HIND. Daphne oleoides.

ZHIKO. HIND. Lonicera hypoleuca.

ZHING. TIBETAN. Cultivated land.

ZHO. TIB. The domestic animals in Lad are principally ponies, the yak, the zho,

mules, sheep, goats, and dogs. The zho is a hybrid between the yak and the common cow. The female is called a zho-mo.—*Mrs. Hervey's Adventures of a Lady in Tartary, vol.* i. *p.* 98.

ZHUK. HIND. Spiræa Kamtschatika.

ZHUNGRAM. See Kunawer.

ZIAMBA. See Marco Polo.

ZIARAT. Pilgrimage to a mahomedan saint's shrine; also the visiting of the grave of a mahomedan relative.

ZIARAT VALLEY, in Beluchistan, is of considerable extent, well watered, and cultivated. See Beluchistan.

ZIB. ARAB. Guana.

ZIBAKH. AR. Mercury.

ZIBELLINA, the Khatun Bulugan, wife of Arghun Khan, had been married to Abaka, but on his demise, according to the custom of the Mongols, she passed to the orda of her step son Arghun Khan, Kablai Khan's great nephew. His wife was Zibellina, the Khatun Bulugan, a lady of great beauty and ability. On her death, Arghun sent Marco Polo for another wife, out of the Mongol tribe of Bayaut, but Arghun died before the lady Kuka-Chin was brought, and she passed to Ghazan, the nephew of Arghun, for Arghun had been succeeded by Kai-Khatu, his brother.—*Quart. Rev., July* 1868. See Polyandry, Jews, Marco Polo.

ZIBELLINE. FR. Zibellino. IT. Sable.

ZIBETH. GER. Zibetha. LAT. Zibetto. IT. Civet.

ZIDER, also Apfelwein. GER. Cider.

ZIFFAF. AR. HIND. leading a bride home.

ZIFT-I-RATB, and Zift-i-yabis, ARAB. tianaj, and Catrain, HIND. are varieties of resin, colophony and dried tar.—*Powell Hand Book. v.* 1 *p.* 410.

ZIFT-I-RUMI. HIND. Pinus longifolia, also dried tar. Zift-i-ratab and Zift-i-yabis, the resin or tar, &c.

ZIGANAH is twelve leagues from Trebizond on the road to Erzrum, and gives name to a pass called the Ziganah Dagh.—*Yule Cathay,* I. *p.* 45.

ZIGEUNER. GER. Gypsy.

ZIGGER, a Baluch tribe. See Beluchistan, Kalat, Minghal.

ZIK EHOT. Felis diardi. *Desm.*

ZIKKIR. ARAB. Reminiscences; amongst mahomedans, repeating the attributes of God in the creed, also devotion towards the deity.

ZIKR ISMAIL, also Zikr-ul-awaz. See Kasul.

ZILHUJ, or Zilhujja, the last month of the mahomedan year.

ZILLAH. PERS. In India, a district or local division of a country. In British India, each province is divided into zillahs, or districts, under collectors and magistrates or deputy commissioners, with joint, deputy, assistants and extra-assistants. In the Bengal Presidency these districts are in most cases grouped into divisions, each under a commissioner supervised by a revenue board or financial commissioner. English counties average 1,000 square miles in extent. In India they are much larger. In Bombay, for instance, collectorates average about 6,000 square miles, and Khandeish is supposed to be 15,000 square miles.

ZILVER. DUT. Silver.

ZILZARCH. HIND. PERS. rasaut, the extract of berberry root.

ZIMARRUD, also Permatæju. MALAY. Emerald.

ZIMB. ABYSS.

Dogfly,	ENG.	Zebub,	HEB.
T'zirah,	HEB.	Glossina morsitans.	LAT.

The Zimb-insect is translated hornet in Exodus chap. xxiii. ver. 28; Deut. vii. 20; Joshua xxiv. 12. It is difficult to conceive that Isaiah could have in view any other insect when he says—"The Lord shall hiss for the fly that is in the uttermost part of the rivers of Egypt." (Isaiah vii. 18). The original word rendered 'fly' in the translation is 'zebub,' and, as Bruce observes, "the Chaldee version is content with calling this animal simply 'zebub,' which signifies the fly in general, as we express it in English. The Arabs call it 'zimb' in their translation, which has the same general signification. The Ethiopic translation calls it 'tsaltsalya,' which is the true name of the particular fly in Geer, and was the same in Hebrew." Bruce has given a graphic account of this fly, and there can be little doubt that this insect is related to the family of Œstridæ. The Latin Asilus and the Greek *οἶστρος* were probably only different pronunciations of the same term 'ha-tsirah,' as this fly is called both by Moses and Joshua. Mr. Bracy Clark, in the 9th volume of the 'Linnæan Transactions,' part ii., 1843, refers the fly alluded to by Moses (and said to "hiss and make a noise") to Œstrus bovis, and remarks on Bruce's figure, that it has no resemblance to the genus of flies the Cuterebra, but is rather, though with something fictitious about it, allied to the genus Stomoxys, or perhaps Tabanus, both of which genera are certainly silent flies in their attacks on cattle. There can be no doubt that the *οἶστρος* was a perfectly distinct insect from any of the modern Œstridæ. Dr. Harris gives as names of flies, the Oreb of Ex. viii. 20; the Zebub of 2 Kings, i. 2, 3, 6, 16; the Deburrah of Judges xiv. 18, and Psalm cxviii 12; the T-sira of Ex. xxiii. 28, Josh. xxiv. 12, Deut. vi. 20; the Sarabim of Ezek. ii. 6; and

the Bak of Matth. xxiii. 26.—*Kirby and Spence, Introduction to Entomology. Harris Natural History of the Bible, page* 139.

ZIMBIL. HIND. Potamogeton gramineus.

ZIMBJOON. Dillenia aurea, *Sm.*

ZIMIONG. BHOT. Mustela subhemachalana. *Hod. Bly.*

ZIMMA. BURM. Chickrassia tabularis, *Ad.*

ZIMMAY. See Karen, Laos.

ZIMME. See Maha-radza-weng.

ZIMMER. GER. Timber.

ZIMMET, or Kanehl. GER. Cinnamon.

ZIN. PERS. HIND. GUZ. a saddle; pronounced Zeen.

ZINAR. The sacred cord worn by the Parsi zoroastrians, and amongst hindoos by the brahman, kshatrya, vaisya, and five artizan castes, the goldsmith, ironsmith, carpenter, brazier and stone mason. It is pronounced and written variously Zennar, Zonnar, Zinnar, Zonar, and has the names of poitoo and zendiam or jandiam, amongst the peninsular hindus. Colonel Tod describing a gift to the saiva temple of Eklinga mentions that in return, the donor, who was the prince of Mewar, received lessons of morality, was initiated into the mysterious rites of Siva, and finally was invested with the triple cordon of faith (tin purwa zinar) by the hands of the sage, who became his spiritual guide, and bestowed on his pupil the title of regent (dewan) of Eklinga. When the Carthaginian gained the battle of Canna, he measured his success by the bushels of rings taken from the fingers of the equestrian Romans who fell in that memorable field. Akbar estimated his by the quantity of cordons (zinar) of distinction taken from the necks of the Rajpoots, and seventy-four and a half 'man' are the recorded amount. To eternize the memory of this disaster, the numerals 74½ are, amongst the Rajput race, tilac, or accursed. Marked on the banker's letter in Rajast'han it is the strongest of seals, for the 'sin of the slaughter of Cheetore' is thereby invoked on all who violate a letter under the safeguard of this mysterious number.—*Tod's Rajasthan, vol.* i. *p.* 225, 328. See Zannar, Zonar.

ZINAT UN NISSA, daughter of the emperor Aurungzeb. Kazi Shahab ud Din, following Khafi Khan, states that, in her young days she became attached to the young rajah Sahoo, and the two young people having been allowed to grow up together, on one occasion, Aurungzeb observing them in the same room forbad all future intercourse. Aurungzeb died at Ahmednuggur in the Dekhan, where he was provisionally interred (somp gya), and his remains were afterwards finally placed in a tomb on the hill at Roza near Dowlatabad, and over his remains is a very simple cupola or dome. At Aurungabad, however, is [illegible] splendid tomb of his daughter; [illegible] the author of Travels of a Hindoo states, [illegible] the Zinat-Musjeed, more commonly called [illegible] Koomari-musjeed, or Maiden Mosque, [illegible] built by Zinat-ul-Nissa, the virgin [illegible] of Aurungzeb, who like Jehan-ara [illegible] unmarried. The princess who built it, having declined entering into the marriage state, laid out a large sum of money in the [illegible] mosque, and on completing it she built a [illegible] sepulchre of white marble, surrounded by a wall of the same, in the west corner of the terrace. In this tomb she was buried in the year of the Hejira 1122, corresponding with the year of Christ 1710.—*Tr. Hind. vol.* i. *page* 312.

ZINBAORI. Amongst the Japanese a [illegible] surcoat, with gold tissue facing.

ZINBYEWN. BURM. ? Dillenia speci[illegible]

ZINC. ENG. FR.

Peh-yuen,	CHIN.	Zincum,	LAT.
Peh-t'ung,	,,	Zinetum,	,,
Spelter;	DUT.	Tambaga-putih.	MALAY.
Sung busri,	DUK.	Schpeater,	[illegible]
Speltre; tutenague,	ENG.	Zinco; Chinck,	[illegible]
Zinco; Cink,	IT.	Sang-fusri,	,,
Stannum Indicum,	LAT.	Tutanagam,	[illegible]

Zinc was first mentioned by Paracelsus in the 16th century, under the name of [illegible] tum; it does not occur in a native state, [illegible] is obtained from its ores, which are [illegible] the sulphuret and carbonate of zinc. [illegible] native sulphate of zinc, or blende [illegible] discovered by Mr. W. Mainwaring in [illegible] Madura province, but whether the [illegible] yellow, or black blend, Dr. Ainslie had not [illegible] able to learn. Zinc has long been imported from China into India. The name [illegible] by which Chinese zinc was known in [illegible] merce, is evidently derived from the [illegible] tutanagum, and it was at one time [illegible] Indian tin (Stannum Indicum). The [illegible] zinc were no doubt employed by the [illegible] in making brass. Zinc is found in the [illegible] of an oxide, but principally as a sulph[illegible] (Blende), and an impure carbonate (Calam[illegible]). From both ores it is first converted into [illegible] oxide by the process of roasting, and [illegible] reduced to the metallic form by the [illegible] carbonaceous matter, when it may either [illegible] fused or sublimed. Until purified by a [illegible] distillation, it contains as impurities [illegible] portions of other metals, as iron, [illegible] arsenic, &c. In a broken boulder that [illegible] brought to Tavoy, was a large vein of [illegible] ore that was judged to be black blende [illegible] black sulphuret of zinc. Mr. Mason [illegible] never able, however, to ascertain the [illegible] whence it was brought. Dr. Helfer [illegible] the existence of ores of zinc in the [illegible] islands. He says: "The other ores, [illegible]

and zinc, discovered, are of less importance, though the latter may contain some silver. In British India, zinc is used in forming alloys: of these, there are alloys, with lead, chiefly used on account of the facility with which it can be turned or filed. 1 lb. of copper to 2 oz. yields a red coloured ductile alloy, with 6 oz., is common pot metal, brittle when warmed.

Zinc, tin and lead alloys; 1½ oz. tin, ½ zinc 16 copper, pumps and corks requiring great tenacity.

1½ tin and 2 oz. brass, to 16 copper, to be cut into teeth.

1½ to 16 for turning work.

1¼ to 16 nuts of coarse threads and bearings.

The hilly country of Mewar has always been known to abound in metalliferous ores, and it is supposed that the produce resulting therefrom was one of the sources of wealth, by which former ranas of Udypura, were enabled to contend successfully for so many years against the might and power of the Delhi emperors. The most celebrated of these mines, are undoubtedly those of Jàwar, where the ore is found in veins 3 or 5 inches thick and some times in bunches, in quartz rock and mixed with other stone. The pieces are broken with a hammer, and freed from the quartz rock, with which it is mixed. The pure ore being very friable, is then pounded and freed from quartz and placed in crucibles some 8 or 9 inches high and 3 inches diameter; with necks 6 inches long and half an inch in diameter. The mouth being fastened up, the crucibles are inverted and placed in rows on a charcoal furnace, when the ore is fused in about 3 or 4 hours. If pieces of the quartz are allowed to remain with the ore, the crucibles break. From each crucible the quantity of metal collected does not vary much. In China, zinc is used in forming a gun metal, and in casting shot, and is therefore retained as a monopoly of the Chinese Government. The zinc mines are probably in the province of Kwei-chau but it is largely obtained from Yung-chang-fu in Yunnan and Han-kou.—*Captain J. C. Brooke*, of the *Mewar Bheel Corps, in Beng. As Soc. Journal, No.* III *of* 1850, *p.* 212. *Ains. Mat. Med. p.* 58. *Essay Hind. p.* 100. *Rohde MSS. Smith Chin. Mat. Med. McCulloch's Com. Dic. p.* 1269. *Mason, Tenasserim.*

ZINC-BLOOM.

Lu-can-shih,	CHIN.	Calamine,	ENG.

This is obtained in the Chinese provinces of Ta-yuen-fu, Tseh-chau-fu in Shansi, and from places in Se-ch'uen and Yunan. It is a calamine of considerable purity, resembling the botrogen or zinc-bloom of mineralogists, and is believed to occur in China associated also with gold and silver: it contains a small proportion of iron and lead; it is alloyed with copper to form brass, and is used medicinally.—*Smith. Mat. Med. China.*

ZINCI CARBONAS IMPURUM PRÆPARATUM. Calamina preparata. Calamine.

ZINCI SULPHAS.

Khy-ouk-khyen-tsha,	BURM.	Schwefelsaures zinkoxyd	GER.
Hwang-fan.	CHIN.	Safed tutia,	HIND.
White vitriol,	ENG.	Sal vitrioli,	LAT.
Sulphate of zinc,	„	Zinci Sulphas,	„
Sulphate de zinc,	FR.	Jawar,	MALAY.
		Vallai tutam,	TAM.

Sulphate of zinc is a colourless salt, without odour, but having a disagreeable astringent and metallic taste; it is found native in some places, and is known in India by the name of Sufed toota, or white vitriol. The Chinese obtain it from Persia, as also from the provinces of Kansu and Shensi; it is used as a lotion.

ZINC, oxide of.

Peh-yuen-tah,	CHIN.	Tutia,	HIND.
Oxide of zinc,	ENG.	Sang-i-Basri	PERS.
White „ „	„	Tutum,	TAM.
Flowers of zinc,	„		

ZIND ALU. HIND. PERS. Apricot.

ZINDA SHAH MUDAR, a mahomedan saint.

ZINGAAT. See Rangoon.

ZIN-GA-LAC. TAVOY. Ancistrolobus carneus, *Wall.*

ZINGAR. Vigne surmises that modern gypsies are descendants of Kashmir hindus, who quitted the valley after the persecutions by Sikandar-But-Shikun, father of Zyn-ul-abidin, in the year 1396 and 1400. Arab Shah, who lived at Samarcand in 1422 also in his life of Timur, supposes it possible that they are descendants of buddhists that quitted the valley B. C. 298, when persecuted by Nara or Kinnara. According to Baron de Bode, the gypsies of Persia are known as Karachi from the Turkish word Kara, meaning black; also Kauli, (Kali, HIND., black,) also Susmani, and though Pottinger and Dr. Trithen think otherwise, they are perfectly distinct from the Luri or Lur tribes. In the northern parts of Persia, they lead a wandering life, but always aloof from the other erratic tribes. They exercise the trades of tinker, farrier, the men being musicians and the women bayaderes, the women dancing at the Persian parties or majalis to the music of stringed instruments used by the men. It is in northern Persia that they are known as Kara-chi, and in Kermanshah and Kurdistan as Kauli and Susmani. M. Khanikoff says the three tribes, Jughi, Mazong and Luli in Bokhara seem gypsies. They profess mahomedanism, but seem to have no religion at all. They are tall, round, and of a bronzed com-

plexion; their white teeth are not concealed, and neither husband, father nor brother seem to care the least to whose lips their own are pressed. The Zingarro, or Chungur, of the Punjab, are a wandering houseless race, probably the same as the Chinganeh of Turkey, the Italian Zingaro, the Spanish gitano, and the English gypsy. About Delhi, the race is called kunjur, a word which, in the Punjab, properly implies a courtezan or dancing girl. —*Ferrier Journ. p.* 114-115. *Pottinger's Travels.* See Ardelan, Lur, Kara Oghlan, Kermanj, Mosul.

ZINGEBIL. Ar. Ginger.

ZINGIBER. Lat. Ginger.

ZINGIBER, a genus of plants of the natural order Zingiberaceæ; in the South East of Asia many species of Zingiber occur, some of which furnish the ginger of commerce. Amongst the species may be enumerated,

- barbatum, *Wall.* Burmah, Prome.
- capitatum, *Roxb.* Khassya.
- cassumunar, *Roxb.* British India.
- caulina, *Grah.* Mahabaleshwar.
- chrysanthum, *Roxb.* Nepal,
- elatum, *Roscoe.* Bengal,
- grahamiana, *Grah.* Salsette.
- ligulatum, *Roxb.* Nat'hpur, Nepal.
- longifolia, *Roxb.*
- missionis, *Wall.* Travancore.
- mjoga, *Roscoe.* Japan.
- officinale, *Roscoe.* All India.
- panduratum, *Roxb.* Burmah, Tenasserim.
- pardocheilum, *Wall.* Burmah.
- roseum, *Roscoe.* Circars.
- rubens, *Roxb.* Rungpore.
- squarrosum, *Roxb.* Burmah.
- zerumbet, *Roscoe.* All S. E. Asia.

In Tenasserim and Burmah are species named Sa Kwe, Khyen seing, Me tha len, Kaneik, and Khung-htai wen.

ZINGIBERACEÆ. Rich. The Ginger tribe of plants comprising 16 Gen, 156 sp. viz.,

14 Zingiber,	28 Hedichium,	3 Costus,
32 Curcuma,	17 Alpinia,	14 Globba,
1 Dischema,	2 Hellenia,	2 Hornstedtia,
9 Kaempfera	5 Gastrochilus,	7 Roscoea.
14 Amomum,	3 Monolophus,	
4 Elettaria,	1 Galangia,	

ZINGIBER CASSUMUNAR. Roxb.

Z. purpureum	*Roxb.*	Z. Cliffordii	*Andr.*
Ban ada,	Beng.	Vana-adrakam.	Sans.
Downy leaved Ginger.	Eng.	Karu allamu.	Tel.
Yellow Zedoary.	„	Kura pasupu.	„

Grows throughout British India and has a strong camphoraceous smell. Rhizoma, much larger than that of common ginger, smells camphor-like, tastes hot and bitterish, now very little used.—*Roxb. Fl. Ind. vol.* i. *p.* 49. *O'Shaughnessy, page* 643.

ZINGIBER OFFICINALE. Roscoe. Roxb.

Amomum zingiber, *Linn.*

Zinjabil, Zingabil.	Ar.	Alia,	Malay.
Adrak, Ada,	Beng.	Ischi,	Maleal.
Khyen-seing,	Burm.	Zinjabil,	Pers.
Kan-Kiang,	Chin.	Adraka,	Sans.
Peh-kiang,	„	Adrakam,	„
Common Ginger,	Eng.	Ammu Inguroo,	Singh.
Narrow leaved ginger	„	Inji,	Tam.
Adrak, Ada,	Hind.	Allam, Sonthi (dry),	Tel.
Sonth (dry ginger,)	„		

The native country of the common ginger plant is not known; but it is cultivated in all the warmer parts of Asia and on the slopes of the Himalaya up to 5000 feet. Its flowers are small, whitish purple, but it very rarely seeds; the roots are greatly increased. It is planted at the commencement of the rains in beds of about six feet square, and in a rich cultivated soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart. It requires a great deal of water, and to be kept clear of weeds. When the stalks dry, the ginger may be taken up; although it is sometimes left in the ground for a couple of years; it is better for remaining twelve months, and must be watered during the dry season, from October or November up to February and March. It is used fresh or the outer round is rubbed off and the root dried in the sun.—*Dr. O'Shaughnessy p.* 647. *Roxb. Fl. Ind. Mason. Smith. Mat. Med. China.*

ZINGIBER ZERUMBET, *Roxb.*

Amom. zerumbet, *Willd.*		Zingiber spurium,	*Kon.*
Butch,	Beng. Hind.	Broad leaved ginger	Eng.
Mahaburi Butch,	„	Walinguru,	Singh.

Found in the island of Ceylon and in the woods about Calcutta; the taste of the root resembles that of ginger, but is bitter as well as aromatic. It is not used in medicine by European practitioners.—*O'Shaughnessy, page* 648.

ZIN-MU-TIN-WU. See Japan.

ZINN, also Zinngeisserzinn. Ger. Pewter.

ZINNIA, a genus of plants of the natural order Matricariaceæ; some of them as Zinnia, elegans, alba, crocea and various others, are ornamental, and may be all sown at the commencement of the rains, either separately or in beds. The flowers are pretty and require very little care: the seed as it falls, springs up immediately, and from its profusion, almost becomes a weed in the garden.—*Riddell.*

ZINNOBER. Ger. Cinnabar.

ZINPYUN GYEE. Burm. A tree of Moulmein; wood used in ordinary house building.—*Cal. Cat. Ex.* 1862.

ZINZEYED——? See Elæagnaceæ.

ZIOGUN, a title of the secular emperor of Japan.

ZIRA. HIND. Buplurum marginatum, also Cuminum cyminum. Mago sira is a species of the umbelliferæ.

ZIRAH GULAB. HIND. Rosa centifolia.

ZIRAI RANG. HIND. Shade of the brown, drab color of zira or cummin seed; in Pushtu, yellow colour.

ZIRAK the ancestor of the Barukzye clan of Afghans.

ZIRA SAFED, Cuminum cyminum, Cumin seed, is much used in food and mesalih condiments.—*Genl. Med. Top. p.* 153.

ZIRA SIYAH. HIND. Carum gracile, also Cuminum cyminum, black cummin; sometimes applied to carraway seed; the name also given to Aplotaxis candicans.

ZIRCON, also called hyacinth, and jargon, is a mineral which occurs in attached, imbedded, and loose crystals. It is found at Expailly, in France, Ceylon, at Friedrichswarn, Norway, Greenland, the United States, &c. It contains—Silica 33·3, Zirconia 66·7. The Zircon family is richer in Ceylon than in any other part of the world; it is found in the districts of Matura and Saffragam; and is most abundant in the former, "Matura-diamond," is the name applied to its finest varieties by the dealers in gems. Besides the two well-established species, common zircon and hyacinth, there is a third, massive, opaque and uncrystalized, and of a dark brown colour. A specimen of it, from Saffragam, weighed two or three ounces. The Singhalese are completely ignorant of the true nature of zircon. The yellow varieties are sold by them as a peculiar kind of topaz, the green as tourmalines, the hyacinth red as inferior rubies, and the very light grey, as imperfect diamonds. All the varieties are found in the beds of rivers, or in alluvial ground, which, both in Saffragam and Matura, is of the same kind. Some of the best of the Ceylon jewels are probably zircon, the pale variety of which supplies the diamonds used in the jeweling of watches; and which is often sold as an inferior kind of diamond. It occurs in crystals bearing a remarkable resemblance to the oxide of tin (cassiterite), with which it is isomorphous, also in rounded grains, coloured red, brown, yellow, green or grey, rarely white, transparent to opaque, doubly refractive, lustre more or less adamantine, streak white, fracture conchoidal and brilliant. H. 7·5. S. G. 4 to 4·75. It is a silicate of zirconia, zirconia 66·23, silica 33·77. Vauquelin's analysis of zircon from Ceylon is 100 parts zirconia 64·5, silica 32·6, oxide of iron 2·0. Not decomposed by acids, even by muriatic acid; hot oil of vitriol, however, acts slightly on it. The name is from the Arabic word zerk, signifying a precious stone. Zircon is ordinarily divided into three varieties, the colourless or slightly smoky or jargoon, the bright red or hyacinth, and 3rd, the greyish, or brownish called zirconita.—*Bristow's Mineralogy.*

ZIRCOOA, in lat. 24° 52′ N. long. 53° 13′ E., is about 2 miles broad, and is the highest island on the south side of the Persian Gulf.

ZIRDAD. See Kelat.

ZIRDUK. PERS. Carrot; Daucus carota, *L.*

ZIREER. PERS. Melilotus officinalis, *Linn.*

ZIRISHK. LADAK. Vitis vinifera, *Linn. W. and A.* Currants.

ZIRISHK SHIRIN, or Mitha Zirishk, a raisin derived from the Vitis vinifera.

ZIRISHK TALKH, or Zirisht-tursh, a very austere berry which resembles the fruit of the Berberis lycium.—*Powell, Hand Book v.* 1. *p.* 319.

ZIRISHK TURSH. HIND. Berberis vulgaris.

ZIR-SHU. PERS. Gold-washing. See Kabul.

ZIRSUD. ARAB. Curcuma longa, *Roxb.*

ZITHA. BURM. Castanea Martabanica.

ZITRONEN SAFT. GER. Lemon juice. Citric acid.

ZITRONEN SHALEN, GER. Citrus limonum. Lemon juice, *Risso.*

ZITRONEN SHALEN, GER. Lemon peel.

ZITTWER. GER. Zedoary.

ZITZE. GER. Chintz.

ZIZYPHUS, a genus of plants of the natural order Rhamnaceæ, of which several species occur in S. Eastern Asia; viz:—

albens, *Roxb.* China.
flexuosa, *Wall,* Gosain than, Kashmir.
glabra, *Roxb.* Chittagong.
glabrata, *Heyne.* Mysore.
incurva, *Roxb.* Debra Dhoon.
jujuba, *Lam.* British India, Archipelago.
lotus, *Lam. Pers.* N. Africa.
mirzaporensis, *Royle.* Shergotti.
nitida, *Roxb.* China.
nummularia, *W. and A.* Penin. S. India.
œnoplia, *Mill.* All British India.
roxburghiana— ? Chittagong.
rugosa, *Lam.* British India.
vulgaris, *Lam,* Persia, Hindustan.
xylopyrus, *Willde.* Ghat Hills, Shergotty Ragonathpur.

An unidentified species, Zi-thi, BURM., grows in Tavoy, and yields a hard and durable wood. Contaya-kulli, TEL., another species, a large creeper common in Ganjam and Gumsur, has a circumference of 1½ feet. One of the charcoals used in making country gunpowder, is made by burning this tree and the chatty used in picottahs is placed in a frame work made of this wood.—*Captain Macdonald. Dr. Wallich.*

ZIZYPHUS CARACUTTA, Roxb. syn. of Zizyphus xylopyra, *Willd.*

ZIZYPHUS ELLIPTICA ·Roxb. syn. of Zizyphus xylopyra, *Willd.*

ZIZYPHUS FLEXUOSA. Wall.

Beri,	Chenab.	Barj; Ban,	Kangra.
Sinjli,	Jhelum, Kangra.	Ber-Relnu,	Ravi.
Simil,	„		

A large shrub or small tree, has a girth of 4-5 feet; it grows in N. W. Himalaya, not uncommon at places from 2,400 to 6,500 feet, from the Ravi to near the Indus.—*Drs. Cleghorn and J. L. Stewart.*

ZIZYPHUS FLORIBUNDUS. Wall. syn. of Berchemia floribunda, *Wall.*

ZIZYPHUS GLABRATA, *Heyne.*

Zizyphus trinervia, *Roxb. Fl. Ind.*

Kurkutta wood	Ang-Tam	Karukuva.	Tam.
Ran-bor.	Mahr.	Kakupala.	Tel.
Kurkatta maram.	Tam.		

This moderate sized tree grows in the peninsula of India; in the Bombay presidency, it is most common in cultivated lands and in alluvial soil on the banks of rivers. It is less common on the Bombay sea coast than inland. in Coimbatore, trees would yield 12 inch planks, but it is commonly a moderate sized tree; its timber, of a light brownish colour, is excellent, hard and close grained, and takes an excellent polish. The bark affords a quantity of kino like gum both by exudation and by decoction.—*Drs. Wight and Gibson, Voigt.*

ZIZYPHUS JUJUBA, *Lam.; Roxb.*

Z. trinervia,	*Roth.*	Z. sororia,	*Schult.*
Z. mauritiana	*Wall.*	Rhamnus jujuba,	*Linn.*

Zruf.	Ar.	Bidara.	Malay.
Ussli suddir.	Ar.	Elentha.	Maleal.
Ber tree.	Anglo-Hind.	Perin todali.	„
Kulgach.	Beng.	Berra.	Panjab.
Bher.	„	Koli.	Sansc.
Kul.	„	Kurkhunda.	„
Budri.	„	Vadari.	„
Narikeli-kool.	„	Phenila.	„
Pissi,	Brahui.	Maha-debara.	Singh
Hyi-bin.	Burm.	Handa.	„
Hzee.	„	Masan.	„
Elanji mara.	Can.	Yellandy maram	Tam.
Gulimara.	„	Ellendi.	„
Bher, Duk. Hind.	Mahr.	Regu manu.	Tel.
Jujube tree.	Eng.	Ganga regu.	„
Blunt leaved Zizyphus.	„	Regu chettu.	„
Nasuk.	Hind.	Karkandhava.	„
Bor.	Mahr.	Renga.	„

The fruit.

Unab.	Ar.	Kuchra.	Punja
Nebbak, Sidr.	„	Kinar.	Pers.
Nabik.	„	Kial.	„
Ber ka phal.	Duk.	Budderi.	Sans.
Ber; Beri; Jari	Hind.	Elandei pallum.	Tam.
Kokan-ber.	Panjab.	Regu pandu.	Tel.

The seed or stone.

Kinar-ki-binj. Hind.

This tree is found every where in the south and east of Asia, in Arabia, in Persia, in Ceylon throughout British India, and in the Archipelago, in Sunda and the Moluccas, but growing to various dimensions. It is common all over the Panjab up to 3,000 or 4 feet. There are several varieties in the Panjab, Z. hortensis, Z. hysudricus. It is Pomum Adami of Marco Polo. Mr. M found the Ber tree generally throug the tract between Saiyad Wala and hore, a distance of 40 miles, not co to the vicinity of villages, and att a much larger size than he had elsewhere as also does its fruit, which is there swe palatable. In the Bombay presidency, Gibson failed to find any specific diff between the wild and cultivated species, grows there to a large size, fit for plan sleepers, for which latter it might answer in the dry climate of Sind, where the t common. In Coimbatore, it is usual small size but the dark brown wood is grained, strong and hard, and fitted for net making purposes, for saddle-trees, plements of husbandry and sandals. In B mah it is scarce, only found near large tow rarely in the Pegu and Tounghoo forest Its wood is tough, strong and durable, used for carpentry, well curbs, well whe and ploughs: and for making charcoal; grafting and cultivation it affords a large fru The fruit of the wild kind is dried and po dered, as was done with the lotus of t Lotophagi. This powder in Arabia is cal Suve koon nebek, in Persian Arud-i-kinar, Hindee Ber choonee. The bark is u in the Moluccas as a remedy for di rhœa; the root, with some warm seeds, infusion in fever. The lozenges, and thi ened mucilage called jujubes by the con tioners, are prepared from this and from Z. vulgaris, a native of Syria, Persia, a Hindostan. A variety with long fruit, d scribed by Dr. Wallich, is called in Ben Narikeli kool. Its reddish colored round fr is about the size of a large olive, and is used chatnies and pickles; the uncultivated fr when nearly ripe tastes like a crab apple; a small sour berry, a great favorite with Burmese and Karen.—*Royle's Illustr. p. O'Shaughnessy, page* 273. *Jaffrey, Ain. Mat. Med. page* 207. *Rohde, land, Cleghorn Punjab Report, Kull Kangra p.* 82. *Dr. Gibson, Voigt, p. Thw., Mr. Latham, Captain Beddome son's Journeys vol. II. Dr. J. L. St Wight No.* 127. *M. E. J. R. Adams.*

ZIZYPHUS LOTUS.

Lote,	Bush.	Nabk,	

This is supposed to be the Arbor phagorum, the fruit of which is desc by Herodotus as eaten by the Lotophagi the Arabs still eat the berry. Ziz lotus is a native of Africa, and is cele in ancient poetry; the fruits were

by Homer to be as sweet as honey, and when eaten to destroy the love of country. Polybius states, that the fruits constituted the staple food of the districts in which they grew and also yielded a delicious wine.—*O'Shaughnessy page* 272. See Diospyros melanoxylon.

ZIZYPHUS LUCIDA. *Moon.* In the Matele and Kornegalle districts, of Ceylon, very abundant.—*Thw. En. Pl. Zeyl.*, I, *p.* 74.

ZIZYPHUS NUMMULARIA. *W. and A.*

Birar	BEAS.	Mara ber,	PANJ.
Jar-beri	HIND.	Zari,	,,
Jand,	JHELUM.	Karkanra	PUSHTU.
,, ber	,,	Karkana	RAVI, TRANS INDUS.
Jareri,	PANJ.		
Malla; Kokni ber;	,,	Birosa,	SALT RANGE.

This, small, thorny shrub grows in N. Western India, and abundantly in the Panjab; it is used for hedges, and its bark as a tanning substance. It is eminently characteristic of a dry climate, being common in the most desert and rainless districts of the Punjab. Its fruit is a small red drupe, the size of a pea, and considered by natives cool and astringent, useful in bilious affections.—*Powell Hand Book v. I. p.* 337. *Thomson's Travels in Western Himalaya and Tibet. p.* 305.

ZIZYPHUS ŒNOPLIA. *Mill. W. and A.*

Zizyphus napeca, *Roxb.*

Kan-hzee.	BURM.	Paragi	TEL.
Pen-lay-hzee.	,,	Paringi.	,,
Erra-minya-wel.	SINGH.	Parimi.	,,
Koattay maram.	TAM.		

This shrub is common in Ceylon and in the peninsula of India. Dr Gibson had never seen it in the Bombay presidency, but as a climber; and Wight says if used at all at Coimbatore, it can only be for small ornamental work. The bark affords a good deal of kino. Fruit eaten by the natives, its taste being pleasantly acid. A decoction of the bark of the fresh root is said to promote the healing of recent wounds.—*Roxb. O'Shaughnessy, page* 273. *Drs. Wight and Gibson, Thw. Voigt. Rohde.*

ZIZYPHUS ORBICULARIS. SCHULTZ. syn. of Zizyphus xylopyra, *Wild.*

ZIZYPHUS OXYACANTHA.

Sinjli. HIND.

A plant of Kaghan.—*Cleghorn.*

ZIZYPHUS ROTUNDIFOLIA. ROTH. syn. of Zizyphus xylopyra, *Willd.*

ZIZYPHUS RUGOSA. LAM. *W. et A.*

Maha-erra-minya. SINGH.

Very abundant in Ceylon up to an elevation of 2,000 feet.—*Thw. En. Pl. Zeyl. I. p.* 73.

ZIZYPHUS SORORIA. SCHULT. syn. of Zizyphus jujuba, *Lam.*

ZIZYPHUS SPINA-CHRISTI, Christ's thorn, a native of the north of Africa, Palestine, Ethiopia, and Egypt; is about eight feet high, and has ovate-toothed smooth leaves, prickles twin, one straight the other incurved. The fruit is oblong, about the size of a sloe, and much eaten in Egypt and Arabia. This plant has pliant branches, is covered with thorns, and being not uncommon in Palestine, has been supposed by Hasselquist to have afforded materials for the crown of thorns with which the Lord Jesus Christ was crowned. The Paliurus aculeatus however, is the more common thorny plant in that country.—*Eng. Cyc.*

ZIZYPHUS TRINERVIA. DON. *Mill., Roxb. Roth.* syn. of Zizyphus glabrata, *Heyne.*

ZIZYPHUS TRINERVIA. ROXB. syn. of Zizyphus jujuba, *Lam.*

ZIZYPHUS TRINERVUS. *Rottl.*

Carookoovaelly.	TAMIL.	Vatadella.	SANS.
Ka-koo-pala,	TEL.		

The leaves of this species of Zizyphus have but little taste or smell. A decoction of them in conjunction with others of the same nature, is occasionally prescribed to purify the blood in cases of cachexia, and in venereal complaints of long standing.—*Ains. Mat. Med. p.* 76.

ZIZYPHUS VULGARIS. LAM.

Kandika,	BEAS.	Shamor.	SUTLEJ.
Kandiari,	,,	Amlai,	SUTLEJ and RAVI.
Barari,	,,	Awmia.	,, ,,
Ganyere,	CHENAB.	Amli.	,, ,,
Common jujube tree,	ENG.	Amra.	,, ,,
Fitni, Pitni, Ber	HIND.	Imla.	,, ,,
Phitni,	JHELUM. KANORA.	Karkan-ber	TRANS. INDS.
Kokan-ber,	JHEL KAN.		

In British India, this common wild fruit tree, grows in almost every jungle. It is more especially cultivated by mahomedans round their tombs. The fruit is astringent, but sometimes of a pleasant subacid flavor—eaten chiefly by the poorer classes and wild animals. The fruit is oblong, containing a stone, and bears twice in the year, the best crop about January: after this is over, the tree is pruned, by cutting off nearly all the smaller branches. A second crop succeeds on the new wood in the rains, but, from being full of maggots, is not eatable: even in the cold weather very few of the fruit are free from this insect. The natives pretend that they have a remedy, which prevents the fruit from being attacked, but Dr. Riddell had never known it succeed. The flavour is somewhat that of a fresh apple, and the fruit when large and fine is by no means to be despised. He succeeded best by budding from a good tree on a common stock raised from seed. It will bear well in two or three years, but requires care and watering at first. A fine gum-lac is produced from this tree; the cocoon of the wild silk worm is often found attached to it. It is common at many places in the Punjab

Himalaya, especially towards the west from 2,000 to 4,000 feet, and in Kashmir 6,000 feet. It also occurs in the S Range, and is occasionally found in gardens the Punjab. The fruit is small and sour, but is eaten.—*Dr. J. L. Stewart. Riddell.*

ZIZYPHUS XYLOCARPA. GIBSON.

Got Bor. MAHR.

Dr. Gibson says that this tree is very common in the coast jungles of the Bombay Presidency, but he had not seen it inland. It is useful only for torches, for which it is valuable; the fruit burned, forms the base of a good blacking material.—*Dr. Gibson.*

ZIZYPHUS XYLOPYRA. WILLD. *Roxb*

Z. elliptica,	*Roxb.*	Z. orbicularis,	*Schult.*
Z. caracutta,	*Roxb.*	Rhamnus xylopyrus.	*Retz.*
Z. rotundifolia,	*Roth.*		

Sooti.	BOMBAY.	Gatte chetta.	TEL.
Gumun mara.	CAN.	Gotte chettu.	„
Guti.	MAHR.		

This small thorny tree grows in the hot dry parts of Ceylon and throughout the south of India, and can always be recognized by the pale colour and softness of the under surface of its leaves. It is most common below the ghauts in Canara and Sunda, but it never grows to a very large size. It is common in every forest on the coast of Coromandel. In a good soil it grows to be a pretty large tree, with a tolerably erect trunk, but in general it is found in the state of a large straggling shrub. Cattle eat the leaves, young shoots, and fruit. The kernels taste like filberts, and are eaten by the natives. The wood of the largest trees is much esteemed by the natives, being yellowish or orange colored, very hard, and durable, and at the same time not very heavy. Its wood is used for implements, and its round fruit is employed in the arts, being much used by shoe-makers to blacken leather and to make blacking.—*Dr. Gibson, Voigt, Thw. En. Pl. Zeyl.* i. 74. *Calcutta Cat. Ex.* 1862. *Rohde MSS.*

ZJHUT, the Jat, Jut or Jit race, far more numerous than perhaps all the Rajpoot tribes put together, still retains its ancient appellation throughout the whole of Sind, from the sea to the Himalaya, but there are few or none in the t'hul. Their habits differ little from those who surround them. Some of the Jat are hindus, some are sikhs, and some mahomedans.

ZLOTO. POL. Gold.

ZMILACES. LAT. Cat's eye.

ZMILAMPIS. LAT. Cat's eye.

ZO. See Kunawer.

ZOBEID. See Kashan, Mesopotamia.

ZOBEL. GER. Sable.

ZODIAC. The following are the signs of the zodiac, with the months and the corresponding astronomical periods:—

Sign.	Hindu Month :—	Tamil.	d.	h.	m.
Mesha (Aries)	Vaisakh	Chaitram	30	22	12·8
Vrisha (Taurus)	Jyesht	Vyassei	31	9	40·8
Mithuna (Gemini)	Ashadh	Ani	31	14	39·2
Karkata (Cancer)	Sravan	Adi	31	11	16·8
Sinha (Leo)	Bhadra	Avani	31	0	52·0
Kanya (Virgo)	Aswin	Paratasi	30	10	56·8
Tula (Libra)	Kartik	Arpesi	29	21	38·8
Vrishika (Scorpio)	Margashirsh or Agrahayan	Kaktiga	29	12	9·6
Dhanus (Sagittarius)	Paush	Margali	29	8	21·2
Makara (Capricornus)	Magha	Tye	29	10	54·4
Kumbha (Aquarius)	Phalgun	Mausi	29	19	21·6
Mina (Pisces)	Chaitr	Punguni	30	8	8·4
Total (according to the Parasara Siddhanta) ..			365	6	12·54

Hindoo astronomers have divided the zodiac into 27 equal parts called Lunar mansions, of 13° 20' each. Their names are

Aswini.	Magha.	Mula.
Bharani.	P. Phalguni.	P. Ashadha
Krittika.	U. Phalguni.	U. Ashadha
Rohini.	Hasta.	Sravana.
Mrigasiras.	Chitra.	Dhanishtha
Ardra.	Swati.	Sata-bhisha
Punarvasu.	Visakha.	P. Bhadrapa
Pushya.	Anuradha.	U. Bhadrapa
Aslesha.	Jyeshtha.	Revati.

According to Mr. Colebrooke at the epoch of the vedas, the summer solstice was in the middle of As'lesha, the 9th lunar mansion: therefore Regulus was half a lunar mansion + 5 that is 15° 40' east of the summer solstice at that time. On 1st January 1859, the Long. of Regulus was 147° 52' 30". Hence Regulus was, at that date, 57° 52' 30" east of the summer solstice. The summer solstice has therefore retrograded through 42° 12' 30" 42°· 208 since the epoch of the Vedas. And the equinoxes and solstices move backwards on the ecliptic at the rate of 1° in 72 years it must have occupied 70 × 42°. 208 = 3040 years to effect the change. Hence the date of the vedas was 3039 on 1st January 1859 their date is 1181 B.C., i. e., the early part of the 12th century before the Christian era.

Archdeacon Pratt. in Beng. As. Soc. Journ. No. 1 *of* 1862.

ZODIACAL LIGHT, this, in the Red Sea and in Bombay, is far brighter than in England. Flashes of light, coruscations of the Aurora Borealis, in pyramidal form, would exactly describe the phenomenon. It varies, however, greatly, and often for some days together is scarcely visible.—*Burton's Pilgrimage to Meccah, vol.* i. *p.* 307.

ZOE. PUSHT. means son, generally spelled Zae, Zye or Zie.

ZOENIL. HIND. Pyrethrum, *sp.*

ZOFO. See Kunawer.

ZOGI. Dras adjoins Kashmir, the intercommunication being by the Zogi pass, a remarkable depression of 11,300 feet, through which flow the moist winds of Kashmir, and Dras is the most humid and fertile province of Tibet.

ZOHAK, according to tradition, came from Arabia.

ZOHRAH, or Zuhrah, AR. the planet Venus.

ZOHUR. AR. HIND. PERS. noon. Zuhar-ka-namaz, the noontide prayers.

ZOILUS. See Greeks of Asia.

ZOLFO. IT. Sulphur.

ZOLIM-BURIKI.—? Schleichera trijuga.

ZOLLINGER, a Dutch naturalist who resided a long time in the island of Bali.

ZOMO. See Kunawer.

ZONAR.

Poita, Poitu.	BENG.	Yajnopavita.	SANS.
Janeo.	HIND.	Janavi,	,,
Janeu.	,,	Jhandiam.	,,
Janwez.	MAHR.	Yadnu-pavita,	,,
Pavitra.	SANS.		

The zonar, the sacred cord worn by the hindoos, is regarded by the brahmins as of a highly mysterious and sacred import; and they do not consider an individual as fully member of his class until he has assumed this holy emblem. Some writers call this the brahminical, or priestly, or sacerdotal thread: but it is not confined even to the priestly tribe, being worn by the brahmin, chetrya and vaisya castes, by the Bed or herbalists of Bengal, by the five komsallar or artizan castes of the Dekhan, carpenters, goldsmiths, braziers, blacksmiths, and stone cutters and also by the Parsi zoroastrians. The zonar or sacred girdle is different for each of the races who wear it. It is imposed with solemnity, whence the three castes are termed Dwija, or twice-born. The investiture, with its accompanying formulæ, is considered to indicate the regeneration of the individual. The rite is applicable to all the three superior castes or the brahman, kshetriya, and vaisya, to each of whom the term Dwija is appropriate; although, as the two latter are considered to be extinct, it now signifies the brahman only. The cord of the brahman should be made of cotton, that of the kshetriya of a kind of grass, and that of the vaisya of woollen thread. The investiture of the first should take place between the ages of five and sixteen; of the second, between six and twenty-two; and of the third, between eight and twenty-four. If delayed beyond the latter period the individual is considered degraded from his caste. An essential part of the ceremony is the communication of the Gayatri or holiest verse of the Vedas. Various ceremonies are attendant upon hindu boys between infancy and the age of eight years. After that age, and before a boy is fifteen, it is imperative upon him to receive this sacred thread, which after a variety of preliminary ceremonies, is thus performed. The priest first offers a burnt sacrifice, and worships the salagrama, repeating a number of prayers. The boy's white garments are then taken off, and he is dressed in yellow or red, and a cloth is brought over his head, that no sudra may see his face; after which he takes in his right hand a branch of the vilva, Ægle marmelos, and a piece of cloth in the form of a pouch, and places the branch on his shoulder. A poita of three threads, made of the fibres of the suru, to which a piece of deer's skin is fastened, is suspended from the boy's left shoulder, falling under his right arm, during the reading of the invocations. The father of the boy then repeats certain formulas, and in a low voice pronounces three times the Gayatri. It is communicable to all three and is the following: O'm! bhurbhuvă suvaha, O'm! tatsa vit'hru varennyam; B'hargo devasya dhimahi dhiyo, yonaha pracho dayath. Om! Earth, Air, Heaven. O'm! Let us meditate on the supreme splendour of the divine sun, may he illuminate our understanding. After this the suru poita is taken off, and the real poita, or sacred thread, put on. During this ceremony the father repeats certain formulas; the suru poita is fastened to the vilva staff, shoes are put on the boy's feet, and an umbrella in his hand. The receiving of the poita is considered as the second birth of a hindu, who is from that time denominated twice-born. A boy cannot be married till he has received the poita. The sacred thread must be made by a religious brahman. It consists of three strings, each ninety-six hands (forty-eight yards), which are twisted together: it is then folded into three, and again twisted; these are a second time folded into the same number, and tied at each end in knots. It is worn over the left shoulder (next the skin, extending half-way down the right thigh) by the brahmans, ketries, and vaisya castes. The first are usually invested with it at eight years of age, the second at

eleven, and the vaisya at twelve. The period may, from especial causes, be deferred; but it is indispensable that it should be received, or the parties omitting it become outcastes. The zonar must be made by a brahman: it is composed of three threads, each measuring ninety-six hands; they are twisted together, and folded into three, then twisted again, making it to consist of nine threads, these are again folded into three, without twisting, and each end fastened with a knot. It is put over the left shoulder next the skin, and hangs down the right thigh as low as the fingers can reach: of these zonars, a brahman wears four; the other privileged tribes but three. The number of three threads, each measuring ninety-six hands, for the sacrificial string, may have some mystical allusion to the ninety-six fixed annual sacrifices. The number three is mystical with almost all nations; and, with the hindus, may refer to the same source as the three sacred fires, the three legs of Agni, the triad of divine powers, &c.; but ninety-six does not arise from any ordinary process of three, and seven, and two, the distinguishing numbers of Agni's legs, arms, and faces. Something like the zonar wa sordered in Numbers xv. 38, in the fringes to be attached to the *Arba bamforth*, on his breast, and which every Jew still wears.—*Moor*, *p.* 379, *Cole. Myth. Hind. p.* 154 155. *Wilson's Hindoo Theatre*, *p.* 163. *Moore's Hindoo Pantheon*, *Chow-chow*, *p.* 85.

ZOLKADDER. See Kazzilbash.

ZONATHERIA, a class of zoophytes.

ZONE. See Semang.

ZONNALU. Tel. *plur.* Sorghum vulgare.

ZONURIDÆ, a family of Saurian reptiles. Tachydromus sexlineatus, the Tachydrome, is a tropical form of this family, and is found in Cochin-China, China, Borneo and Java.

ZOOBA, or Zoobub.

ZOOFA GABIS? Arab. Hyssopus officinalis.

ZOOL-FUQQAR. An ullum, a representation of the double-bladed sword of Ali.

ZOOLHUJ, the twelfth month of the mahomedans.

ZOOLJUNNA, the name of Husein's steed, meaning a winged wolf.

ZOOLOGICAL GARDENS have been established in Madras in the People's Park: the animals were first, for several years, kept in the Government Central Museum, Madras, which the editor formed.

ZOOMARA. Arab. a double clarionet.

ZOOPHYTE, from the Greek Ζωον, animal, and φυτον, a plant. The characteristic example of this creature is to be seen in the coral, and authors divide them into

I. Protozoa, including Infusoria, Foraminifera, and Spongiadæ.

II. Polypifera, including the Hydra, Sertularia, and Pennatularia.

III. Echinodermata or Sea-Urchins and Star fishes.

The Protozoa class of zoophytes are divided into Rhizopoda and Infusoria. The Amibæ, Foraminifera and Noctilucæ are three orders of Rhizopoda. The Infusoria are said to have 71 species. They exist in all waters. The Ganges annually transports them to the ocean, to the extent of six or eight times the size of the great pyramid of Egypt. And the waters at a depth of 22,000 feet between the Philippines and Marianne Isles, yielded 116 species.

The Polypifera, the polypi, correspond with the Polype of science and the acalephous zoophytes of Cuvier. In nearly all the polyps, the sexes are separate. They are arranged into the classes Sponge, Alcyonidæ, Zoantharia, Discophora, and Ctenophora.

The Sponge is an animal living at the bottom of the sea, and consist of a mass of light elastic tissue. Nearly three hundred species are known, amongst them are the Feather, Fan, Bell, Lyre, Trumpet, Distaff, Peacock, Tail, and Neptune's Glove sponge. River sponges are irregular sandy masses, piled on plants and solid bodies in fresh water. The sea sponge is found in the Mediterranean, Red Sea, and Mexican Gulf, attached to rocks, at from 5 to 25 fathoms deep. The Syrian fishermen fish for sponges from June to October in the Red Sea, the Arabs dive for them and sell them in Egypt and [illegible] Aden. The Spongia, Calcispongia, Halispongia and Spongilla, constitute a group of which the constituent structure is [illegible] The Geodia, Cœloptychium, Siphonia, [illegible]mesium, Scyphia, Eudea, Halirrhoa, [illegible]limus, Cnemidium, Jerea and Teuthium, constitute another group, depending on characters of surface and general figure.—*Figures pages* 116 *to* 121.

ZOOS. Arab. See Sandarach.

ZOOTHERA ANDROMEDA. A ground thrush of Lombok.

ZOOTTUPAKU. Tel. Cynanchum ext[illegible]

ZOR. Hind. Pers. strength; force; in the Zend-avesta, the water of force.

ZORAPOOR. Immediately under the [illegible] of Kurnul lies the old town of Zora, or J[illegible] which answers exactly to the Choliya or Jo[illegible] of Hwen-Thsang. In some editions the [illegible] are transposed as Arcati regia sora. Ge[illegible] Cunningham takes Sora to be the capital of king Arkatos, whether it be [illegible] before or after his name. Arkatou has [illegible] usually identified with Arcot near Madras

but the name of this city is believed by General Cunningham to be quite modern, and he thinks the position of Sora must be far to the north of Arcot. The Soræ nomades of Ptolemy may therefore, he says, be a branch of the Saura, who are still located on the banks of the Kistna river. One hundred miles to the west-north-west of Karnul there is also a large town named Sorapur, the raja of which still holds his patrimonial appanage, surrounded by his tribe of Bedara claiming a descent of more than thirty centuries. The Zorapur near Kurnool, however, is on rocky ground, and that south of Sholapur is surrounded by rocky hills; and if General Cunningham had seen either place, he would have retained the old opinion that Arcot is the ancient capital of the Sora.—*Cunningham, Ancient Geog. of India, p.* 547.

ZOR-KHANEH, or Palaistra, where wrestling and athletic feats are practised.

ZOROASTER, the Seer and Lawgiver of Bactria, according to Chevalier Bunsen and Professor Max. Muller, lived B. C. 3500 to 3000. He is also supposed to have been born about 550 years before Christ, in the reign of Darius Hystaspes, the Gushtasp of the Zendavesta. Zoroaster was the lawgiver of the Persians, and his name is variously written, Zertusht, Zurtosht, Zerdusht or Zeratusht. He was the son of Puroshup, was born in the city of Rai, in Persia, and became known in the reign of king Gushtasp, the Darius Hystaspes of the Greeks, the fifth king of the Kaianian dynasty, and who embraced the faith propounded by Zoroaster. Zoroaster is said to have been then of the age of forty, and to have appeared before Gushtasp, in the thirtieth year of that monarch's reign, when he produced to the king the sacred books called Avesta, written in the Zend language. The religion lasted till the conquest of Persia by Alexander the Great. From that time, the religion of Zoroaster continued to decline, till revived in A. D. 226 by Ardeshir Babekan, son of San or Artaxerxes, and the first of the Sassanian kings. Before the advent of this teacher, the Persians were worshippers of idols, but the religion propounded by him is a theism, recognising a Creator, Ruler and Preserver. According to Anquetil du Perron, the first duty in this faith is to recognise and adore Ormuzd, the master of all good, the principle of all righteousness, according to the prescribed form of worship, and with purity of thought, word, and action, and generally to honour Ormuzd (the Almighty as he is styled in the Avesta) in all that he has produced. The second point in the theology of the Zoroastrians, is to detest Ahriman, the author of all bad, moral and physical, his productions and works. God, according to Zoroastrian theology, is the emblem of glory, refulgence, light, and in this view a Parsee while engaged in prayer, stands before a fire or directs his face towards the sun as the most proper symbol of the Almighty. The sacred fires of the Parsee fire temples are attended day and night by the Andiarva or Priest, and are never permitted to expire. They are preserved in a large chafing dish carefully supplied with fuel, perfumed by a small quantity of sandal wood or other aromatics: the illiterate adore this sacred flame, as also the sun, moon and stars, but the educated under the symbol of fire adore the Almighty or Fountain of light, the author and dispenser of all things, the sun being merely regarded as a creature of the Creator, which was to be reverenced as His best and fairest image, and for the numberless blessings it diffuses on the earth,—while the sacred flame of the fire temples was intended as a perpetual monitor to preserve their purity, of which this element is so expressive a symbol. The Parsee race, at present scattered in the south-east of Asia, originally emigrated from Persia to Guzerat. In the sixteen sloka or distiches which they prepared with a view to explain their religion to the rana at Damaun, they (1) avowed their worship of a supreme being (Hormuzd) and the sun and five elements; (2) preserving silence while bathing; praying; making offerings to fire and eating; (3) their use of incense, perfumes, and flowers in their religious ceremonies; (4) their worship of the cow; (5) their use of the Sadra or Shirt, as a sacred garment; and of the kusti or cincture for the loins and the cap of two folds; (6) their use of songs and music in their marriages; (7) ornaments and perfumes by their wives; (8) their charity and excavating of tanks and wells; (9) their sympathy with men and women; (10) their use of gaomutra, one of the excretions of the cow; (11) their wearing the sacred girdle at prayer and eating; (12) their feeding the sacred flame with incense; (13) their practise of devotion five times a day; (14) their conjugal fidelity and purity; (15) annual religious rites on behalf of ancestors; and (16) their placing great restraints on their women after child birth. Many of these rules of conduct assimilate to those of hindoos, and some of their customs correspond with those of Tibet. When death is drawing near, prior to the flight of the soul, the body of the dying person is washed and arrayed in fine cloths. After death, the remains are placed on an oblong piece of polished stone, laid on the floor, and the following morning, generally, replaced on an iron bier: it is raised by the Nassealar, or corpse bearers, who, after prayers by the priests,

carry it to the Dokhma or tower of silence. The Dokhma is erected in a solitary place: those in Bombay being on the most secluded and highest parts of Malabar hill. Arrived at this place, the iron bier is placed on the ground, and a last look of the dead allowed by uncovering the face, and then removed within the tower, where, exposed to the vultures and other carnivorous birds, it is soon denuded of flesh, the bones fall through the iron grating into a pit beneath, from which they are from time to time removed into a subterranean entrance made for that purpose. Parsees meeting a dead body of a member of their tribe, bow to it. These religionists now perform annual ceremonies in memory of the dead, and on the "Furrohur din jasan" are performed the sacred rites of the friends who have died in long voyages, or the precise date of whose demise is not ascertained. The first act of Parsees, on their occupying any locality, is to erect the Dokhma, and it is known from this that their first settlement in Bombay was about the year 1671. After the mahomedan conquest of Persia, the Parsees, being persecuted by the Arabs, fled to the mountains of Khorassan, where they found a shelter for about a hundred years; but, being again compelled to flee from their enemies, they emigrated to the little island of Ormuz at the mouth of the Persian Gulf, and subsequently, from the same cause, they quitted Ormuz for the western coast of India. According to the Kissa-i-Sanjan, they first landed on the small island of Diu in the Gulf of Cambay, lying to the south-west of the peninsula of Katiawar, which, after a short residence of 19 years, they again quitted for Guzerat, and landed at Damaun in A.D. 717. It was here, at Sanjan, in A. D. 721, that the Parsees erected the first fire temple and saw the sacred flame kindled on its altar. They remained here in peace for about 300 years, small communities settling in other towns in Guzerat, but all engaged in cultivation. But in 1507, having engaged in the cause of a hindoo prince who sustained a defeat, they quitted Sanjan for the mountains of Baharout, taking with them the sacred fire, from which it was subsequently removed to Nowsaree; and lately, owing to disputes among the priests, it was secretly removed to Oodwara, 32 miles south of Surat, where it still exists, and being the oldest fire temple of the Zoroastrians in India, it is held in the highest veneration. The remnant of the Zoroastrian Parsees in Persia is now almost confined to the town of Yezd and the twenty-four surrounding villages, and in 1854 there were there one thousand families, comprising a population of 6,658 souls, of whom 3,310 were men and 3,348 were women. They are chiefly engaged in agricultural pursuits. At Kirman the Parsees number about 450; in Teheran there are only about fifty merchants of this race. They have fire-temples but no ancient liturgical books. The total number of this race in the present day, who are followers of Zoroaster, does not exceed 150,000 persons, and the census of the 20th August 1854 showed those of Bombay to amount to 110,544; of whom 68,754 were men and 41,790 were women. More than half the number, viz. 61,298, of all this tribe in Bombay, were merchants, bankers, or brokers. In Western India they are a liberal-minded and open-handed race, and one of their number, Sir Jamsetjee Jejheebhoy, gave away sums for public charities to the extent of nearly half a million sterling. They have two sects, the Shensoy and Kudmi, whose only dissimilarity arises from their different mode of computing, since 1746, the era of Yezdejird, which occasions a difference amongst the two sects as to the time of celebrating their festivals. The numbers of the Shensoy ten times exceed those of the Kudmi. It is a common notion that Parsees will not use fire arms, from their worshipping or venerating fire, but this is a mistake. Zoroaster, the seer of Bactria, is described in the old songs of the Zendavesta as "he who offers words in songs, who promotes purity by his praise, he upon whom Ahuramazda conferred the good gift of eloquence * * he is the only one who understands the doctrines of the Supreme God, and was in a condition to transmit them." He founded the doctrine of a duality of good and evil, and was generally supposed to have been patronised by king Kava Vistaspa; but, when proved that the Vishtaspa who is mentioned in the books of the Zendavesta, as the royal patron of Zertusht, was not the father of Darius Hystaspes, historical and philological criticism was set at rest. Zoroaster was a priest of the fire worshippers, and it is generally understood that he found the doctrine of a duality of good and evil already in vogue. What is understood by evil, is evil thought (Ako mano,) or falsehood; and this is contrasted with good thought, which is identical with the good principle. An absolute personification of the good principle is hardly to be found in the songs of Zertusht. Zoroaster's reform in Bactria occurred about the time of Menes, or about 3500 B. C. Plato speaks of him, and calls him a teacher of magic (Μαγεία), and the son of *Oromases*, a name clearly meant for *Ormuzd*, the god of the Zoroastrians. At what time Zoroaster lived has however been a disputed question. Xanthus, the Lydian (470 B. C.), as quoted by Diogenes Laertius

places Zoroaster, the prophet, 600 before the Trojan war (1800 B. C.), Aristotle and Eudoxus, according to Pliny (Hist. Nat. xxx. 1), placed Zoroaster 600 before Plato; Hermippus 560 before the Trojan war. (Diog. Laert. proœm.) Pliny (Hist. Nat. xxx. 2) places Zoroaster several thousand years before Moses the Judæan, who founded another kind of Mageia. Zoroastrian books place a supreme god above the powers of nature.—*Muller's Lectures p.* 196, *The Parsees pages* 7 to 261. *Bunsen, Egypt's Place.* See Kamran, Sudra, Pappati, Parsee.

ZOROASTER, the first of a dynasty that ruled in Babylon, from B. C. 2235 to B. C. 2011, a period of 224 years, during which he had seven successors. From the Armenian edition of Eusebius, in the Chaldean lists of Berosus, the name of one Zoroaster is known to us as a royal name. It is that of the Median conqueror of Babylon, who vanquished the realm and city of the Chaldees, and founded the second Babylonian dynasty in the year 2234 B. C. See Kissa-i-Sanjan.

ZORAWUR SINGH, a Sikh general who commanded an expedition sent from Kashmeer by Goolab Singh in 1839. After taking Ladak and Iskardo, he marched up the valley of the Indus into Gnari, a province of Tibet, and captured Gurtokh, its capital. His force was inconsiderable, and he wrote in vain for supplies and reinforcements. They were not easily furnished across the many intervening ranges of snow-capped mountains, winter was now approaching, and Zorawur Singh fortified for himself a cantonment near Gurtokh, when a Chinese and Tibetan force surrounded him and cut off his supplies. His detachment was thus overpowered and himself slain. About 120 miserable Sikh fugitives found their way, half frozen, across the Niti Pass, into the British province of Kumaon, and told the tale. This occurred in the winter of 1842, at the very time when the British force of Kabool was similarly overpowered by the Afghans.—*Prinsep's Tibet, Tartary and Mongolia, page* 22.

ZORUK. The best known boats on the Indus are the *Zoruk* of the upper Indus, the *dunda* which plies from Mithankote to the sea, and the *dugga*, which is specially suited from its strong build to the navigation of the rapids between Attok and Kalabagh. The better kinds of woods used in their construction (sissoo and large babul), are procured with difficulty, and various species of timber are generally seen in one boat, such as sissoo, babul, deodar, chir, bahn, and karil. Malabar teak is much prized in the lower Indus and fetches a large price. The ordinary ferry boats are constructed by the sides and bottom being prepared separately and brought together to be secured by knees or crooked pieces nailed to the bottom and sides. The bottom is made of sissoo, the knees of mulberry or olive, and the side planks of deodar. The wedges and trenails are usually made of tut and kabu. Ropes for rafts and boats are prepared either from hemp (Cannabis Indica), sirki (Saccharum spontaneum), Typha latifolia, "dib," or other reeds, common on the river bank. Munj (Saccharum munja), is also largely employed by the native boatmen. The great boat building localities of the Punjab are Pind Dadun Khan, Wazirabad, Jelam, Attok, Nowshera, Hashtnagar, Mokhud and Kalabagh.

ZOSTEROPS. One of the most common denizens of woods and jungles, flitting noiselessly among the dense foliage, and so tame as to approach within a few feet, is the beautiful warbler, the yellow Zosterops, known by the white downy ring round the eye, from which it has received its name (Z. palpebrosus); it is about the size of the blue titmouse; the general colour is olive, approaching a light yellow on the wings, forehead, and lower parts.—*Adams.*

ZOSHO. HIND. Daphne oleoides.

ZOUAVES. See Semitic races.

ZOUNG-GA-LA. BURM. Ancistrolobus carneus, *Wall.*

ZOUNG YAH. BURM. Averrhoa carambola, *Linn.*

ZOUT. DUT. Salt.

ZOWBIAM. TEL. Sago.

ZOZYMUS. LEACH. A genus of Brachyurous crustacea, of which the following species are known in the E. Indies;

Zozymus latissimus, *Edw.* New Holland.
„ pubescens, *Edw.* Mauritius.
„ tomentatus, *Edw.* Indian Ocean.
„ æneus, *Edw.* Indian Ocean.

ZOZZOZAN. HIND. Alhagi maurorum.

ZRAND. HIND. Cuscuta pedicellata.

ZUBURJUD. PERS. Topaz.

ZUCCHERO. IT. Sugar.

ZUCKER. GER. Sugar.

ZUD. HIND. Triticum æstivum.

ZUETIM. PUSHTU. A species of wild olive tree, "olea," still undetermined.

ZUFA. HIND. Nepeta ciliaris.

ZUFA. AR. A drug.

ZUFAB. HIND Hyssopus officinalis.

ZUFÆ YABIS. AR. Hyssopus officinalis, *W.*, also written zufai yeabus and zufai yebus.

ZUFA YABIS. HIND. Nepeta ciliaris.

ZUFUR-TUKEEA. See Byragee.

ZUGAL. AR. Charcoal.

ZUKAT. AR. Legal alms; the term means literally purification. It is metaphorically applied by mahomedans to a tax, as its payment

is considered to purify and render legal the property on which it is paid. The Zukat, or legal alms, is one in forty, or two and a half per cent. It is commanded to be paid on cattle, sheep, money, corn, fruits, and on all wares that are sold. There are many different opinions among mahomedan doctors, relative to the proportion and mode in which this tax should be collected on property of various kinds, and amongst mahomedans, it affords a constant subject for vilification. Zukat dena, almsgiving, is a part of the mahomedan religion. The zukat of Ism or names is the prescribed offerings, or the attributes of the deity.—*Malcolm's History of Persia, vol.* ii. *p.* 249, 334.

ZULEEKHA. Potiphar's wife.

ZULI. Ar. Carpets.

ZULKUDDER. See Kajar.

ZUMBOORUCK, small pieces of artillery, wall-pieces or swivels, mounted on camels. —*Fraser's Journey into Khorasan p.* 198.

ZUMEEN, Pers. Earth. Zamin-bosi, Hind. A humble salutation, literally, kissing the earth.

ZUMPUN, a Chinese district officer in the valley of the Sutlej in Hundes.

ZUM-ZUM. Hagar's well at Mecca.

ZUNDERSCHWAMM. Ger. Amadou.

ZUNG——? A small bell.

ZUNGAR, or Zungabar. Arab. Pers. Verdigris, Sulphate of copper. Blue stone.

ZUNGBARI. Persian. Pistacia terebinthus. Turpentine.

ZUNJEBIL. Pers. Ginger.

ZUNJEFER. Arab. Cinnabar.

ZUNJIRA, also written janjirah and jinjeera, a Mahratta corruption of jazirah, an island, but applied to a territory ruled by a Sidi or Habshi or Abyssinian. It extends along the western sea coast of the peninsula of India, between the Reo-dunda and Bankut rivers. About the year 1489, a party of Abyssinians, serving the Nizam Shahi dynasty, disguised as merchants, obtained permission to land three hundred boxes, each of which contained a soldier, by means of whom they obtained possession of Dhunda Rajpur. It afterwards formed part of the Bejapur Adalshahi kingdom, under whom, in the time of Sivaji, the government of S. Konkan was held by the admiral of the Bejapur fleet, who with his crews were all Abyssinians. Being hard pressed by the Mahrattas, the officers of the fleet seem to have offered their services to Aurungzeb, then at war both with Bejapur and the Mahrattas. Since that time, up to the years 1810 or 1815, they were engaged in constant wars by sea and land. The Sidi were terrible pirates, and more dreaded than all other on the pirate coast. The town and district of Jafarabad on the Kattyawar coast, is a colony from Jazirah, from which it receives a governor.—*Clune's Itinerary.*

ZUNKAR MAD'NI. also Tutiai sabz Pers. Sulphate of copper.

ZUNJEER. Pers. Chains, or fetters.

ZUR. Pers. Gold; properly zar.

ZUR. Name of a mountain in Dawar, and of a celebrated idol which was there worshipped. According to Elphinstone, it is in the middle of the Lake Zaranj or Zarrah, which the natives call the Sea of Zur. Conolly however says it is not in the lake, but in the vicinity of it.—*See Elphinstone's Cabul, Book* iv. *chap.* iv.; *Reinaud, Mem. Sur l. Inde, p.* 174.

ZUR AFSHANE KAGHAZ. Hind. Gold paper.

ZURAREH.——? See Cantharides.

ZUR-DOZEE, or embroidery, is an art in which the mahomedans of British India display a great degree of skill, almost equal to that exhibited by the hindoos in weaving. They embroider Cashmere shawls and scarfs, also muslins, and net fabrics with silk, gold and silver thread. These fabrics are much esteemed in Europe, and are probably still unrivalled by similar productions in any part of the world. Another branch of needle-work allied to embroidery, which is carried on in British India, is that of flowering or ornamenting cloths with cotton thread (Chickan-kari.) The dresses of mahomedans are frequently worked in this manner, and two descriptions of it called Tartor and Sumunderludur, in which the texture of the cloth is broken down with the needle, and converted into net work, are held in the highest estimation.—*Dr. Taylor.*

ZURDA.——? Cook.

ZURF BAF, cloth of gold, or gold tissue.

ZUREEH, a tomb, in the shape of a taboot.

ZURI, a tribe of the Aimak.

ZURMISH.——? Lupinus albus.

ZURNEIK SURKH. Ar. Red sulphuret of arsenic.

ZURNUB. also Zurnui. Hind. Taxus baccata, the Himalayan yew.

ZUR-SUD, also Tamr. Arab. Turmeric.

ZURUMBAD. Curcuma zerumbet. Zedoary.

ZUR-WARAQ. Hind, gold leaf, tinsel.

ZUTPHEN ISLANDS, are four principal and several small islands, fronting the coast of Sumatra.

ZUTUP-AKU. Tel. Cynanchum extensum *Jacq.*

ZU-UL-KURNIN. Ar. a title of Alexander the Great. See Kandahar.

ZURY. Turk. A thorny shrub of Balkh on which camels graze.

ZWEIBACH. Ger. Biscuit.

ZWEIFACH KOHLENSAURES NATRON. Ger. Soda.

ZWIEBEL. Ger. Onion.

ZWIRN Ger. Thread.

ZYAH. See Joasmi.

ZYE. Pushtu., a son, also written Zoe and Zai, answering to the Scotch Mac, the Irish O, the Arabic Ibn and Wald. All the Durani tribes have names ending in Zye. According to Elphinstone, there are nine of these tribes, the Popul-zye, which is the largest; Alleko-zye; Baruk-zye; Achik-zye, Nurzye, Eusoof-zye, Hussain-zye, Ali-zye; and Ishaq-zye, the two last being the smallest. In person, the Durani are stout and well made, many of them being above the standard of the Indo-Germanic races of Europe. Some have round and plump faces; with others, the countenance is strongly marked, and with most the cheek bones are prominent. When a Durani family is by itself, the men and women eat together; but few restraints are put upon the female, and her influence is considerable. The Durani tribes, all but the Achik-zye, are religiously given, but not intolerant. They are Sunni mahomedans. Their national dance, called Attun, is danced almost every evening with songs and tales to accompany it. They have a strong love of country.—*Elphinstone's Cabool, Dr. Latham, p.* 202.

ZYGÆNA. Hammer-headed shark, a curious shark, with a head like a hammer, according to an Englishman's imagination, but like a buffalo's horned-head, according to the Burmese. The genus Zygæna belongs to the sub-class of fishes Chondropterygii, Order II Plagiostomata. First sub-order, Selachoidei, Fam. 1 Carchariidæ, Group B. zygænina. The sub-class Chondropterygii may be thus shown:

SUB-CLASS IV. CHONDROPTERYGII.

Order I. Holocephala.

Fam. 1. Chimæridæ.

Chimæra monstrosa, *L.* Europe, Cape, Japan.

Callorhynchus antarcticus, *Lacep.* S. Pacific, Cape.

Order II. Plagiostomata.

FIRST SUB-ORDER SELACHOIDEI.

Fam. 1. Carchariidæ.

Group A.—Carchariina.

Carcharias, *Cuv.*

α. *Scoliodon.*

laticaudus, *M. and H.* E. Indies, China, Japan.
acutus, *Rüpp.* Indian Ocean to Japan.
dumerilii, *Blkr.* Amboyna.
walbeehmii, *Blkr.* Archipelago, Japan.
porosus, *Poey.*

β. *Physodon.*

mülleri, *M. and H.* Bengal.

γ. *Aprionodon.*

brevipinna. *M. and H.* Java.
acutidens, *Rüpp.* Red Sea, Indian Ocean.

δ. *Hypoprion.*

macloti, *M. and H.* Indian Ocean, N. Guinea.
hemiodon, *M. and H.* Indian Seas.
playfairii, *Gthr.* Zanzibar.

ε. *Prionodon.*

glaucus, *L.* Pondicherry.
munsing, *Blkr.* Madura.
sorrah, *M. and H.* Indian Seas.
dussumieri, *M. and H.* E. I. Archipelago.
gangeticus, *M. and H.* Ganges, Japan, Fiji.
leucas, *M. and H.*
amblyrhynchus, *Blkr.* Java.
fasciatus, *Blkr.* Java.
brachyurus, *Gthr.* N. Zealand, Australia.
melanopterus, *Q. and G.* Indian Ocean, E. I. Archipelago.
bleekeri, *Dum.* Indian Ocean.
albomarginatus, *Rüpp.* Red Sea.
menisorrah, *M. and H.* Indian Seas.
borneensis, *Blkr.* Borneo.
amboinensis, *M. and H.* Amboyna.
glyphis, *M. and H.* ?
limbatus, *M. and H.* Atlantic, Indian Ocean.
pleurotænia, *Blkr.* E. I. Archipelago.
temminckii, *M. and H.* India.
zambezensis, *Ptrs.* ?

Hemigaleus microstoma, *Blkr.* Java, Amboyna.
macrostoma, *Blkr.* Java.

Loxodon macrorhinus, *M. and H.* Indian Ocean.

Galeocerdo rayneri, *M'Donald and Barron.* Indian and Australian Seas.
tigrinus, *M. and H.* Indian Seas, Atlantic.

Galeus canis, *Bonaps.* English, Indian, and Cape Seas.
japonicus, *M. and H.* Japan.

Group B.—Zygænina.

Zygæna blochii, *Cuv.* E. I. Archipelago.
malleus, *Risso.* Mediterranean, Atlantic, China, Japan, Indian Ocean, Archipelago.
tudes, *Cuv.* E. & W. Indies, Archipelago.
tiburo, *L.* W. Indies, Atlantic, China.
mokarran, *Rüpp.* Red Sea.

Group C.—Mustelina.

Triænodon obesus, *Rüpp.* Red Sea, Indian Ocean, N. Hebrides.
Triacis scyllium, *M. and H.* Japan.
Mustelus lævis, *Risso.* Cape.
manazo, *Blkr.* Japan, Ceylon.
antarcticus, *Gthr.* S. Pacific.

Fam. 2. Lamnidæ.

Group A.—Lamnina.

Lamna cornubica, *Gm.* Atlantic, Mediterranean, Japan.
glauca, *M. and H.* Cape, Japan.
Carcharodon rondeletii, *M. and H.*
Odontaspis americanus, *Mitch.* Atlantic, S. Pacific.

Fam. 3. Rhinodontidæ.

Rhinodon typicus, *Smith.* Cape, Seychelles.

Fam. 4. Notidanidæ.

Notidanus indicus, *Cuv.* Cape to California.

FAM. 5. SCYLLIIDÆ.

Scyllium marmoratum, *Benn.* E. I. Archipelago.
maculatum, *Bl. Schn.* Australian Seas.
edwardsii, *Cuv.* Cape.
capense, *M. and H.* Cape, India.
burgeri, *M. and H.* Japan, E. I. Archipelago.
laticeps, *Dum.* Tasmania.
bivium, *M. and H.* Cape.
africanum, *Gm.* S. Africa, Cape.

Ginglymostoma mülleri, *Gthr.* India.
brevicaudatum, *Gthr.* Zanzibar, Seychelles.
concolor, *Rüpp.* Red Sea, Indian Ocean, Archipelago.

Stegostoma tigrinum, *Gm.* Indian Seas.

Parascyllium variolatum, *Dum.* Tasmania.

Chiloscyllium ocellatum. *Gm.* Australia.
trispeculare, *Rich.* N. W. Australia.
malaisianum, *Less.* Archipelago.
indicum, *Gm.* Cape to Japan.
punctatum, *M. and H.* Java.

Crossorhinus barbatus, *Gm.* Australian and Japanese Seas.
tentaculatus, *Ptrs.* Australian Seas.
dasypogon, *Blkr.* Archipelago.

FAM. 6. CESTRACIONTIDÆ.

Cestracion philippi, *Lacep.* N. Zealand, Australia, Archipelago, Japan.
Quoyi. Galapagos.
galeatus, *Gthr.* Australia.

FAM. 7. SPINACIDÆ.

Acanthias vulgaris, *Risso.* Australia and temperate seas.
blainvillii, *Risso.*

Centrophorus moluccensis, *Blkr.* Europe, Moluccas.
Euprotomicrus labordii, *Q. and G.* Indian Ocean.
Echinorhinus spinosus, *Gm.* Cape, Mediterranean.
Isistius brasiliensis, *Q. and G.* Tropical Seas.

FAM. 8. RHINIDÆ.

Rhina squatina, *L.* Japan and all Seas.

FAM. 9. PRISTIOPHORIDÆ.

Pristiophorus cirratus, *Lath.* Australia.
nudipinnis, *Gthr.*
owenii, *Gthr.* ?
japonicus, *Gthr.* Japan.

SECOND SUB-ORDER BATOIDEI.

FAM. 1. PRISTIDÆ.

Pristis perrotteti, *M. and H.* E. & W. Indies, Archipelago, Red Sea.
pectinatus, *Lath.* Tropical Seas.
zysron, *Blkr.* E. Indies, Archipelago.
cuspidatus, *Lath.* E. Indies.

FAM. 2. RHINOBATIDÆ.

Rhynchobatus ancylostomus, *Bl. Schn.* E. Indies.
djeddensis, *Forsk.* Red Sea, Indian Ocean, Archipelago.

Rhinobatus thouini, *Lacess.* Archipelago.
spinosus. *Gthr.*
halavi, *Forsk.* China, Red Sea.
granulatus, *Cuv.* E. Indies, Archipelago, Australia.
philippi, *M. and H.*
obtusus, *M. and H.* E. Indies.
schlegelii, *M. and H.* Japan, and China Seas.
banksii, *M. and H.* Australia.
columnæ, *M. and H.* Indian and Atlantic Ocean, Mediterranean.
blochii, *M. and H.* Cape.
brevirostris, *M. and H.* S. Australia.

Trygonorhina fasciata, *M. and H.* Australia.

FAM. 3. TORPEDINIDÆ.

Torpedo marmorata, *Risso.* Indian Ocean, Cape, Mediterranean.
panthera, *Ehrenb.* Red Sea.
smithii, *Gthr.* S Africa.
fusco-maculata, *Ptrs.* E. Africa.
occidentalis, *Storer.*
sinus persici, *Kæmpfer.* Persian Gulf.

Narcine tasmaniensis, *Rich.* Australia.
timlei, *Henle.* East Indies, Japan.
lingula, *Rich.* China.

Hypnos subnigrum, *Dum.* Australia.

Astrape capensis, *Gm.* Cape, Madagascar.
dipterygia, *Bl. Schn.* Indian Seas, China, Japan.

Temera hardwickii, *Gray.* E. Indies, Penang.

FAM. 4. RAJIDÆ.

Raja lemprieri, *Rich.* Vandieman's Land.
smithii, *M. and H.* S. Africa.

Platyrhina sinensis, *Lacep.* China, Japan.
schonleinii, *M. and H.* India.

FAM. 5. TRYGONIDÆ.

Urogymnus asperrimus, *Bl. Schn.* Indian Ocean.

Trygon uarnak, *Forsk.* Indian Ocean.
gerrardi, *Gray.* Japan, Archipelago.
punctata, *Gthr.* Japan.
bleekeri, *Blyth.* Bengal.
walga, *M. and H.* E. Indies, E. I. Archipelago.
polylepis, *Blkr.* Indian Seas.
nuda, *Gthr.* Indian Seas.
pastinaca, *L.* Atlantic, China, Japan.
kuhlii, *M. and H.* Indian Ocean, Archipelago.
bennettii, *M. and H.* E. Indies, China, Atlantic.
imbricata, *Bl. Schn.* Indian Seas.
zugei, *M. and H.* Madras, Penang, Indian Seas, Japan.

Tæniura lymma, *Forsk.* Indian Ocean, Archipelago.
meyeni, *M. and H.* Mauritius.
melanospila, *Blkr.* Batavia.
grabata, *Geoff.* Red Sea.

Urolophus cruciatus, *Lacess.* Australian Seas.
armatus, *M. and H.* N. Ireland.
testaceus, *M. and H.* Australian Seas.
javanicus, *Martens.* Batavia.

Pteroplatea hirundo, *Lowe.* China, Japan, Madeira.
micrura, *Bl. Schn.* E. Indian Seas.
tentaculata, *M. and H.* Red Sea, Indian Ocean.
zonura, *Blkr.* Batavia.

FAM. 6. MYLIOBATIDÆ.

Group A.—Myliobatina.

Myliobatis aquila, *L.* Mediterranean, Atlantic, Australian Seas.
cornuta, *Gthr.* Japan.
vespertilio, *Blkr.* E. I. Archipelago.
maculata, *Gray.* Indian Seas, E. I. Archipelago.
nieuhofii, *Bl. Schn.* Indian Ocean, Archipelago, Japan.
milvus, *M. and H.* E. Indian Seas, China.

Ætobatis narinari, *Euphrasen.* Tropical Seas.

Rhinoptera javanica, *M. and H.* E. Indies, Java.
adspersa, *M. and H.* E. Indies.

Group B.—Ceratopterina.

Dicerobatis japonica, *M. and H.* Japan.
eregoodoo, *Cant.* Indian Seas.
kuhlii, *M. and H.* Indian Ocean, Archipelago.

Ceratoptera ehrenbergii, *M. and H.* Red Sea.

In the sub-class Chondropterygii, the ;eleton is cartilaginous and skull without itures; body with medial and paired fins, the inder pair abdominal; caudal fin, with proaced upper lobe. Gills attached to the cin by the outer margin with several interoning gill-openings; rarely one-gill open ig only. No air-bladder. Three series of alves in the bulbus arteriosus. Intestine ith a spiral valve, optic nerves, commissually united, not decussating; ovaries with few nd large ova, which are impregnated, and i some developed, internally. Embryo with eciduous external gills, males with prehenile organs attached to the ventral fins. In ie family Carcharidæ, the eye has a nictitaing membrane, and the mouth is crescent haped and inferior. The Families amnidæ Rhinodontidæ, Notidanidæ, Scylliidæ, and Pristiophoridæ, have no nictitating membrane. n the saw fish family, Pristidæ, the snout s produced into an exceedingly long flat amina, armed like a saw with a series of trong teeth along each edge. The electric rgan of the family Torpedinidæ is composed f vertical hexagonal tubes between the pectoal fins and the head.

The ray family, the Rajidæ, have a broad hombic disk, generally with asperities or spines, and the pectorals extend to the snout. The pectorals of the Trygonidæ are similarly prolonged, and they have a long and slender ail. The pectoral fins of the Myliobatidæ are greatly developed, they leave the head free, and reappear at the extremity of the snout as a pair of detached (cephalic) fins.—*Gunther, Catal. of Fishes, vol.* viii. See Fishes, Periopthalmus, Sharks, Zygodactyle.

ZYMOOSHT AFGHANS. See Khyber.

ZYGOPHYLLACEÆ. *Lind.* The Bean, Caper tribe of plants, comprising 5 gen. 6 sp. viz., 2 Tribulus, 1 Bieberstonia, 1 Peganum 1 Zygophyllum, 1 Melianthus.

ZYGOPHYLLUM SIMPLEX, *Linn*,

Alethi. HIND.

This plant occurs in Multan; the seeds are swept up off the ground by the poor, and used as food.—*Dr. J. L. Stewart.*

ZYNUB, sister of Hosein, son of Ali, the cousin and son-in-law of Mahomed. Even before Mahomed died three other persons, claiming to be khalifs or vicegerents, were in the field, each with a following of his own, and his death was the signal for a general dissolution of the tribes whom his personal influence alone had held together, and the schism penetrated even to Medina, where Mahomed had died, and it resulted in the ruin of Ali and his family. On the death of Mahomed the people of Medina suggested that they should elect one leader and Meccah another; but this was not adopted, and three khalifs were successively acknowledged by the whole mahomedan world, and Arab armies poured across the northern sandy waste into Syria and Palestine. A few sieges, a few fierce battles, and these rich provinces were lost to the empire of Byzantium, the ancient Sassanian dynasty was crushed on the field of Kadesia, and Persia was added to the khalifat; in less than three years the Arabs were masters of Egypt. The successor of Mahomed was Abubakr, the third khalif was Othman, on whose murder Ali succeeded. Ali was surnamed 'the ever victorious lion of God,' and Ali's succession marked the beginning of troubles. He was accused of having instigated Othman's assassination. Othman's bloody shirt was conveyed to Syria and displayed on the principal mosque of Damascus, to incite the Syrian army to revenge. Fifty thousand men, said the messenger who conveyed these tidings to Ali at Medina, are assembled about the robes of Othman, whose cheeks and beards have never been dry from tears, and whose eyes have never ceased from weeping blood since the hour of that prince's atrocious murder. They have drawn their swords with a solemn pledge never to return them to the scabbard, nor cease from mourning until they have extirpated all concerned in that detested transaction. This sentiment they have left as a solemn bequest to their descendants, and the earliest principle that mothers instill into the minds of their infant offspring, is to revenge the blood of Othman to the last extremity. Simultaneously with this movement in Syria, Telha and Zobeir, two of the most renowned warriors among the Arabs, and Ayasha, the favourite wife of Mahomed, repaired to Bussorah and raised the standard of rebellion against the authority of Ali. But Ali, though deficient in political ability and wanting in the tact requisite to conciliate rival and turbulent factions, was an unrivalled soldier on the field of battle. He placed himself at the head of thirty thousand men, and advanced in the direction of Bussorah. In the "battle of the Camel," 17,000 Arabs are said to have fallen, Telha and Zobeir were both killed, and Ayasha became a prisoner in the power of Ali. He treated her with the utmost courtesy and forbearance, and caused her to be escorted to Mecca. This signal victory made Ali the undisputed sovereign of Irak, Eygpt, Arabia, Persia and Khorasan, but the Syrian army remained implacable, and Amru, the conqueror of Egypt, in the presence of the whole army, acknowledged Moawyah, son of Abu Sussian, as the lawful khalif and prince of the maslmin. Ali attacked the Syrian host on the plain of Suffein. Victorious

again and again in the battle-field, he allowed himself to be outwitted in diplomacy, till, in the month of Ramzan A. H. 40, the career of Ali was brought to a close by the dagger of an assassin, and Moawyah became the undisputed khalif. In all the mosques wherever the mahomedan doctrines prevailed, the names of Ali and of all his family were regularly cursed upon all occasions of public worship. His death was followed nine years after by that of his eldest son Hasan, poisoned by his own wife, at the instigation, it is said, of Moawyah, and after a lapse of two years, his second son, Hussein, crowned the misfortunes of his family by his bloody death on the plains of Karbalah, on the tenth day of the month Maharram A. H. 61. Yezid, son of Moawyah, was the reigning khalif at the time of the murder of Hussein. That event was the signal for rebellious outbreaks in all parts of his dominions, the martyred Hussein became a watchword which again and again deluged with blood the empire of the khalifs, and ultimately brought it to ruin, and has ever since separated the mahomedans into two sects embued with a bitter hatred, which (writing in A. D. 1872) up to the present moment, even under the strong power of the British, is ever liable to evince itself in outbreaks, needing armed intervention to be ready at hand. At present the only ruling house of the descendants of Ali is the Asof-Jahi in Hyderabad in the Dekhan, which has been in existence for nearly two hundred years. See Khalif, Mahomed.

ZYTOON, Ar. olives.

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